राष्ट्रीय राजधानी क्षेत्र योजना बोर्ड
NATIONAL CAPITAL REGION PLANNING BOARD
प्रथम तल, कोर–IV बी, / 1st Floor, Core-IV-B,
भारत पर्यावास केन्द्र, / India Habitat Centre,
लोधी रोड, नई दिल्ली–110003 / Lodhi Road, New Delhi-110003
आवासन और शहरी कार्य मंत्रालय / Ministry of Housing and Urban Affairs
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YEARS OF CELEBRATING THE MAHATMA

स्वच्छ भारत एक कदम स्वच्छता की ओर

Speed Post

No.K-14011/02/2020-NCRPB

Dated: 11.03.2020

Sub: 68th Meeting of the Planning Committee of the NCR Planning Board to be held on 16.03.2020 at 11:30 AM at NCR Planning Board, Core-4B, 1st Floor, India Habitat Centre, Lodhi Road, New Delhi-110003.

In continuation of the meeting notice of even no. dated 06.03.20, regarding the 68th Meeting of the Planning Committee of the NCR Planning Board scheduled to be held on **16.03.2020 at 11.30 AM in the Conference Room of NCR Planning Board, Core-4B, 1st Floor, India Habitat Centre, Lodhi Road, New Delhi-110003** under the Chairpersonship of Member Secretary, NCRPB, please find enclosed the requisite Agenda Notes for the said meeting.

(Satish Parasher)
Chief Regional Planner

To:

Members

1. Additional Secretary (D), Ministry of Housing & Urban Affairs, Govt. of India, Nirman Bhawan, New Delhi.
2. Principal Secretary, Department of Urban Development & Housing, Govt. of Rajasthan, Rajasthan Secretariat, Jaipur-302005, Rajasthan.
3. Principal Secretary, Town & Country Planning Department, Govt. of Haryana, Haryana Mini Secretariat, Sector -17, Chandigarh, Haryana-160017.
4. Principal Secretary, Housing &Urban Planning Department, Govt. of Uttar Pradesh, 3rd Floor, Bapu Bhawan, Uttar Pradesh Secretariat, Lucknow-226001, Uttar Pradesh.
5. Vice-Chairman, Delhi Development Authority, Vikas Sadan, New Delhi-110023.
6. Director General, Town & Country Planning Department, Government of Haryana, SCO 71-75, Sec.17C, Chandigarh-160017.
7. Principal Secretary (UD), Govt. of NCT-Delhi, 9TH& 10TH Level, Delhi Secretariat, I.P. Estate, New Delhi-110002.
8. Chief Planner, Town & Country Planning Organisation, Govt. of India, E-Block, Vikas Bhawan, I.P. Estate, New Delhi-110002.

P.T.O

9. Chief Town & Country Planner, Uttar Pradesh, Town & Country Planning Department, Govt. of Uttar Pradesh, 7 Bandaria Bagh, Lucknow-226001, Uttar Pradesh.
10. Chief Town Planner (NCR), Town & Country Planning Department, Govt. of Rajasthan, Nagar Niyojan Bhawan, Jawaharlal Nehru Marg, Jaipur-302004, Rajasthan.

Co-opted Members

11. Joint Secretary (UT), Ministry of Housing & Urban Affairs, Govt. of India, Nirman Bhawan, New Delhi.
12. Joint Secretary (IA), Deptt. of Environment, Ministry of Environment, Forest & Climate Change, Govt. of India, Indira Paryavaran Bhavan, Jor Bagh Road, New Delhi-110003.
13. Senior Advisor (HUD), NITI Aayog, Sansad Marg, New Delhi-110001.
14. Chairman & Managing Director, Housing & Urban Development Corporation, HUDCO House, Lodhi Road, New Delhi-110003.

CMA

1. Secretary, Housing, Govt. of Uttarakhand, 4, Subash Road, **Dehradun**-248001, Uttarakhand
2. Chief Executive Officer, NCR Special Area Development Authority (Counter Magnet), SheetlaSahai Administration Bhawan, SojnaTighra, **Gwalior**-474001 (M.P.)
3. The Chief Administrator, Patiala Urban Planning & Development Authority, PUDA Complex, Urban Estate, Phase-II, **Patiala**-147002.

Copy to:

1. Consultant Planning, NCRPB
2. All officers from Planning Wing
3. FAO, NCRPB
4. PS to MS, NCRPB
5. PA to Director (A&F)

Agenda Items for the 68th Planning Committee Meeting

Item No.		Agenda
1.		Confirmation of the Minutes of 67th Planning Committee Meeting of the Board held on 15.07.2019
2.		Action Taken Report on the decisions taken in 67th Planning Committee Meeting
3.		Preparation for Regional Plan-2041 for NCR
	3.1	Stakeholder Conclave & Workshops held
	3.2	Core Advisory Committee for RP 2041 for NCR
	3.3	Status of Data collection for RP 2041 for NCR
4.		Status of SRPs from NCR States
5.		Status of Delineation of National Capital Region
6.		Status of implementation of projects envisaged in Regional Plan-2021 and Functional Plans
7.		Any other item with the permission of the Chair

Agenda Item 1: Confirmation of the Minutes of 67th Planning Committee Meeting of the Board held on 15.07.2019

1.1 The Minutes of the 67th Meeting of the Planning Committee held on 15.07.2019 were circulated vide letter No.K-14011/09/2018-NCRPB dated 22.07.2019 to the members of the Planning Committee. Copy of the Minutes are at **Annexure-1/I.**

1.2 No comments have been received on the Minutes. Accordingly, Minutes of the 67th Meeting are placed before the Planning Committee for confirmation.

Action Point:

- ***Minutes of the 67th Meeting of the Planning Committee may be confirmed.***

Agenda Item 2: Action Taken Report on the decisions taken in 67th Planning Committee Meeting held on 15.07.2019

The 67th Meeting of the Planning Committee was held on 15.07.2019 under the Chairpersonship of Member Secretary, NCRPB. Action Taken Report on the issues/decisions taken in the Meeting are as follows:

Sl. No.	Agenda Item/decisions	Action Taken/Status
1.	**Agenda Item No. 2: ATR on decisions of 66th Meeting of the Planning Committee held on 17.11.2017** **i) Agenda Item No. 3.2: Matter raised by Govt. of U.P. w.r.t. YEIDA** It was decided that matter will be examined and will be placed before the Board.	The matter was examined and placed before the Board in its 38th Meeting held on 13.09.2019. However, the matter was deferred by the Board. **Action Point:** ***Matter is placed for information.***
	ii) Agenda Item No. 10: Study on 'Affordability and Accessibility of Housing in NCR' It was agreed that as the matter was much delayed and action regarding Regional Plan preparation of next horizon year, has already been initiated, carrying out such a vast study at this stage, may not provide quick results and the study would further take a lot of time, hence, matter may be closed. ***Remaining Agenda Items were placed for information and/or dealt at main Agenda Items of the 67th meeting of***	Necessary action was taken & all bidders were informed, accordingly. Also, a Notice dated 05.08.19 was published on NCRPB website regarding withdrawal of the EOI. **Action Point:** ***Matter is placed for information.***

Sl. No.	Agenda Item/decisions	Action Taken/Status
	the Planning Committee.	
2.	**Agenda Item No. 3:** **Status of Regional Plan 2021 for newly added Areas of NCR** Planning Committee decided following: Addendum to RP 2021 covering the newly added districts to NCR, is considered and approval for inviting objections and suggestions, in anticipation of post – facto approval of the Board.	After incorporation of suggestions of the Planning Committee, the Addendum to Regional Plan-2021 for newly added districts of NCR was placed before the Board in its 38th meeting held on 13.09.2019 for consideration and approval of post facto concurrence regarding inviting objections and suggestions on the same and for publication and notification under Section 13, of NCRPB Act, 1985. The Board provided post facto concurrence regarding inviting 'objections and suggestion' on draft Addendum to the Regional Plan 2021 for additional areas of NCR. The Board further gave its concurrence and approved the Addendum to RP-2021 for publication and notification under Section 13, of NCRPB Act 1985. Approved Addendum to RP-2021 was notified on 28th November, 2019 and published on 30th November, 2019. The said Plan was uploaded on NCRPB website for wide circulation. **Action Point:** ***Matter is placed for information.***
3.	**Agenda Item No. 4:** **Status of Sub-Regional Plan-2021 for Haryana Sub Region - newly added Areas** Planning Committee decided that Govt. of Haryana will submit the SRP Haryana by 26.07.19.	**Matter dealt separately at Agenda Item 4.1**
4.	**Agenda Item No. 5:** **Status of Sub-Regional Plan-**	The matter was discussed with Govt. of

Sl. No.	Agenda Item/decisions	Action Taken/Status
	2021 for Haryana Sub Region - Draft Sub-Regional Plan-2021 for Haryana Sub-Region: Compliance of Directions from PMO Principal Secretary, T&CP Department, Govt. of Haryana requested that the matter may be discussed in the meeting scheduled for 26 or 29 July 2019, with NCRPB.	Haryana on 29.07.2019. Subsequently the matter was placed before the 38th meeting of the Board wherein it was decided that Committee be formed under Secretary, HUA which will examine issues of NCZ Haryana within 3 weeks. Chairman reiterated that as had been instructed earlier as well, the Government of Haryana had to carry out the ground truthing of the NCZ with their revenue records and accordingly finalize the NCZ areas. In this respect, Government of Haryana may convene its State Level Committee meeting at the earliest and place the SLC report before the Committee to be chaired by Secretary, HUA for further examination. Committee under Secretary, HUA to examine the NCZ issues of Haryana in accordance with the decision of the Board was constituted vide Order dated 02.12.2019. Further, a D.O. from Member Secretary to Chief Secretary, Govt. of Haryana was sent on 23.12.2019 communicating the constitution of the Committee and to expedite the submission of said report so that meeting of the Committee could be held. As the review report is not received, reminders were sent on 12.02.2020 and 02.03.2020. Response is awaited. **Govt. of Haryana may apprise the status.**
5.	**Agenda Item No. 6: Status of Sub-Regional Plan-2021 for Delhi** Secretary, UD, Delhi suggested that a meeting can be held in Urban Development Department, Govt. of NCT Delhi to expedite the process.	**Matter dealt separately at Agenda Item 4.2**

Sl. No.	Agenda Item/decisions	Action Taken/Status
6.	**Agenda Item No.7:** **Status of Sub-Regional Plan-2021 for Rajasthan & Uttar Pradesh Sub Regions** **Rajasthan** Committee directed that work needs to be completed early as the SRPs are to be placed before the next Board meeting.	**Matter dealt separately at Agenda Item 4.3**
	Uttar Pradesh CCP, NCR Cell, Uttar Pradesh informed that the bid for the works is opening on 20th July 2019 and work was expected to be awarded by the end of July, 2019.	**Matter dealt separately at Agenda Item 4.4**
7.	**Agenda Item No. 8:** **Status of Review of NCR Regional Plan-2021** ***Planning Committee noted the status.***	No Action required
8.	**Agenda Item No. 9:** **Population Projections for National Capital Region for Regional Plan-2041** Planning Committee considered the draft "Report on Population Projects for NCR for Year 2041" and approved the same. The report as amended above will be placed before the Board for information.	The Report (amended conclusive chapter) was placed before the Board in its 38th Meeting held on 13.09.2019 wherein the recommendations of the Report on Population Projections for NCR-2041 were approved by the Board and it was decided that the projections of the population report will be considered as one of the inputs for RP-2041 preparation. **Action Point**: ***Matter is placed for information.***
9.	**Agenda Item No. 10:** **Delineation Study for National Capital Region** Planning Committee agreed	**Matter dealt separately at Agenda Item 5**

Sl. No.	Agenda Item/decisions	Action Taken/Status
	with the above and recommended that the Report with the resulting delineated areamay be placed before the Board for consideration.	
10.	**Agenda Item No. 11: Draft Revised Regional Plan-2021: Compliance of Directions from PMO** Planning Committee noted the status given in the Agenda.	The recommendations of the meeting held on 18.12.18 under the Chairmanship of Secretary, MoHUA, Govt. of India were placed before the Board in its 38th meeting held on 13.09.2019 for consideration. Board decided that DRRP will not be published as the perspective year 2021 was fast approaching. **Action Point**: ***Matter is placed for information.***
11.	**Agenda Item No. 12: Operational Effectiveness of NCR Planning & Monitoring Cells in NCR participating States & NCT Delhi.** Committee approved the proposal at Para 12.6 of the Agenda note with the modifications mentioned in Para 2 to 5 of the Minutes.	The Board in its 37th meeting held on 04.12.2017 authorized Member Secretary, NCRPB to work out Action Plan for the Cells from time to time, as per requirement including sanction of posts and take any administrative/financial decision for smooth functioning of the Cells. Accordingly, based on the request of all NCR States, conversion of existing posts were approved by the Planning Committee in its last meeting. Regarding filling up of vacant post in NCR Planning and Monitoring Cells, NCRPB vide letters dated 01.10.2019, 22.10.2019 and 30.11.2019 requested all NCR Cells to furnish the status of filling up of the vacant posts. In response, Govt. of NCT Delhi vide letter

Sl. No.	Agenda Item/decisions	Action Taken/Status
		dated 14.02.2020 requested again for change of approved posts w.r.t Multi Purpose Informatics Assistances to GIS Experts and outsourcing the post of Spl. Secretary/Addl. Secretary NCRPB vide letter dated 05.03.2020 has communicated the decisions of the Competent Authority and requested to expedite filling up of vacancies. NCRPB vide letter dated 04.03.2020 has also sent reminder letter requesting NCR Cell, U.P., Haryana and Rajasthan to take necessary action to fill the vacant posts and provide the status in the matter by 12th March. However, the required information is awaited. **All NCR Cells may apprise the status.**
12.	**Agenda Item No. 13: Delineation and Ground Truthing of Natural Conservation Zone (NCZ) and Notices issued under Section 29(2) of NCRPB Act, 1985 regarding NCZ** i. **NCT-Delhi/DDA:** Chairperson suggested that the matter be covered during the meeting proposed by Secretary, UD, for SRP issue as they are related ii. **Rajasthan:** CTP, NCR Cell, Rajasthan apprised the Committee that State is of the view that carrying out the task of ground truthing at this stage does not appear to be required. **iii. Uttar Pradesh:** Additional Commissioner, NCR Cell, UP apprised the Committee that factual analysis	The matter placed before the Board in its 38th Meeting held on 13.09.2019. **Delhi**: In the meeting VC, DDA stated that SRP-2021 for Delhi was expected within 3 months, it is expected that it will be with the necessary NCZ delineation details. **Rajasthan**: With regard to Rajasthan Principal Secretary, Urban Development and Housing, Govt. of Rajasthan mentioned that the Ground Truthing work had already been initiated for Alwar district and the SRP shall be updated w.r.t. NCZ delineation within 3 months. **Uttar Pradesh**: On the request of the Minister of Khadi & Village Industries, Uttar Pradesh, the figures of NCZ area given in SRP for UP, were considered and accepted by the Board. **Haryana**:

Sl. No.	Agenda Item/decisions	Action Taken/Status
	& report prepared after ground truthing based on NCRPB provided NRSC maps of 2005 and 2012 has been prepared and submitted to State Government. **iv. Haryana:** It was agreed that the matter will be discussed in detail with the Haryana officials on 26.07.19 and in any case not later than 29.07.19.	With respect to Haryana, the matter is already placed at Sl. No. 4, Agenda Item No. 5 above. Decisions of the Board were communicated to all participating States vide letter dated 29.11.2019. As no communication has been received from Govt. of NCT Delhi and Rajasthan, reminders were sent on 12.02.2020. **Govt. of Haryana, Uttar Pradesh and Rajasthan may apprise the status.**
13.	**Agenda Item No.14:** **Population Density of Master Plans/ Development Plans & Density Norms of RP-2021 and notices issued under Section 29(2) of NCRPB Act, 1985 in the matter** The matter was deferred.	The matter placed before the Board in its 38th Meeting held on 13.09.2019. In the meeting, Chairman advised that for density notices already issued, a way out be found by NCRPB wherein States may give appropriate replies keeping in view the Court directions, and stating their efforts / steps taken / being taken, to achieve the density norms suggested in Regional Plan. Accordingly, a graded response with interim milestones at 2021 may also be needed to be given by the States. Accordingly, Board decided the following:- • NCRPB may also work closely with States to resolve issues related to the Notices regarding population density. NCRPB vide letter dated 12.02.2020 has requested all concerned State Govt. for resolution of the matter. Replies from the concerned States are awaited except Govt. of Uttar Pradesh. **Uttar Pradesh:** NCRPB has received a copy of letter dated

Sl. No.	Agenda Item/decisions	Action Taken/Status
		06.03.2020 (placed at **Annexure-I/I**) from GNIDA addressed to Principal Secretary, Infrastructure and Industrial Development Department, Govt. of UP. wherein following are submitted: • To achieve the targeted town density as per the Regional Plan-2021, the density in Group Housing pockets have been increased from 1650 ppha to 2100 ppha in its endeavour to promote re-densification of town GNIDA has also increased Max. permissible FAR in Group Housing plots from 2.75 to 3.5 and provision of purchasable FAR • Density suggested in RP-2021 is 150-200 ppha for 10 lakhs population of normal functional cities where the land uses distribution are not based on certain prominent activity/characteristic like Industrial townships such as GNIDA. • URDPFI guidelines 2015 suggested 125-175 ppha for Metro cities • Development of Jewar Airport at YEIDA will bring an enhancement in the population growth of Greater Noida City. **Analysis:** • NCRPB had approved Greater Noida Master Plan-2021 with 5 conditions. Out of 5 conditions, GNIDA complied all, except density norms. • It has been mentioned in the RP-2021 at 17.4.1 sub-para (a) that density norms, suggested for Regional Plan-2021, are given in Table 17.10. Hence it implies that the density norms given in the RP-2021 is suggestive and not binding. • Jewar airport has been bid out. Impact of this airport will increase the population of the city.

Sl. No.	Agenda Item/decisions	Action Taken/Status
		Action Point: ***The Reply of GNIDA placed at Annexure I/I for views of Planning Committee.*** ***Govt. of Haryana and Rajasthan may provide their reply.***
14.	**Agenda Item No.15: Matter related to Counter Magnet Areas of National Capital Region** States were requested to prepare Development Plan/ Master Plan and Plan of Action for its implementation in the identified CMAs. After brief deliberations with regard to proposal of Govt. of Punjab the matter was proposed to be recommended to the Board for consideration for inclusion of Patiala-Rajpura as CMA.	Pursuant to the recommendation of the Planning Committee, the matter was placed before the Board in its 38th meeting held on 13.09.2019. Board decided the following:- • The proposal of Govt. of Punjab for selection of Patiala-Rajpura Corridor as CMA is considered and approved. • Plan of Action be prepared for all the CMAs for effective development of the areas. • NCRPB to take up the matter regarding fast track rail lines/links in NCR and those linking its CMAs with concerned agencies/ departments. Decisions of the Board were communicated to Housing & Urban Development Deptt., Govt. of Punjab for notification of the CMA area vide letter dated 29.11.2019. Also communicated to all concerned Departments of Govt. of U.P., M.P., Uttrakhand, Haryana and Rajasthan with request to prepare the Plan of Action for the development of CMA and provide the status in the matter. However, no communication has been received from all concerned except Jaipur Development Authority and UIT, Kota.

Sl. No.	Agenda Item/decisions	Action Taken/Status
		Reminder was sent on 12.02.2020. NCR Cell, UP vide letter dated 05.03.2020 along with the letter dated 07.02.20 of Chief Town and Country Planner, Govt. of U.P. has informed that concerned departments / agencies / authorities have been requested to provide Plans & Projects w.r.t. Counter Magnet Areas (CMAs). Regarding fast track rail lines/links, NCRPB vide letter dated 19.12.2019 requested Chairman, Railway Board to share current/planned status of all rail tracks/sections in NCR and those connecting NCR with 9 CMAs. In response, Director/MTP, Railway Board vide letter dated 30.01.2020 has informed that Rail tracks/sections in NCR and those connecting NCR with 9 CMAs are fast tracks. However, a complete list alongwith Plans/Maps/layout of Fast Rail Tracks in NCR have been requested vide email dated 07.02.2020. **Govt. of Haryana, Uttar Pradesh and Madhya Pradesh may apprise the status.**
15.	**Agenda Item No. 16:** **Action taken by NCRPB on directions of Hon'ble High Court of Delhi in matter of Raghuraj Singh vs. Union of India &Ors. [WP (c) 5559 of 2013]** and **Agenda Item No. 17:** **Action taken on the directions of the Hon'ble High Court of Allahabad in the matter of Raghuraj Singh vs. State of U.P. & 10 Ors. (Civil Misc. PIL. No.-29004 of 2016)**	The updated status was sought from Shri J.H Khan, retainer Advocate of NCRPB. He has intimated vide letter dated 22.08.2019 that the matter was never finally argued/concluded and is still survives. However, NCRPB has received letter dtd. 05.08.2019 from NCR Cell stating that the hearing in this matter has been concluded and the matter is reserved for order/judgement. **Action Point:** ***Matter is placed for information.***

Sl. No.	Agenda Item/decisions	Action Taken/Status
	Chairperson requested all the NCR Participating States needs to submit status in the matter of both the contempt petitions pending before the Hon'ble High Courts of Delhi and Allahabad. Chairperson directed Dir. (A&F) & DD (GIS) to look into the matter. In case NCRPB is not a party, then NCRPB should not pursue the matter. However, NCR Cell, UP was requested for written update in the matter.	
16.	**Agenda Item No.18 : Draft Functional Plan on "Micro and Household Enterprises in NCR"** Planning Committee approved the Draft Functional Plan for Micro & Household Enterprises in NCR modified as per the suggestions given above.	The Functional Plan on Micro & Household Enterprises in NCR was released in 38th Board meeting held on 13.09.2019. The same has been uploaded on Board's website on 29.11.2019. Letter dated14.01.2020 was also sent to the NCR States and other concerned for information and necessary action. **Action Point:** ***Matter is placed for information.***
17.	**Agenda Item No.19: Status of Financing of Projects by NCR Planning Board** Planning Committee noted the status and requested the participants to expedite submission of the new projects and Utilisation certificates for the reported expenditures for the ongoing projects.	No action required.

Sl. No.	Agenda Item/decisions	Action Taken/Status
18.	**Agenda Item No. 20: Status of Reciprocal Common Transport Agreement** Planning Committee noted the status and suggested that action may be initiated in time for the same as well.	The RCTA for Contract Carriage is currently valid till April 2020 (after extensions), while the RCTA(Stage Carriage) is also ending in April 2020. The matter of Combined Agreement has been discussed in the last CoTS meeting held on 06.03.2020 wherein all participating States were informally agreed. Draft Combined Agreement is circulated to the States on 11.03.2020. **Action Point:** ***Matter is placed for information.***
19.	**Agenda Item No. 21: Any Other Item With The Permission of Chair** **Supplementary Agenda Item No. 1** **Action Taken w.r.t. works regarding Regional Plan -2041 preparation** Committee was briefed about various actions completed and initiated w.r.t Regional Plan 2041 works	**Matter dealt separately at Agenda Item 3**
20.	**Supplementary Agenda Item No.2:** **Decisions taken in Empowered Committee and Board Meetings required to be carried forward** Chairperson requested for cooperation from the NCR participating States in this	Regarding development of Tourism sector in NCR, NCRPB vide Order dated 08.08.2019 has constituted a Committee under the

Sl. No.	Agenda Item/decisions	Action Taken/Status
	direction. Committee agreed that NCR States should not only have the requisite plans prepared but should also be clear regarding implementation the same. Chairperson indicated that the States as well as TCPO would need to actively participate and supplement the efforts of NCRPB in the direction of carrying forward decisions made in the Empowered Committee and Board Meeting. **Committee noted the information and agreed that work on the Water Management, Sanitation and Tourism within NCR aspects need to be taken forward by NCRPB.**	Chairpersonship of Member Secretary wherein Secretary/Addl. Chief Secretary/Principal Secretaries of Tourism Deptt. and representative of Archaeological Deptt. all NCR constituent States, representative of Ministry of Tourism & ASI are the member. The mandate of the Committee will be to make tourism circuits/plans etc. and to resolve various issues related to development of tourism sector in NCR. This Committee will also explore ways of implementations, including funding from NCRPB and/or other sources. NCRPB vide letter dated 08.08.2019 requested for nomination. Subsequently reminder was sent on 03.10.2019. Nomination from Ministry of Tourism, ASI, Department of Archaeology and Museum, Haryana and ASI Agra Circle, U.P. were received. **Nomination from Govts. of Haryana, U.P., Delhi and Rajasthan and ASI Circle Rajasthan is awaited.**

Agenda Item 3: Preparation for Regional Plan-2041 for NCR

a. Action Taken w.r.t. works regarding Regional Plan -2041 preparation including the review of RP 2021 and population projection for 2041, and steps taken for Data collection from NCR States in formats designed for the purpose, as informed in the last meeting was also placed before the Board in the 38th meeting held on 13.09.19.

b. The efforts of NCRPB were appreciated by the Board. The Board considered the Final Review Reports of the Study Groups regarding RP-2021 and approved the same to be one of the inputs for RP-2041.

c. The recommendations of the Report on Population Projections for NCR-2041 were approved and it was decided that the projections of the population report will be considered as one of the inputs for RP-2041 preparation.

d. In addition, Board also approved the proposal that:

- Regional Plan need not have satellite imagery based maps with tentative details. It may have schematic maps presenting the broad policies and proposals.
- Detailing of the maps at the scale of 1:10,000 and below along with ground truthing and detailed planning may be left to the States through their Sub Regional Plans and Master Plans

e. Further, NCRPB has initiated activities/process for preparation of RP-2041 especially with regards to stakeholder interaction. The same along with other actions are as presented in subsequent paragraphs:

3.1 Stakeholder Conclave & Workshops held for preparation of RP- 2041

3.1.1 As per United Nation's Report, Delhi is slated to become the world's largest metropolis overtaking Tokyo by 2028. Hence, the Regional Plan-2041, for Delhi-NCR for next decades, will be among the key instruments to address various issues related to harmonious development of this largest metropolitan region on this planet. The Regional Plan-2041 has to be notified by 2021. The enormous task of planning for a vast and diverse region, and of making it "Future-Ready", can be achieved only through an inclusive, consultative exercise with active participation of all stakeholders.

3.1.2 Accordingly, a series of discussions and dialogues were initiated to formulate the Regional Plan-2041. The **"Inaugural Conclave on NCR-2041 – Planning for Tomorrow's Greatest Capital Region"** chaired by Secretary, MoHUA was organized on 11th November, 2019, at Vigyan Bhavan, New Delhi. The Conclave had participation from all NCR States, important Ministries/Departments of Govt. of India, Knowledge Institutions, Industry and Housing Associations, Experts, Field Officers from Districts,

and other stakeholders. Shri D.S. Mishra, Secretary, Ministry of Housing & Urban Affairs, Govt. of India had graced the occasion as Chief Guest.

3.1.3 After the success of the first Conclave which witnessed a lot of active participation, NCRPB conducted a series of discussions & dialogues through various workshops covering the probable sectors and topics that could be taken up under the Regional Plan 2041 formulation. The full day Workshops also had participation from all NCR States, concerned Ministries/Departments of Govt. of India, Knowledge Institutions, Industry and Housing Associations, Experts, Field Officers from Districts, and other concerned stakeholders. Further workshops could be held later as required. Compendium of Brief Minutes including Schedule and list of Speakers for various workshops are placed at **Annexure - 3/I.**

3.1.4 Due importance was assigned to these workshops, as NCR is going to be the most populous and urbanised region in the coming decade, and an inclusive approach is appropriate way of proceeding towards the Regional plan preparation. The next Regional plan seeks to address the aspects of Quality of life, Ease of living and doing business and overall, achievement of harmonious development of NCR. It is envisaged to have a Citizen Centric plan especially factoring in the aspirations of NCR inhabitants.

3.1.5 As NCRPB also plans to have District Development Plans for each of the NCR districts, in-place, active participation of respective District Magistrates (DMs)/ District Collectors (DCs) was also requested. It was suggested that they may be advised to have necessary consultations with elected representatives of their areas, for a more comprehensive, fruitful, all inclusive, dialogues during the workshops, as this brain storming shall help save lot of time during plan implementation. At the backend, States were advised to have appropriate brain storming sessions, before participating in the workshop(s).

3.1.6 It was also planned to have Sub Region wise Conclaves, under the leadership of Hon'ble Chief Ministers of NCR States in February, 2020, as per their time and convenience, wherein all stakeholders from respective states could be invited. States have been requested repeatedly but no time/date has been indicated so far by any State.

Action point

- ***Matter is placed for information***

3.2 Core Advisory Committee for RP 2041

3.2.1 NCRPB, after initialization of activities/process regarding preparation of the next Regional Plan for the horizon year, 2041, with the "Inaugural Conclave on NCR-2041 – Planning for Tomorrow's Greatest Capital Region" held on 11th November, 2019,

followed it up with series of workshops on various sectors, spread over December 2019 and Jan 2020.

3.2.2 However, with a view to coordinate and monitor preparation of Regional Plan 2041 for National Capital Region, a Core Advisory Committee for Regional Plan 2041, was constituted vide Office Memorandum no. No. K-14011/24/2019-NCRPB (Vol I) dated 04.12.2019.

3.2.3 The Core Advisory Committee has Member Secretary, NCRPB as Chairperson and Vice Chairman, DDA (or his Nominee); four Nodal Principal Secretaries of NCR States; Director, SPA; DG, TERI; MD, NCRTC; DG, BEEP; Director, NIUA; ED, NHSRC alongwith an Urban & Regional Planning Expert , as Members, with CRP, NCRPB as Member Convenor. Prof. Anil D. Sahasrabudhe, Chairman, All India Council for Technical Education (AICTE), has also been added as member, thereafter.

3.2.4 The CAC has already held two meetings dated 29.01.2020 and 25.02.2020, Minutes of the two meetings are as placed at **Annexure 3/II** and **Annexure 3/III** respectively. Comments of NCR Cell, U.P. for Chapterization of RP-2041 have been received. Comments of Govt. of U.P., Haryana and NCT Delhi are awaited.

Action point

- ***Matter placed for information***

3.3 Status of Data collection for RP 2041 for NCR

3.3.1 For preparation of RP 2041, NCRPB has prepared detailed formats for data collection for various sectors that may be covered in the Regional Plan. The formats were circulated to all the NCR participating States in May, 2019 (both in hard and soft (excel) format). The NCR participating States were requested to provide the data, duly signed by the concerned district ADMs of the respective districts and also provide the duly filled excel sheets for the same, in the circulated format.

3.3.2 NCRPB continuously followed up with the NCR participating States during the review meetings as well as through video conferences, wherein matter is discussed with at district level as well. Consequently, NCR participating States have submitted data in print as well as excel format. Data received from the NCR participating States have been discussed and deliberated with the respective NCR Planning & Monitoring Cells and necessary data gaps, as identified have been communicated and reminder letters were issued requesting data for the gaps.

3.3.3 The current status of the data collection Sub-Region wise are given below:

i) **Haryana Sub-Region** – While most of the data has been received so far data gaps exists for the districts especially related to Gurugram, Faridabad, Rewari, Mewat, Karnal & Palwal. Reminder letter requesting submission of complete data sets for all districts has been issued on 19.02.2020 & 06.03.2020. The matter is being followed up regularly. While analysing the data it is observed that the data provided by the Govt. of Haryana is not in line with the certain data as published on the websites of its different Departments like Health, PWD, etc. This should be checked by the Govt. of Haryana.

ii) **Uttar Pradesh Sub-Region** – Substantial data pertaining to all sections have been received, however, data is awaited for few districts like Meerut, Shamli, Hapur, Gautambudh Nagar and Muzaffarnagar for certain sections mainly Economy, Transport, Water and Social Infrastructure. Reminder letter regarding submission of complete data sets for all districts has been issued on 19.02.2020 providing data gaps for all districts. The matter is being continuously followed up with NCR Cell, UP. The data for the gaps was to be submitted by NCR Cell, UP by 03.03.2020, however, the same is still awaited. Reminder has been issued on 06.03.2020.

iii) **Rajasthan Sub-Region** – While substantial data has been received, data gaps have been communicated to NCR Cell, Rajasthan for districts Alwar and Bharatpur. Matter is being followed up with the NCR Cell, Rajasthan and reminder letter dated 06.03.2020 has been issued requesting to expedite the submission of required data. Major data gap pertaining to Economy, Transport, Drainage, Telecommunication and Social Infrastructure Sectors.

iv) **NCT Delhi** – Substantial data has been received, however, it is observed that district-wise data is provided for few districts only, also the requisite data for gaps in certain sectors like Economy, Transport, Water, Power, Drainage, Solid Waste Management and Social Infrastructure is yet to be submitted by GNCT Delhi. The data gaps were communicated to GNCT Delhi on 13.02.2020. Further, matter was discussed with the officers of NCR Cell, GNCT Delhi on 05.03.2020 at NCRPB office w.r.t. data gaps. Reminder letter dated 06.03.2020 has been issued.

3.3.4 All NCR participating States/ NCR Planning & Monitoring Cells are requested to expedite the submission of the data for gaps. Data pertaining to sectors like Transport, Power, Water, Drainage &Sanitation (SWM & Sewerage Infrastructure), Heathand Education should be completed and provided on priority. Also, maps as requested for various sectors should be arranged, in any available format.

Action Point:

- ***NCR participating States may ensure submission of all required data along with necessary maps within a week.***

Agenda Item 4: Status of SRPs from NCR States

4.1 Status of Sub-Regional Plan-2021 for Haryana Sub Region - newly added Areas

4.1.1 As per the decision of last Planning Committee, Govt. of Haryana was to submit the SRP Haryana for its newly added areas by 26.07.2019.

4.1.2 The modified draft Sub Regional Plan-2021 for extended area of Haryana Sub-Region along with action report on the observation was submitted by the Govt. of Haryana vide letter dated 03.09.2019. The same was examined in NCRPB and placed before the Board in its 38th meeting held on 13.09.2019 along with the observations for consideration.

4.1.3 The submission was considered by the Board as per Section 19(2) of the NCRPB Act, 1985 subject to detailed NCZ delineation by Haryana and compliance of observations with respect of Karnal and Kaithal. Board decided that Govt. of Haryana, after due consideration of the observations will finalize and publish the SRP 2021 for newly added areas accordingly. Delineation of NCZ will be done by Haryana by December, 2019 and the SRP will stand amended accordingly.

4.1.4 Board also agreed to the extension of time for reimbursement of SRP preparation expenses till September 2019 for Haryana.

4.1.5 Decisions of the Board were communicated to Govt. of Haryana vide letter dated 28.11.2019. Reminder was sent on 12.02.2020. Representative from Govt. of Haryana may give status in the meeting.

Action point

- ***Govt. of Haryana to give status of finalisation of SRP and its publication.***

4.2 Status of Sub-Regional Plan-2021 for Delhi

4.2.1 The matter of preparation of Sub-Regional Plan-2021 for Delhi was placed before the 38th Meeting of the Board held on 13.09.2019 wherein Vice Chairman, Delhi Development Authority informed that the work on SRP-2021 Delhi has been initiated and will be completed by December, 2019. With regard to Delineation and ground truthing of NCZ in Delhi, VC, DDA stated that SRP-2021 for Delhi was expected within three months, therefore, it is expected that it will be with the necessary NCZ delineations details.

4.2.2 Decisions of the Board were communicated to Govt. of NCT Delhi and DDA vide letter dated 28.11.2019. Reminder for preparation of SRP and NCZ delineation was issued on 03.01.2020 and 12.02.2020. NCRPB has also been pursued informally

however, the same is still awaited. Representative from DDA and GNCT of Delhi may give status in the meeting.

Action point

- ***Govt. of NCT Delhi and DDA to expedite preparation and finalisation of SRP-2021 for NCT of Delhi.***

4.3 Status of Sub-Regional Plan-2021 for Rajasthan Sub Regions

4.3.1 Govt. of Rajasthan vide its letter dated 28.08.2019 submitted the final draft SRP-2021 for extended Rajasthan sub-region for consideration of the Board. The same was placed before the Board in its 38th Meeting held on 13.09.2019 for consideration as per Section 19(2) of the NCRPB Act, 1985.

4.3.2 The same was considered by the Board, as per Section 19(2) of the NCRPB Act, 1985. Board also decided that Govt. of Rajasthan will publish the SRP-2021 for newly added areas accordingly. Further, Board agreed to the extension of time for reimbursement of SRP preparation expenses till August 2019 for Rajasthan.

4.3.3 Decisions of the Board were communicated to Govt. of Rajasthan vide letter dated 29.11.2019 with request to take necessary action as per the provision under Section 19(3) of NCRPB Act and provide copy of the Final SRP-2021 for newly added areas.

4.3.4 No formal letter regarding publication of final SRP-2021 for newly added area has been received from Govt. of Rajasthan. Representative from Govt. of Rajasthan may give status in the meeting.

Action point:

- ***Govt. of Rajasthan to publish the SRP-2021 expeditiously.***

4.4 Status of Sub-Regional Plan-2021 for Uttar Pradesh Sub Regions

4.4.1 NCR Cell, Uttar Pradesh had informed and assured in the last Planning Committee meeting that the bid for the works regarding SRP 2021 for additional areas in Uttar Pradesh sub-region, was scheduled for opening on 20th July 2019 and works were expected to be awarded by the end of July, 2019. Govt. of UP thereafter informed that SRP preparation for newly added areas (Shamli and Muzaffarnagar districts) shall take more time as the work was being retendered and revised bid has been published on 29.08.19 with last date of submission being 05.09.19. It was assured that LoA will be issued on 11.09.19.

4.4.2 The matter was placed before the 38th Meeting of the Board held on 13.09.2019 wherein Chairman stated that all States (*Delhi and Uttar Pradesh)* are encouraged to submit their pending SRPs with the horizon 2021 within next 3 months by December, 2019.

4.4.3 Decisions of the Board were communicated to Govt. of U.P. vide letter dated 29.11.2019. As the draft SRP-2021 for newly added districts in U.P. sub-region has not been received, matter was regularly followed up informally and also a reminder was sent on 12.02.2020. Representative form Govt. of Uttar Pradesh may give the status in the meeting.

Action point:

- ***Govt. of Uttar Pradesh to prepare and finalise the SRP-2021 expeditiously.***

Agenda Item 5: Status of Delineation of National Capital Region

5.1 Planning Committee, in its last meeting had recommended that the NCR Delineation Report with the resulting delineated area may be placed before the Board for consideration. The Report was duly placed before the Board in 38th Meeting held on 13.09.2019 for consideration. A copy of the Report is placed at **Annexure-5/I**.

5.2 Action taken by the Committee constituted for Delineation of NCR was appreciated by the Board and first useful discussion was held on the same. Chairman, NCRPB had suggested that a workshop be organised inviting experts and stakeholders to discuss the Options suggested in the report. The status be thereafter placed in the next Board meeting.

5.3 Accordingly, a workshop was organised on 17.01.2020 in Vigyan Bhawan, wherein experts and Stakeholders were invited. PPT and Minutes of the Stakeholders workshop on NCR Delineation are placed at **Annexure -5/II & Annexure-5/III**.

5.4 **Govt. of Rajasthan** (letter dated 16.01.2020) is of the view that, Option-II suggested by the Committee may be agreed upon with following modifications:

a) All Tehsil of Alwar District (Entire District) are part of notified NCR since year 2004, thus all should remain as a part of NCR.
b) Entire Bharatpur District should remain as a part of NCR
c) In second option, area of tehsil Virat Nagar (part) in Jaipur District along NH-8 has been identified for inclusion. It should be extended up to boundary of Jaipur Development Authority (JDA) Region (up to TeshilAmer) along NH-8, so that RRTS corridor can be extended up to Jaipur which is a CMA to NCR.

5.5 **NCR Planning and Monitoring Cell, U.P.** (letter dated 04.03.2020 addressed to Principal Secretary, Housing and Urban Planning Department, Govt. of U.P.) is of the view that Option 1 seems more viable keeping in view the feasibility and the operational regional plan. Also it is worth mentioning that the previously sent opinion of GoUP in which it is said that the delineation exercise should be based on district rather than on tehsil, will require modification.

Action Point:

- ***Minutes of meeting on Stakeholders Conference to discuss options suggested to Draft Report on Delineation of NCR is placed before the Committee.***

Agenda Item 6: Status of implementation of projects envisaged in Regional Plan-2021 and Functional Plans

6.1. NCRPB with active participation of the NCR participating States and concerned Central Ministries / Departments has prepared Regional Plan-2021 and Functional Plan on Transport, Ground Water Recharge, Economic Development, Drainage and Micro & Household Enterprises in NCR. These Plans are circulated to NCR participating States and concerned Central Ministries / Departments for implementation.

6.2. It is observed that the projects envisaged in Regional Plan-2021 and Functional Plans have not been fully implemented. Tentative list of projects envisaged in RP-2021 and Functional Plans on Transport, Drainage, Economic Development, Ground Water Recharge which are to be implemented by the concerned State Governments/Agencies placed at **Annexure 6/I**.

6.3. NCRPB vide letter No. K-14011/1/2020-NCRPB-PMC dated 09.03.2020 enclosing a copy of the said list requested all NCR Planning and Monitoring Cells that the status of implementation of these projects and/or preparation of Detailed Project Report for financial assistance from NCRPB or any other funding source may please be provided at the earliest. NCR Planning and Monitoring Cells may give the status

Action Point:

- ***NCR participating States may take necessary action for identification and formulation of Detailed Projects for NCRPB funding.***

Agenda Item 7: Any other item with the permission of the Chair

Annexure-1/I

राष्ट्रीय राजधानी क्षेत्र योजना बोर्ड
NATIONAL CAPITAL REGION PLANNING BOARD
प्रथम तल, कोर–IV बी, / 1st Floor, Core-IV B,
भारत पर्यावास केन्द्र, / India Habitat Centre,
लोधी रोड, नई दिल्ली–110003 / Lodhi Road, New Delhi-110003
आवासन और शहरी कार्य मंत्रालय / Ministry of Housing and Urban Affairs
दूरभाष/Phone: 011–24642284, 24642287 फैक्स/Fax: 011–24642163

स्वच्छ भारत
एक कदम स्वच्छता की ओर

Speed Post

No.K-14011/9/2018-NCRPB

Dated: 22.07.2019

Sub: Minutes of the 67th Meeting of the Planning Committee of the NCR Planning Board held on 15.07.2019 at 11:00 AM at NCR Planning Board, New Delhi

The 67th Meeting of the Planning Committee of the NCR Planning Board under the Chairpersonship of Member Secretary, NCR Planning Board was held on 15.07.2019 at 11:00 AM in the Conference Room of NCR Planning Board, Core-4B, 1st Floor, India Habitat Centre, Lodhi Road, New Delhi-110003.

2. The Minutes of the meeting are enclosed for information and necessary action.

(Jagdish Parwani)
Director (A&F)

Encl: As above.

To:

Members

1. Additional Secretary (D), Ministry of Housing & Urban Affairs, Govt. of India, Nirman Bhawan, New Delhi.
2. Additional Chief Secretary, Department of Urban Development & Housing, Govt. of Rajasthan, Rajasthan Secretariat, Jaipur-302005, Rajasthan.
3. Principal Secretary, Town & Country Planning Department, Govt. of Haryana, Haryana Mini Secretariat, Sector -17, Chandigarh, Haryana-160017.
4. Principal Secretary, Housing &Urban Planning Department, Govt. of Uttar Pradesh, 3rd Floor, Bapu Bhawan, Uttar Pradesh Secretariat, Lucknow-226001, Uttar Pradesh.
5. Vice-Chairman, Delhi Development Authority, Vikas Sadan, New Delhi-110023.
6. Director General, Town & Country Planning Department, Government of Haryana, SCO 71-75, Sec.17C, Chandigarh-160017.
7. Principal Secretary (PWD), Govt. of NCT-Delhi, 5th Level, Delhi Secretariat, I.P. Estate, New Delhi-110002.
8. Chief Planner, Town & Country Planning Organisation, Govt. of India, E-Block, Vikas Bhawan, I.P. Estate, New Delhi-110002.
9. Chief Town & Country Planner, Uttar Pradesh, Town & Country Planning Department, Govt. of Uttar Pradesh, 7 Bandaria Bagh, Lucknow-226001, Uttar Pradesh.
10. Chief Town Planner (NCR), Town & Country Planning Department, Govt. of Rajasthan, Nagar Niyojan Bhawan, Jawaharlal Nehru Marg, Jaipur-302004, Rajasthan.

जारी / Issue.....23/7/19.....
दिनाँक / Date.....
हस्ताक्षर / Signature.....

Co-opted Members

11. Joint Secretary (UT), Ministry of Housing & Urban Affairs, Govt. of India, Nirman Bhawan, New Delhi.
12. Joint Secretary (IA), Deptt. of Environment, Ministry of Environment, Forest & Climate Change, Govt. of India, Indira Paryavaran Bhavan, Jor Bagh Road, New Delhi-110003.
13. Senior Advisor (HUD), NITI Aayog, Sansad Marg, New Delhi-110001.
14. Chairman & Managing Director, Housing & Urban Development Corporation, HUDCO House, Lodhi Road, New Delhi-110003.

CMA

1. Secretary, Housing, Govt. of Uttarakhand, 4, Subash Road, **Dehradun**-248001, Uttarakhand
2. Chief Executive Officer, NCR Special Area Development Authority (Counter Magnet), Sheetla Sahai Administration Bhawan, Sojna Tighra, **Gwalior**-474001 (M.P.)
3. The Chief Administrator, Patiala Urban Planning & Development Authority, PUDA Complex, Urban Estate, Phase-II, **Patiala**-147002.

Special Invitee:

1. Prof. Dilip Kumar Dey, Professor & Head, Faculty Member of Department of Statistics, Indira Gandhi National Tribal University, Amarkantak, Village- Lalpur, Dist. Anuppur (MP), Pim 484887-

Copy to:

1. Consultant Planning, NCRPB
2. FAO, NCRPB
3. All officers from Planning Wing
4. PS to MS, NCRPB
5. PA to Director (A&F)

(Jagdish Parwani)
Director (A&F)

MINUTES OF THE MEETING

67TH MEETING OF THE PLANNING COMMITTEE HELD ON 15.07.2019 AT 11.00 A.M. IN THE OFFICE OF N C R PLANNING BOARD, NEW DELHI.

1. Chairman welcomed the members of the Planning Committee and mentioned that Principal Secretary, T&CP, Haryana vide its letter dated 13.7.2019 had requested for rescheduling the meeting citing reasons that the addendum to RP 2021 for extended subregions, covering about 64 page agenda notes with 20 agenda points and 400 pages of annexures, was circulated late on 11.7.22019, and needed more time for detailed examination.

2. Members including participants from Delhi, Uttar Pradesh & Rajasthan, however observed that 64 page agenda items covered 20 agenda items out of which 14 items i.e 70% of the items, were for information of Committee only. The agenda item no. 3 covering Addendum to RP 2021 for extended sub regions, contained 2.5 page agenda note with 29 page Addendum as annexure, was only being taken up for consent of the Committee for inviting objections and suggestions, and Haryana can also give its objections/suggestions in 30 days of publishing of related notice. However, the Committee authorized the Chairperson, to discuss the matter related to "Regional Plan 2021 for additional areas as Addendum/Modifications to Regional Plan 2021" with Govt. of Haryana and take decision, accordingly. Thereafter, Members decided to continue the meeting and the Agenda Items were taken up for discussion. List of participants is at **Annexure-I**.

3. Accordingly, meeting was held in NCRPB on 18.07.19 by Chairperson wherein Sh. A.K Singh, Principal Secretary, T&CTD, Haryana and Sh. V.K Goel, CCP, Haryana, participated. The discussions and decisions taken in the meeting have also been accordingly reflected hereafter.

AGENDA ITEM NO.1: CONFIRMATION OF THE MINUTES OF THE 66th MEETING OF THE PLANNING COMMITTEE HELD ON 28.04.2016

Planning Committee noted that no comments have been received on the Minutes of its 66th meeting held on 17.11.2017 circulated vide letter No. K-14011/100/2016-NCRPB dated 22.11.2017. ***Minutes of the 66th Meeting of the Planning Committee were confirmed.***

AGENDA ITEM NO. 2: REVIEW OF ACTION TAKEN ON THE DECISIONS OF THE 66th MEETING OF THE PLANNING COMMITTEE HELD ON 1.11.2017

1. It was informed that most of the agenda items discussed in the last meeting were being dealt as separate agenda, status of others were noted by the Committee.
2. With regards to the agenda item 3.2 Matter raised by Govt. of U.P. w.r.t. YEIDA, it was noted that during deliberations in the 37th meeting of the Board held on 04.12.2017, Secretary (HUA), suggested that since the current population of YEIDA is falling in the range of a Regional Centre (i.e. 3 lakh to 10 lakh) as per RP-2021, view may be taken w.r.t considering YEIDA as a Regional Centre instead of a Metro Centre. However, Govt. of U.P in its meeting held on 28.09.2018, decided that request for consideration of YEIDA as Metro Centre may be

sent to NCRPB.it was noted that the above request had been received in NCRPB office on 5.7.19. Subsequently. Another request with status of Jewar Airport has also been received on 12.7.19. It was decided that matter will be examined and will be placed before the Board.

(Action: NCRPB)

3. Regarding Agenda Item on Study on 'Affordability and Accessibility of Housing in NCR', it was noted that as EoIs were received in January 2018, their relevance after more than a year could be an issue and starting afresh would take even more time. Hence, it was agreed that as the matter was much delayed and action regarding Regional Plan preparation of next horizon year, has already been initiated, carrying out such a vast study at this stage, may not provide quick results and the study would further take a lot of time, hence , matter may be closed.

AGENDA ITEM NO. 3: STATUS OF REGIONAL PLAN 2021 FOR NEWLY ADDED AREAS OF NCR

1 Planning Committee was apprised that this was the most important agenda for the meeting as, NCRPB had made efforts to put in place the Regional Plan for newly added areas and planned to place it before the next Board meeting for approvals.

2 It was apprised that the earlier Board meeting was informed that Regional Plan for newly added districts was getting delayed due to persistent data gaps. However, the plan was required to be in prepared on urgent basis. Hence an addendum covering the newly added seven districts to RP 2021 (enforce) was decided to be prepared based on the manner, the old districts of NCR had been looked into in the Regional Plan 2021, notified in 2005. The document has been prepared and NRSC maps been included for additional districts in the same. The terminology of 'Forest' has been maintained as in case of RP 2021. Further, updation of CMAs have also been covered in the addendum.

3 Committee was apprised that the notified RP-2021 provides policies and proposals for whole NCR area, would also be applicable to the additional area of the NCR. As per Section 14(*1*) of NCRPB Act, 1985 is reproduced below:

"*The Board may, subject to the provisions of sub-section (2), make such modifications in the Regional Plan as finally prepared by it, as it may think fit, being modifications which, in its opinion, do not effect important alterations in the character of the Regional Plan and which do not relate to the extent of land-uses or the standards of population density.*"

4 It was informed that as per procedure, the Draft Regional plan which in current case is the Addendum to RP2021, is to be placed before the Planning Committee and along with the recommendations of the Committee, the same is to be placed before the Board for approval to invite objections and suggestions. The time to be given for inviting objection and suggestion, u/s 12 of NCRPB Act, 1985 and Chapter 5 of NCRPB Rules, is 30 days. However, in order to expedite the process, it is proposed that the addendum may be made open for objections and

suggestions after consideration in the Planning Committee and thereafter addendum incorporating the received 'objections and suggestion' be placed before the Board, in anticipation of post facto concurrence of the Board for inviting 'objections and suggestion'. The Board shall be requested to provide post facto concurrence regarding inviting 'objections and suggestion' on draft Addendum and also for concurrence on the Final Addendum to RP 2021 for publication and notification under Section 13, of NCRPB Act 1985.

During discussions with officers from Govt. of Haryana, it was pointed out by them that as already indicated in footnotes of Proposed Landuse Map of RP 2021, the boundaries of conservation zones are tentative and shall be in accordance with the Sub Regional Plans/ Master/ Development Plans/ Notifications of MoE&F thereof. It was also suggested that Addendum be updated w.r.t maps received from NRSC.

5 **After deliberations, the Committee agreed that covering the RP 2021 for newly added districts through an addendum shall also help in expediting approvals of the SRPs for the newly added areas and inturn open possibilities for NCRPB to consider and provide financial assistance for areas in the new districts and accordingly decided the following:**

- ***Addendum to RP 2021 covering the newly added districts to NCR, is considered and approval for inviting objections and suggestions, in anticipation of post – facto approval of the Board with following additions to addendum:***

Location in Addendum/ Modification	**Addition/Correction**
2.2	Map 2.2A presents the Physiography and Slope in National Capital Region (including additional areas)
3.2.3	The policies regarding HCZ and Green Buffer provided in para 3.2.3 of Regional Plan-2021 is applicable for additional areas of NCR, provided that these will not be applicable to existing duly approved Development/Master Plans notified before finalization of this Addendum to modification to RP-2021 for additional areas.
As applicable	"Bhiwani" district be replaced as "Bhiwani (including Charkhi Dadri) district" and necessary footnote in Maps
8.4 (a)	Map 8.2 A related text be deleted
14.2 (a)	Notwithstanding anything in above paras, all conservation area boundaries are tentative and subject to verification and detailing by respective State Governments in their Sub-Regional Plans /Development/Master Plans.
Footnote below Table 17.2 (a)	* States to verify.
17.4 A	; Provided however that population densities in the additional areas will conform to the URDPFI Guidelines, 2015 notified by MoHUA as amended from time to time.
17.6	Notwithstanding anything in above paras, all conservation area boundaries are tentative and subject to verification and detailing by respective State Governments in their Sub-Regional Plans /Development/Master Plans.
18.3 A	Map 18.1A shows the Counter Magnet Areas identified to NCR.

(Action: NCRPB)

AGENDA ITEM NO. 4: STATUS OF SUB-REGIONAL PLAN-2021 FOR HARYANA SUB REGION - NEWLY ADDED AREAS

Committee was informed that the revised draft SRP-2021, observations of NCRPB, and compliance received were again discussed in the Review meeting with Govt. Haryana officers held under chairpersonship of Member Secretary NCRPB on 17.06.2019 in the office of NCR Planning Board wherein the matter was discussed and differences were narrowed down considerably. Govt. of Haryana was to submit the revised Report incorporating the decisions and observations, which was to be considered in the Planning Committee meeting so that same could be placed before the Board. Govt. of Haryana will submit the SRP Haryana will be submitted by 26.07.19.

(Action: Govt. of Haryana)

AGENDA ITEM NO. 5: STATUS OF SUB-REGIONAL PLAN-2021 FOR HARYANA SUB REGION - Draft Sub-Regional Plan-2021 for Haryana Sub-Region: Compliance of directions from PMO

Principal Secretary, T&CP Department, Govt. of Haryana requested that the matter may be discussed in the meeting scheduled for 26 or 29 July 2019, with NCRPB.

(Action: Govt. of Haryana)

AGENDA ITEM NO. 6: STATUS OF SUB-REGIONAL PLAN-2021 FOR DELHI

Representative from GNCT of Delhi informed that DDA has indicated that they will engage an expert to carry out the work of preparation SRP. Committee felt that it would further delay the work. Secretary, UD, Delhi suggested that a meeting can be held in Urban Development Department, Govt. of NCT Delhi to expedite the process.

(Action: DDA / Govt. of NCT of Delhi)

AGENDA ITEM NO. 7: STATUS OF SUB-REGIONAL PLAN-2021 FOR RAJASTHAN & UTTAR PRADESH SUB REGIONS

Rajasthan

1 CTP, NCR, Rajasthan informed that the work was underway and they intended to complete the work before 30 August 2019. Committee observed that incase of Rajasthan, there was only one district, it should not take much time. Further as requested by NCR Cell during the meeting via Video Conference, on 10.7.19, 25 days were requested and the work should accordingly be

completed within the requested time. Committee directed that work needs to be completed early as the SRPs are to be placed before the next Board meeting.

Uttar Pradesh

2 CCP, NCR Cell, Uttar Pradesh informed that the bid for the works is opening on 20th July 2019 and work was expected to be awarded by the end of July, 2019.

(Action: Govt. of Rajasthan & Uttar Pradesh (respective NCR Cells))

AGENDA ITEM 8: STATUS OF REVIEW OF NCR REGIONAL PLAN-2021

Chairperson shared with the members that under preparations for 2041 Regional Plan, various Study Groups were formed to look into each of the chapters and sectors covered under the RP 2021 and Review Reports of the study Groups were taken up in the related Steering Committee meeting on 4.6.2019, which included representatives from all the NCR participating State Governments. The Review Reports were accepted with suggestions given in the meeting. Accordingly, the Revised/Final Review Reports are placed for information.

Planning Committee noted the status.

AGENDA ITEM 9: POPULATION PROJECTIONS FOR NATIONAL CAPITAL REGION FOR REGIONAL PLAN 2041

1. The Committee was apprised that in continuation of its efforts under preparations for 2041, the work on Population projections for NCR for year 2041, which are key inputs for any plan preparation was assigned to Dr. D.K. Dey, Former Additional Director, Census of India and Professor & Head, Dept. of Statistics, Indira Gandhi National Tribal University, Amarkantak, M.P.

2. The report was shared with the NCR Participating States. A presentation was made by Dr. D.K. Dey before the Committee. Comments received from UP and Rajasthan had been incorporated in the Revised Reports. However, comments from NCR Cell Haryana have not incorporated. Representative from Delhi Government was requested to go through the report for comments if any. However, DDA representative stated that their comments have been addressed in the revised report. Representative from Haryana stated that the comments and the suggestions of Govt. of Haryana for incorporation of the proposed population figures of duly notified Master Plans/Development Plans may be incorporated and based on which further population projection be made for 2041. It was decided that all the NCR Cells will have the option to send the list of notified Master Plans/Development Plans along with perspective year and proposed population for 2021, 2031 and 2041, if available within a week, so that the same can be considered for incorporation in the report.

3. After detailed discussions, Planning Committee considered the draft "Report on Population Projects for NCR for Year 2041"and approved the same. The report as amended above will be placed before the Board for information.

(Action: NCRPB/ NCR Participating States)

AGENDA ITEM 10: DELINEATION STUDY FOR NATIONAL CAPITAL REGION

Planning Committee was apprised that the 4th Meeting of the Committee on Delineation of NCR was held on 15.7.2019 at 10:00 A.M. and noted the following recommendations of the Committee:

(i) The delineated NCR can be upto 100 km from the centre of Delhi as contiguous areas. In case 25% area or more area falls within 100 km range, entire Tehsil may be considered for inclusion in NCR.

(ii) In the case of Transport Corridor, minimum 1 km width on either side of NHs, Expressways, railways, RRTS radiating from Delhi upto maximum 200 km or closest large town. In case 25% area of a Tehsil is covered in the Transport Corridor, the entire Tehsil may be considered for inclusion in NCR.

(iii) In case most of the Tehsils i.e. 75% falls in a district, whole districts may be considered for inclusion.

(iv) In case majority of the Tehsils (i.e. 75%) of a district falls within a notified controlled/development areas/regulatory areas of a town, the entire district may be considered for inclusion while 25% of area of a Tehsil falls within notified controlled/development areas/regulatory areas of town, entire tehsil may be considered for inclusion in NCR.

(v) Parameters such as contiguity, proximity to CNCR, population density and rate of urbanization etc. may be considered for delineation.

(vi) Dr. D.S. Meshram, Former Chief Planner, TCPO & Expert Member and Prof. Mahabir, SPA, Expert Member, based on above mentioned parameters will delineate the NCR and prepare a Report with the resulting delineated area and submit the same within two weeks. The Experts may take necessary assistance from the Chief Town Planner/ Chief Coordinator Planner of NCR participating States. The delineation report will be placed before the Board for consideration.

Planning Committee agreed with the above and recommended that the Report with the resulting delineated area may be placed before the Board for consideration.

(Action: NCRPB and NCR participating States)

AGENDA ITEM NO. 11: DRAFT REVISED REGIONAL PLAN-2021: COMPLIANCE OF DIRECTIONS FROM PMO

Planning Committee noted the status given in the agenda.

AGENDA ITEM NO. 12: OPERATIONAL EFFECTIVENESS OF NCR PLANNING & MONITORING CELLS IN NCR PARTICIPATING STATES & NCT DELHI.

Committee was apprised that Board in its 37th meeting held on 04.12.2017 while approving the continuation of NCR Planning & Monitoring (NCR P&M) Cells for further period from 01.04.2017 to 31.03.2021, Member Secretary, NCRPB has been authorized to work out Action Plan for the Cells from time to time, as per requirement including sanction of posts and take any administrative/financial decision for smooth functioning of the NCR P&M Cells.

2. Committee was apprised that a proposal has been prepared considering the technological advancements and current requirements of the NCR P&M Cells which includes re-designation of some of the sanctioned posts such as Knowledge Professional, GIS Expert, Multi-Purpose Informatics Assistant and Multi-Tasking Staff with qualifications. The proposal was deliberated by the Planning Committee and it was agreed that the posts of Assistant Architect, Planning Assistant, Town Planning Assistant and Planning Draftsman may also be converted as GIS Expert. In the case of qualification of Knowledge Professional it was agreed that proposed qualification be supplemented with preference to Law Graduate. For the post of GIS Expert it was agreed to add additional qualification of Bachelor of Planning or Diploma in Architecture or Diploma in Civil Engineering.

3. With regard to Para 12.6 (C) of agenda be read as "All vacant posts may be filled up through **outsourcing/service provider** except the posts of Commissioner, Chief Town Planner, Associate/District Town Planner."

4. In case the current filled posts proposed for conversion, fall vacant and are not filled by promotion/deputation within 15 days, the same will be filled up through outsourcing/service provider.

5. Number of post proposed for conversion for 'Driver' be read as 'Nil' for NCR Planning & Monitoring Cell, Uttar Pradesh.

6. Committee approved the proposal at Para 12.6 of the Agenda note with the modifications mentioned in Para 2 to 5 above.

(Action: NCRPB and NCR participating States)

AGENDA ITEM NO. 13: DELINEATION AND GROUND TRUTHING OF NATURAL CONSERVATION ZONE (NCZ) AND NOTICES ISSUED UNDER SECTION 29(2) OF NCRPB ACT, 1985 REGARDING NCZ

1 Chairperson requested all the NCR Participating States to update the Committee about the status of delineation of NCZ on which following were the submissions:

i. **NCT-Delhi/DDA:** Director (Planning), DDA apprised the Committee that the DDA has done a desktop exercise in the matter. Subsequently a report has been prepared and submitted to GNCT-Delhi. Chairperson suggested that the matter be covered during the meeting proposed by Secretary, UD, for SRP issue as they are related

(Action: GNCT of Delhi & DDA)

ii. **Rajasthan:** CTP, NCR Cell, Rajasthan apprised the Committee that as mentioned in the DO letter dtd. 29.04.19, from their Chief Secretary to MoEF&CC, GoI, checking was carried out and no shrinkage in NCZ areas was found and variations seemed largely due to interpretation of satellite images, so State is of the view that carrying out the task of ground truthing at this stage does not appear to be required.

(Action: Govt. of Rajasthan)

iii. **Uttar Pradesh:** Additional Commissioner, NCR Cell, UP apprised the Committee that Govt. of UP had done the delineation of NCZ earlier and incorporated in the SRP which has been published in 2013. He also mentioned that there is no Aravali in UP Sub-region. However, factual analysis & report prepared after ground truthing based on NCRPB provided NRSC maps of 2005 and 2012 has been prepared and submitted to State Government.

iv. **Haryana:** While there was no representation from Haryana, Shri. J N Barman, Ex-Director (Tech), Consultant informed that the Reports had been received in NCRPB office on the same day (15.7.2019) and will be examined, expeditiously. During the discussions thereafter with officers from Haryana on 18.07.19, it was agreed that the matter will be discussed in detail with the Haryana officials on 26.07.19 and in any case not later than 29.07.19.

AGENDA ITEM NO.14: POPULATION DENSITY OF MASTER PLANS/ DEVELOPMENT PLANS & DENSITY NORMS OF RP-2021 AND NOTICES ISSUED UNDER SECTION 29(2) OF NCRPB ACT, 1985 IN THE MATTER

The matter was deferred.

AGENDA ITEM NO.15: MATTER RELATED TO COUNTER MAGNET AREAS OF NATIONAL CAPITAL REGION

1 Committee was apprised of the status of the various CMA s of NCR. States were requested to prepare Development Plan/ Master Plan and Plan of Action for its implementation in the identified CMAs.

2 Chief Administrator, Patiala gave a presentation requesting addition of Rajpura to Patiala and considering the whole area as Counter Magnet Area of NCR, as the whole area has a great development potential to capture any population movement from the direction towards NCR. It was informed that Rajpura had a number of industries and as per notified Master Plan of Rajpura 2100 acres of area has been ear marked for industrial growth. The grain market of Rajpura is the second largest grain market of Asia after Khanna, it has about 150 acres of area and comprises more than 290 shops. Further, Rajpura is located between Patiala and Ambala both of which are CMAs , hence Rajpura is a good case. Rajpura is at the junction of NH 44 (GT Road) and NH 7. This area is also considered as the gateway to Punjab. It was informed that Rajpura also falls on Eastern Dedicated Freight Corridor, Amritsar Delhi Kolkata Industrial Corridor, Rajpura also comes under GMADA and for ease state government intends to bring it under Patiala Development Authority.

3 After brief deliberations, the matter was proposed to be recommended to the Board for consideration for inclusion CMA.

(Action: NCRPB)

AGENDA ITEM NO. 16: ACTION TAKEN BY NCRPB ON DIRECTIONS OF HON'BLE HIGH COURT OF DELHI IN MATTER OF RAGHURAJ SINGH VS. UNION OF INDIA & ORS. [WP (C) 5559 OF 2013]

And

AGENDA ITEM NO. 17: ACTION TAKEN ON THE DIRECTIONS OF THE HON'BLE HIGH COURT OF ALLAHABAD IN THE MATTER OF RAGHURAJ SINGH VS. STATE OF U.P. & 10 ORS. (CIVIL MISC. PIL. NO.-29004 OF 2016)

1 Chairperson requested all the NCR Participating States needs to submit status in the matter of both the contempt petitions pending before the Hon'ble High Courts of Delhi and Allahabad.

2 Additional Commissioner, NCR Cell, UP apprised that the Chairperson that NCRPB is no more a party in the contempt petitions. There is no matter pending against NCRPB and the matter is now only against the State Government of Uttar Pradesh. Even in case of UP the matter had been heard and reserved for judgement.

3 Chairperson directed Dir (A&F) & DD (GIS) to look into the matter. Incase NCRPB is not a party, then NCRPB should not pursue the matter. However, NCR Cell, UP was requested for written update in the matter.

(Action: NCRPB / NCR Cell, Uttar Pradesh)

AGENDA ITEM NO.18 : DRAFT FUNCTIONAL PLAN ON "MICRO AND HOUSEHOLD ENTERPRISES IN NCR"

1 The Committee was apprised that Draft Functional Plan on "Micro and Household Enterprises in NCR" was prepared and circulated to States While MSME Development Institute, Okhla vide letter had intimated that they support the draft and have no specific comments to offer on it.

2 Inputs/ observations from NIESBUD (related to awareness; training; establishment of livelihood business incubators; mentoring & post training support; and marketing services), were received and incorporated. Inputs from Govt. of Rajasthan, Uttar Pradesh were received and incorporated. Govts. of NCT Delhi and Haryana had no inputs/ observations/ comments. Sh. JN Barman, Ex. Director (Tech) /Consultant (Planning), NCRPB gave a short presentation on the recommendations of the draft functional plan.

3 Committee noted that as per decision of 35th Board meeting, held on 9.06.15, the power to to finalise and approve the Functional Plans, has been delegated to Member Secretary, NCRPB. Committee Members further deliberated on the recommendations and the after the Functional Plan was approved subject to following suggestions:

- Sub region specific recommendations appear to be repetition of recommendations for clusters in general and can be avoided/ deleted
- Provision of exemption from collateral security in Mudra loans from Banks may be added and its Implementation has to be enforced
- The proposed structure may be left to the states, concept can kept as suggestive. DIC and its officers may be used to mobilise the Clusters
- Mill Gate Supply Scheme recommendation may be reworded as the cost proposed to be waived needs to be subsidized. Hence, it may be replaced with existing schemes. A scheme to get subsidized yarn is there and in case it is applicable in NCR, it can be mentioned
- Wood cluster may be omitted
- Recommendation on diagnostic study for Sports Goods Cluster wise, may be avoided/deleted
- Must include Agro based processing and food processing MSMEs, even if they are not identified as clusters.

Planning Committee approved the Draft Functional Plan for Micro & Household Enterprises in NCR modified as per the suggestions given above.

(Action: NCRPB)

AGENDA ITEM NO.19: STATUS OF FINANCING OF PROJECTS BY NCR PLANNING BOARD

Planning Committee noted the status and requested the participants to expedite submission of the new projects and Utilisation certificates for the reported expenditures for the ongoing projects.

(Action: NCR participating States)

AGENDA ITEM NO. 20: STATUS OF RECIPROCAL COMMON TRANSPORT AGREEMENT

1 The Committee was apprised about the status of two RCTA agreements i.e Contract Carriage and Stage Carriage signed amongst the NCR participation States. It was informed that while the RCTA on Contract Carriage was signed in October 2008, as the validity was upto 10 years, the same stands extended after decision of meeting of Commissioner of Transport Secretaries/Commissions, (CoTs) and is currently valid till October 2019. Participants were requested to communicate to their Transport Commissioners that a meeting shall be held on the matter soon. Chairperson suggested that a meeting needs to be called for the same in August / September2019 and directed the concerned officer to take necessary action.

2 The RCTA agreement on Stage Carriage, was signed on 22.04.2010 and further decision on extension / amendment will be required till 22.04.2020.

3 Planning Committee noted the status and suggested that action may be initiated in time for the same as well.

(Action: NCRPB and NCR participating States)

AGENDA ITEM NO. 21: ANY OTHER ITEM WITH THE PERMISSION OF CHAIR

SUPPLEMENTARY AGENDA ITEM NO. 1: ACTION TAKEN W.R.T WORKS REGARDING REGIONAL PLAN 2041 PREPARATION

1. The Committee was briefed about the various initiative being taken by the Board towards action on preparations of RP 2041. It was informed that apart from RP 2021 work and population projection for 2041, which was already discussed, States should expedite the submission of Data on the circulated formats as was also requested during Video Conferencing helps on 10.7.2019. States appreciated the efforts and requested to continue the meetings via Video Conferencing and it also helped them to coordinate at DC level within the States.

2. It was informed that development concepts *(e.g. Transit Oriented Development (TOD), Compact Development, Green Building/Development, Smart Cities, etc.),* technologies *(e.g. Digital mapping/Planning, On-line monitoring of the land & development using Regional/City Observatories, etc.)* and policy interventions *(e.g. Affordable Housing, Transferable Development Rights (TDR), etc.)* are [proposed to be looked into while preparing the Regional Plan for the perspective year 2041 for NCR, which is one of the most urbanized and fast growing region in the country. For the better understanding and hands on experience of such new/innovative planning &

development concepts, technologies and policy interventions, the best practices at local and global level could be studied thoroughly, so that Regional Plan-2041 for NCR can address all the future issues/challenges smartly/innovatively. Series of brainstorming sessions, seminars, workshops, etc. are also proposed to be undertaken which may cover stakeholders, developers, etc. States should also make necessary efforts to assist the Board in this direction.

(Action: NCRPB and NCR participating States)

SUPPLEMENTARY AGENDA ITEM NO.2: DECISIONS TAKEN IN EMPOWERED COMMITTEE AND BOARD MEETINGS REQUIRED TO BE CARRIED FORWARD

2.1 The Committee was briefed about the decision of the 3rd Empowered Committee of the Board, held on 25.2.2009, chaired by Secretary, UD, GoI, regarding water management, sanitation and development of Tourism.

(i) With respect to **Water Management**, the Empowered Committee had suggested that NCR Constituent states

- would implement policies of rainwater harvest and would consider changes in building byelaws or new legislation.
- Action Plan for Ground Water recharge may be prepared for rural as well as urban areas in NCR states.
- Scheme for check dam construction and deepening of village ponds and lakes could be taken up.
- States should make Integrated Water Management Plans covering aspects of recycling of waste water, conserve water, reduce losses and promoting and launching public education campaigns.

(ii) With respect to **Sanitation**, the Empowered Committee had suggested the following for all NCR towns:

- Preparation of Sanitation Development plans including SWM Plans by concerned States
- DPRs be prepared for sewerage system, STPs, SWM and Drainage schemes by concerned States
- For financial assistance for above, NCRPB or other agency as felt appropriate, be approached with DRP by the States

(iii) With regards to **Tourism within NCR**, following was decided:

- Functional Plan for Tourism be prepared through consultant with active participation of Ministry of Tourism, ASI and NCR States.
- Ministry of Tourism to create a forum consisting of Secretaries of Tourism, Depot. Of NCR states, ASI representative for identification and selection of Tourism circuits in NCR and preparation of Conservation and Development Plan including Investment Plan which could be implemented by the States.

- Committee be constituted in the NCRPB with Secretary / Commissioners of Tourism Department of NCR States and representative of Ministry of Tourism, ASI (Centre & State both), etc. to discuss and resolve issues related to tourism sector in NCR, on the pattern of Committee of Transport Secretaries/Commissioners.

2.2 Further in the 32nd meeting of the Board held on 20.03.12 Hon. UDM, it was suggested that neighbouring states should develop hospitals in Government and private sector because Delhi hospitals are received about 40% patients from neighbouring States.

Discussions:

Chairperson requested for cooperation from the NCR participating States in this direction. Committee agreed that NCR States should not only have the requisite plans prepared but should also be clear regarding implementation the same. Chairperson indicated that the States as well as TCPO would need to actively participate and supplement the efforts of NCRPB in the direction of carrying forward decisions made in the Empowered Committee and Board Meeting.

Committee noted the information and agreed that work on the said aspects needs to be taken forward by NCRPB.

(Action: NCRPB and NCR participating States)

The meeting ended with a vote of thanks to the Chair.

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ANNEXURE-I

List of the participants of the 67th Meeting of the Planning Committee held on 15.07.19

	Chairperson
1.	Member Secretary, NCR Planning Board.
	Members
2.	Ms. Manisha Saxena, Secretary , Urban Development, GNCT of Delhi
3.	Shri Rajesh Prakash, Addl. Commissioner, NCR Monitoring & Planning Cell, representing Principal Secretary, Housing & Urban Planning Department, Govt. of UP
4.	Ms. Indira Choudhary, CTP (NCR), Govt. of Rajasthan, representing Additional Chief Secretary of Urban Development & Housing, Govt. of Rajasthan
5.	Shri S. Surendra, Addl. Chief Planner, TCPO
6.	Dr. K. Srirangan, Addl. Commissioner (Plg.), Delhi Development Authority, Delhi.- *representing VC, DDA*
	Co-opted Members
7.	Shri K.K.Chauhan, Regional Chief (NCR), HUDCO, representing CMD, HUDCO
	CMA
8.	Ms. Saurabh Malik CA, Patiala Dev. Authority Punjab Counter Magnet, Patiala
	Others
	GNCT Delhi
9.	Suresh Bhandari, Special Secretary, UD,
10.	Shri Sri Ram Assistant Director, PWD,
11.	Shri Shan E Alam, DD Planning Department,
	DDA
12.	Ms. Alka Arya Dir (Planning) MPMR/NCR DDA
	HUDCO
13.	Ms. Namika Negi GM (C&P), HUDCO
	Government of Uttar Pradesh
14.	Shri S. C. Gaur, Chief Coordinator Planner, NCR Cell UP Ghaziabad.
	Government of Rajasthan
15.	Shri Vijay Meena, ATP, CTP NCR Office, Jaipur, Rajasthan
	CMA Patiala
16.	Ms. Saurabh Malik CA, Patiala Dev. Authority Punjab Counter Magnet, Patiala
17.	Ms. Mandeep Kaur, Sr. Town Planner, Patiala
	NCRPB
18.	Shri Jagdish Parwani, Director (A&F)

19.	Shri J.N. Barman, Ex- Director (Tech) & Consultant (Planning)
20.	Shri P.K. Jain, FAO
21.	Shri Abhijeet Samanta, Dy. Director (Tech.)
22.	Shri Nabil Jafri, Dy. Director (GIS)
23.	Shri Ramesh Dev, Dy. Director (Tech.)
24.	Ms. Nilima Majhi, Asstt. Director (Tech.)
25.	Shri Satyabir Singh, Asstt. Director (Tech.)
26.	Dr. Himadri Shekhar Dey, Consultant Planning)

Greater Noida Industrial Development Authority

Plot no-01, Sector-Knowledge Park-IV, Greater Noida City
Gautam Budh Nagar, 201308

Ref: No. Planning/2019/M-1/1583
Date- 06/03/2020

To,

Principal Secretary,
Infrastructure and Industrial Development Department,
Govt. of U.P.,
Secretariat, Lok Bhavan,
Lucknow – 226 001, U.P.

Sub: **Clarification for Notice under Section 29(2) of NCR Planning Board Act 1985 regarding Revised Master Plan for Greater Noida -2021**

Sir,

Kindly refer to letter no. 1132/Greater Noida/NCR/2019-20, dated: 06.02.2020, regarding **Clarification for Notice under Section 29(2) of NCR Planning Board Act 1985 regarding Revised Master Plan for Greater Noida -2021**. In this regard GNIDA had already given a clarification to the NCR Planning & Monitoring Cell, vide letter no Planning/2019/M-1/272, dated: 30-08-2019 and copy had also been endorsed to you and the Member Secretary NCRPB, First floor, Core-4B, India Habitat Centre, Lodhi Road, New Delhi (copy enclosed).

1- The Action Taken by GNIDA Regarding observations by NCRPB on Greater Noida Master Plan 2021 are as below: -

Sl. No.	Conditions of approval of Greater Noida Master Plan 2021	Action taken by GNIDA
1.	In order to achieve the targeted population and density as per the Regional Plan – 2021 of NCR, density levels may be increased by various measures like increase in FAR creating conducive/ economic activities and integration of the DMIC projects and improved connectivity	*To achieve the targeted town density as per the Regional Plan-2021 for NCR, the density in Group Housing pockets have been increased from 1650 ppha to 2100 ppha in its endeavour to promote re-densification of town GNIDA has also increased Maximum permissible FAR in Group Housing plots from 2.75 to 3.5 and approval for the same has been granted by Govt. of U.P. Also the Group Housing Plots where no construction had started have been allowed to purchase the FAR. To study the impact of increased FAR and purchasible FAR a study was carried on behalf of GNIDA by AMDA for impact assessment on population due to increase in FAR and density. In the study report of AMDA it was suggested that population of Greater Noida will increase to 28-30 lakhs by 2031 as the city is still in its development stage and*

		new city. The population in Master Plan 2021 has been proposed as 12 lakhs in conformity with Regional Plan 2021. It is not a contemporary organic old city as other cities in its vicinity. Also the DMIC projects namely, integrated Industrial Township, multi-model logistic hub and Multi-model transportation hub have been integrated in GNIDA Master Plan 2021 for which NOC is being sought from NCRPB. This has been done to boost industrial and economic activities. The proposed Dadri-Noida- Ghaziabad investment region (DNGIR) area has also been well connected and integrated with Greater Noida Master Plan as per suggestions of NCRPB to boost economic activity'
2.	Government and GNIDA may ensure provision of 20-25% of EWS/LIG Housing while preparing of Sector Layout plans and Development of Greater Noida area.	The provision has been incorporated in the chapter no. 6 of Land Use Projection I page no. 6-1.
3.	Government of U.P. and GNIDA may ensure to prepare the Environment Master Plan of Greater Noida which would be integral part of the notified Master plan	The provision has been incorporated in the chapter no. 7.14 as – *(Environment Clearance of Greater Noida Master Plan - 2021 has been granted by SEIAC and Environmental Management Plan shall be an integral part of the Master Plan 2021.)* GNIDA has already prepared and approved the Environmental Management Plan in the year 2013.
4	Green area proposed is 3580 ha. Out of total urbanisable area of 22255 ha. Which constitutes about 16% of the total area. This area should be preserved/protected and not subject to any land use change at any future date.	The provision has been incorporated in the chapter no. 6 of Land Use Projection I page no. 6-1 as – ***(As per instruction of NCRPB vide letter dated:24.08.2012 no land use change shall be allowed in the green areas.)***
5	Action plan for implementation and its phasing should be done before notification of the final plan by Government of U.P./GNIDA.	The provision has been incorporated in the chapter no. 8 of Action Plan in page no. 8-1 to 8-4. (Copy Enclosed)

2- **Population of Greater Noida as on 2020 –** As per Master Plan-2021 for Greater Noida urbanizable area of 22.255 ha. the Residential use is about 22.36% whereas under Industrial use it is 18.88%. The planned population is as below:

a). Population under Plotted Development:

Sl.No.	Descriptions	Total No. of Residential Plots	Population @ 10P/P
1.	As per Outline development Plan - 2001	21248	2,12,480
2.	As per Master Plan - 2021	16507	1,65,070
	Total	37755	3,77,550

b). Population under High Rise Group Housing:

Sl.No.	Descriptions	Total Area under Group Housing (Ha).	Population as per Approved map.
1.	As per Outline development Plan - 2001	426.90	1,84,574
2.	As per Master Plan - 2021	327.64	3,17,120
	Total	37755	5,01,694

As per the above the total population as per plan map is 8,79,244. The said population is excluding the village population, the floating populations in the institutional area and IT sector.

3- **Impact of Purchasable FAR on Population -**

It was submitted that, the GNIDA Board in its 75[th]meeting dated 23.12.2009 approved the purchasable FAR keeping in view the increasing demand for housing and pressure on agriculture land with the upper limit to FAR 2.75 within which FAR can be purchased subject to certain conditions including proportionate increase in density.

The impact of increased FAR provision is expected to the extent of additional 1,31,056 people in sectors planned prior to increase of Density and FAR. **Thus, the total population may range between 26,01,276 to 26,56,884 persons and if the purchasable FAR is also allowed then the projected population may range between 27,32,332 to 27,87,940 persons.**

Further it is to submit that till date approximately 59 nos. of Group Housing projects have been sanction with provision of Purchasable FAR with higher density from 1650 PPH to 2100 PPH. The enhance population details area as below:

Sl.No.	Total Area under 59 nos. of Group Housing Projects (Ha).	Group Housing Population @ 1650 PPH	Group Housing Population @ 2100 PPH	Total enhance Population
1.	252.40	4,16,460	5,30,343	1,13,580

Accordingly, the enhanced population through the Purchasable FAR Mechanism is 1,13,580 as of today.

4- **Density as per NCR Plan-2021 viz.-a viz in GNIDA urbanizable area.**

The overall city density suggested as per NCR Plan-2021 is 150-200 pph while planning a city with more than 10 lakhs population. This may be largely for normal

functional cities where the land uses distribution are not based on certain prominent activity/characteristic like Industrial townships such as GNIDA.

As per UDPFI Guidelines, for large and metro centres of normal functional city in plain areas, the percentage of Residential use is suggested as 35-40% and 12-14% as Industrial use.

As per Master Plan-2021 for Greater Noida urbanizable area of 22,255 ha, the Residential use is about 22.36% whereas under Industrial use it is 18.88%. Thus, Industrial use is higher by about 5.88% and Residential use is lower by 15.14% than the average as per UDPFI Guidelines.

The study for assessing the population as already planned and envisaged for sectors yet to be planned shows that the maximum expected population may be about 27,87,940 persons, excluding population in abadi area, in a time horizon up to 2031 or even beyond as time horizon can only be anticipated but the overall threshold population need to be freezed.

It is mentioned that the above figure do not include the population of existing abadies of the villages in urbanizable area and the future natural increase in that population which will also need extra infrastructure. As per policy of the State Govt. the infrastructure for the population in village abadies is to be compulsorily provided by the Authority. GNIDA is providing infrastructure for village abadies and has integrating these in to the urban fabric. There are 52 village abadies in urbanizable area of 22,255 ha. As per estimate (Census 2001) the population in these villages is about 1,18,947 persons and with a natural growth rate 2% per annum at a linear rate over a period of next 30 years, it may be around 1,90,315. Thus a total population may be around 29,78,259 person in an area of 22,255 ha for which city level density works out to 134 pps. thus keeping in view the percentage of residential areas as per UDPFI guidelines (37.5%) and GNIDA Master Plan 2021(27%)=(22.36+4.64 under village abadies) on ration proportion basis the overall city density may work out ot 186pph.

5- This is also to bring to your kind notice that as per UDPFI Guidelines 2015 for metro cities like Greater Noida, the assign town density is 125-175 pph and its also commented that:-

- The densities of medium town & large cities are considered similar for sustainability.
- The density of 125 pph is max. factor for small town & average for medium town & large cities & minimum for Metro cities for their identification & survival

As per the above study done by AMDA the total population may be around 29,78,259 person in an area of 22,255 ha for which city level density works out to 134 pph.

6- **Impact of Proposed Jewar Airport on Population Growth of Greater Noida -**

This is also submitted that the development of Jewar Airport at YEIDA will bring an enhancement in the population growth of Greater Noida city. Greater Noida is one of the important cities that has connectivity to three Airports. As the connectivity increases the population of the city is expected to grow.

7- Here it is to submit that for increasing the town density Greater Noida Authority has taken appropriate steps with respect to increase in FAR, allowing purchasable FAR and density which would reflect the results once the development takes place. Density must be seen with respect to the entire area of Greater Noida and not merely one pocket or part thereof. At the time of conceptual planning of the city a low-density concept has been adopted as Greater Noida being an industrial township. Steps have been taken for Group Housing activities and for providing increased FAR in respect of development, which is taking place in the future, the overall density of Greater Noida City shall increase. These steps have already been taken.

8- Accordingly, the above said Clarification for Notice under Section 29(2) of NCR Planning Board Act 1985 regarding Revised Master Plan for Greater Noida -2021 may be forwarded to NCRPB New Delhi.

Yours faithfully,

(Krishna Kumar Gupta)
Addl Chief Executive Officer

Copy to: -

1- Member Secretary, NCRPB, First floor Core-4B, India Habitat Centre Lodhi Road, New Delhi
2- The Principal Secretary, Housing and Urban Planning Department, First Floor Lal Bahadur Shastri Bhavan, Government of UP Lucknow, U P
3- NCR Planning & Monitoring Cell, 2nd Floor, Nagar Nigam Bhawan, Near Navyug Market, Ghaziabad
4- Chief Town and Country Planner, Town and Country Planning Department, Govt. of Uttar Pradesh, UP Secretariat, Vibhuti Khand Gomati Nagar, Lucknow, UP

06.3.2020

Addl. Chief Executive Office

3618

Greater Noida Industrial Development Authority

Plot no-01, Sector-Knowledge Park-IV, Greater Noida City
Gautam Budh Nagar, 201308

Ref: No. Planning/2019/M-1/2772
Date- 30/08/2019

To,

The Commissioner,
NCR Planning & Monitoring Cell,
2nd Floor, Nagar Nigam Bhawan
Near Navyug Market,
Ghaziabad

Sub: Clarification for Notice under Section 29(2) of NCR Planning Board Act 1985 regarding Revised Master Plan for Greater Noida -2021

Sir,

Kindly refer to your letter no. 151/Greater Noida/NCR/2018-19, dated 16.05.2018, regarding Clarification for Notice under Section 29(2) of NCR Planning Board Act 1985 regarding Revised Master Plan for Greater Noida -2021. In this regard GNIDA had already given a clarification to the Govt. of UP. Vide letter no Planning/2016/M-1/479, dated. 31-03-2016 and copy had also been endorsed to you and the Member Secretary, NCRPB, First floor, Core-4B, India Habitat Centre, Lodhi Road, New Delhi (copy enclosed).

1. In our previous letter dated 31-03-2016 the Action Taken Regarding Town Density has been explained as below :-

*"**Town Density:** To achieve the targeted town density as per the Regional Plan-2021 for NCR, the density in Group Housing pockets have been increased from 1650 ppha to 2100 ppha. In its endeavour to promote re-densification of town GNIDA has also increased Maximum permissible FAR in Group Housing plots from 2.75 to 3.5 and approval for the same has been granted by Govt. of U.P. Also the Group Housing Plots where no construction had started have been allowed to purchase the FAR. To study the impact of increased FAR and purchasable FAR a study was carried on behalf of GNIDA by AMDA for impact assessment on population due to increase in FAR and density. AMDA suggested that population of Greater Noida will increase to 28-30 lakhs by 2031 as the city is still in its development stage and new city. The population in Master Plan 2021 has been proposed as 12 lakhs in conformity with Regional Plan 2021. It is not a contemporary old city as other cities in its vicinity. Also the DMIC projects namely, integrated Industrial Township, multi-model logistic hub and Multi-model transportation hub have been integrated in GNIDA Master Plan 2021 for which NOC is being sought from NCRPB. This has been done to boost industrial and economic activities. The proposed Dadri-Noida-Ghaziabad investment region (DNGIR) area has also been well connected and integrated with Greater Noida Master Plan as per suggestions of NCRPB to boost economic activity".*

2. As per the Study Report on Assessment of Population of Greater Noida Master Plan 2021, submitted by M/s AMDA in February 2012, the important subject had been explained as :-

- **Impact of Purchasable FAR on Population -**

The GNIDA Board in its 75th meeting dated 23.12.2009 approved the purchasable FAR keeping in view the increasing demand for housing and pressure on agriculture land with the upper limit to FAR 2.75 within which FAR can be purchased subject to certain conditions including proportionate increase in density.

The impact of increased FAR provision is expected to the extent of additional 1,31,056 people in sectors planned prior to increase of Density and FAR. Thus the total population may range between 26,01,276 to 26,56,884 persons and if the purchasable FAR is also allowed then the projected population may range between 27,32,332 to 27,87,940 person

- **Density as per NCR Plan-2021 viz,-a viz in GNIDA urbanizable area.**

The overall city density suggested as per NCR Plan-2021 is 150-200 pph while planning a city with more than 10 lakhs population. This may be largely for normal functional cities where the land uses distribution are not based on certain prominent activity/characteristic like Industrial townships such as GNIDA.

As per UDPFI Guidelines, for large and metro centres of normal functional city in plain areas the percentage of Residential use is suggested as 35-40% and 12-14% as Industrial use.

As per Master Plan-2021 for Greater Noida urbanizable area of 22,255 ha, the Residential use is about 22.36% whereas under Industrial use it is 18.88%. Thus, Industrial use is higher by about 5.88% and Residential use is lower by 15.14% than the average as per UDPFI Guidelines.

The study for assessing the population as already planned and envisaged for sectors yet to be planned shows that the maximum expected population may be about 27,87,940 persons excluding population in abadi area, in a time horizon up to 2031 or even beyond as time horizon can only be anticipated but the overall threshold population need to be freezed.

It is mentioned that the above figure do not include the population of existing abadies of the villages in urbanizable area and the future natural increase in that population which will also need extra infrastructure. As per policy of the State Govt. the infrastructure for the population in village abadies is to be compulsorily provided by the Authority. GNIDA is providing infrastructure for village abadies and has integrating these in to the urban fabric. There are 52 village abadies in urbanizable area of 22,255 ha. As per estimate(Census 2001) the population in these villages is about 1,18,947 persons and with a natural growth rate 2% per annum at a linear rate over a period of next 30 years, it may be around 1,90,315. Thus a total population may be around 29,78,259 person in an area of 22,255 ha for which city level density works out to 134 pps, thus keeping in view the percentage of residential areas as per UDPFI guidelines (37.5%) and GNIDA Master Plan 2021(27%)=(22.36+4.64 under village abadies) on ration proportion basis the overall city density may work out of 186pph.

3. This is also to bring to your kind notice that as per UDPFI Guidelines 2015 for metro cities like Greater Noida, the assign town density is 125-175 pph and its also commented that

- The densities of medium town & large cities are considered similar for sustainability.
- The density of 125 pph is max. factor for small town & average for medium town & large cities & minimum for Metro cities for their identification & survival.

As per the above study done by AMDA the total population may be around 29,78,259 person in an area of 22,255 ha for which city level density works out to 134 pph.

4. The approved NCR-2021 plan shows the GNIDA industrial development area as a self contained Industrial settlement (Metro Centre) Greater Noida had notified about 38000 Ha areas comprising of 124 Villages. Out of this area Master Plan-2021 was prepared on 22255 Ha urbanizable area with a target of 7 lakhs population by 2011 and 12 lakhs population by 2021.

5. Here it is to submit that for increasing the town density Greater Noida Authority has taken appropriate steps with respect to increase in FAR, allowing purchasable FAR and density which would reflect the results once the development takes place. Density has to be seen with respect

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to the entire area of Greater Noida and not merely one pocket or part thereof. At the time of conceptual planning of the city a low density concept has been adopted as Greater Noida being an industrial township. Steps have been taken for Group Housing activities and for providing increased FAR in respect of development which is taking place in the future, the overall density of Greater Noida City shall increase. These steps have already been taken

6- In view of the above, it is requested that the notice issued by NCRPB's communication under reply dated 21.1.2016 mentioning violation of the Regional Plan, 2021 is not justified. The matter may also be examined in your office on the aspects of legal provisions and facts. It is further requested that NCRPB's purported notice under Section 29(2) of the NCR PB Act does not consider the action already taken by this Authority. It is, therefore, requested that the to NCRPB for withdrawing the notice mentioning violation of the Regional Plan, 2021 of the GNIDA Master Plan- 2021

7- Accordingly the above said Clarification for Notice under Section 29(2) of NCR Planning Board Act 1985 regarding Revised Master Plan for Greater Noida -2021 may be forwarded to NCRPB New Delhi

In case any clarification is required, the Authority is ready to send any competent officer from Planning Department to NCRPB office and explain the position at the date and time convenient to them, also a copy of the Study Report submitted by m/s AMDA in February 2012 is being enclosed for your kind reference

Yours faithfully,

30.8.19

(Krishna Kumar Gupta)
Addl. Chief Executive Officer

Copy to:-

1- Smt Archana Agrawal Ma'am, Hon'ble Member Secretary ,NCRPB, First floor, Core-4B,India Habitat Center Lodhi Road, New Delhi
Note:- with due respect it is a humble submission to your good self that the earlier letter no Planning/2019/M-1/271, dated 29.08.2019 may be considered cancel as it was sent to you directly by mistake which was supposed to send to The, Hon'ble Commissioner, NCR Planning & Monitoring Cell, Ghaziabad.
2- Principal Secretary, Industrial Development Department, Govt of U.P. Annexe Bhawan,Lucknow
3- The Principal Secretary Housing Department, Govt of UP,3rd Floor BapuBhawanUttar Pradesh Secretariat,Lucknow
4- Chief Town and Country Planner, Town and Country Planning Department, Govt of Uttar Pradesh, UP Secretariat, VibhutiKhand Gomati Nagar, Lucknow, UP

30.8.19

Addl. Chief Executive Office

d/c

6.0 LAND USE PROJECTIONS

Land use is proposed in master plan 2021 by considering the populations for two phase i.e. 7.0 lakh for first phase (2001-2011) and 12.00 lakh for second phase (2011-2021)

LAND USE PROJECTIONS for 1st and 2nd phase (2001-2011)

As defined in the concept the city is being planned comparatively low population density with more open spaces. So density assumed for the two phase of development is 60 pph. As per the existing provisions for town density.

Present gross density of Greater Noida (2001) = 300000/5076.55= 59pph say 60pph.

Total population projected for first phase =700000

Total area proposed for first phase =13570

Land use projections for second phase (2011-2021)

Population projected for second phase =12,00,000

Total area proposed for second phase = 22255 hectares

Land use break up (including SEZ and Regional level Institutional area)

Land use		2001(ha)	%age	2011(ha)	%age	2021 (ha)	% age
Residential		1310	25.8	3000	22.10	4992.30	22.43
Industrial		1596.96	31.5	3027.3	22.3	4008.59	18.01
Commercial		99.74	2	720	5.30	1096.23	4.93
Institutional		570.63	11.2	2502.7	18.4	3345.90	15.03
Green areas		1361.9	26.8	3000	22.10	3579.80	16.09
Institutional green		-	-	-	-	1420.20	6.38
Transportation	Transports	137.32	2.7	1280	9.45	3423.33	15.38
	MMTH	-	-	-	-	52.69	0.24
SEZ		-	-	40	0.3	-	-
IIT		-	-	-	-	335.96	1.51
Total		5075	100	13570	100	22255	100

- Residential area proposed for first phase (2001-2011) is 3000 hectares which is 22.10% of total land use and it will accommodate the population of 7.0 lakh. Residential area proposed for the second phase (2011-2021) for the population of 12.00 lakh is 4992.30 hectares (22.43% of total land use)

- This area has been worked out on the basis of gross residential density o about 230 ppha in the present plan for the first phase upto 2011. In the second phase upto 2021, the pressure on the land will increase due to decreasing the availability of land in Delhi Noida and hence the gross residential density has been increased marginally to 204 ppha.

- *Provision for LIG and EWS housing stock will be provided 20-25% of total planned dwelling units while preparing detailed sector layout as per state Government guidelines and National policies*

- *As per instruction of NCRPB vide letter dated 24.08.2012 no land use change shall be allowed in green areas*

7.14 ENVIRONMENT

The Environmental impact assessment Plan of Grater Noida-2021 is proposed to be formulated and environmental clearance to be taken from Ministry of MoEF. The clearance shall be taken as per Environment Act 2006 of Ministry of Environment, in accordance with the policies and proposal of the NCR Regional Plan-2021 the policies of Regional Plan are as follows:-

- Good agricultural land in the region shall be protected and conserved
- The land use allocation has to be done in order to protect and conserve both surface and ground water resource.
- Master / Development Plan for the town in the region includes land suitability analysis.
- The database for air quality, water quality, noise pollution and land pollution has to be assessed in the Environment Master Plan under preparation.
- Carrying capacity based land use plan and CETP shall be integrated part of industrial estates
- The EIA Plan for the Greater Noida Area shall be prepared and assessed on the basis of guidelines of Environment Act-1986 and policies of Regional Plan-2021.
- Environment Clearance for Greater Noida Master Plan – 2021 has been granted by SEIAC and Environment Management Plan shall be an integral part of the Master Plan 2021.

8.0 ACTION PLAN

A plan of Action has to be developed for a city to provide a time schedule and overall breakdown of the main activities for implementation of the Master Plan. The format of the action is in such a way that provides an overview of the implementation rather than engages in too many details and inter –linkages between tasks. The aim is to develop a format that can be revised and used for monitoring purpose as per the developing needs in the area and its environs.

The purpose of action plan is to evaluate in detail the action required to convert strategy in to practice. The Action plan sets out in detail the steps taken in implementing each component of the overall strategy over a period of time.

8.1 Preparation of detail services plans for

8.1.1 Water supply
- ♦Plan prepared by DHV Consultants.

8.1.2 Sewerage
- ♦Plan prepared by DHV Consultants.

8.1.3 Drainage including Rain water harvesting.
- ♦Plan prepared by DHV Consultants.

8.1.4 Electrification
- ♦Tentative Plan prepared by Greater Noida Authority.

8.1.5Telecommunication
- ♦Plan prepared

8.1.6 Convergence Network
- ♦Plan prepared by Greater Noida Authority

8.1.7 Natural gas and industrial gas
- ♦Plan prepared by Greater Noida Authority.

8.1.8 Postal Master Plan
- ♦Plan prepared by Greater Noida Authority

8.1.9 Optical fibre cable
- ♦Plan prepared by Greater Noida Authority.

8.1.10 Security
- ♦Plan prepared by Greater Noida Authority

8.1.11 Police services
- ♦Plan prepared by Greater Noida Authority.

8.1.12 Fire services

♦Plan prepared by Greater Noida Authority.

8.2 Preparation of detailed traffic and transport plan.

♦Plan prepared by RIES Ltd

8.3 Preparation of phase wise development plan (capital budget) in terms of –

- Land Acquisition
- Land Development
- Land Disposal
- Economic Viability

8.4 Preparation of Management Strategy and Programme

- Project implementation
- Maintenance
- Interdepartmental coordinate

8.5 Review of Master Plan after every 5 years.

8.6 Structure of the Action plan.

The Action Plan provides a list of activities for management of municipal solid waste in Greater Noida and assigns a timeframe for implementations of the specified activity. The Action plan is divided in to two time segments:

- The short –term period 2012-2017 (5 years)
- The medium –term period 2017-2021(5years)

The action plan is more detailed in its provisions for the short term i e for a period of five years. The medium provisions is less detailed and focus on the major objectives and targets as the detail of the plan will have to take in to account the success of the implementation of the objectives for the short terms as well as the actual developments.

8.7 Development of the Action Plan

Action plan is result of continuous interaction with the consults and the official of the authority. The listed out activities and their timeframe of implementation was derived with engineering division officials to arrive at realistic target

8.8 Action Plan 2012-2017

The major projects listed out in the Action Plan 2012-2017:-

- The Metro project form Noida to Greater Noida to be started
- The connectivity of Greater Noida to Delhi with high –speed metro/rail corridor to be worked out and implementation to be started
- Institutional developments of the implementation systems
- Development of new sanitary landfills with adequate capacities to cater for municipal solid waste arising in the study area over five year planning period
- 01 No 765/400/220 KV Electric Sub station
- 01 No 400/220 KV Electric Sub station

- 03 Nos.220/33 KV Electric Sub station at KP-V ,Sector -Phi-3& sector –XU-III
- 40 Nos. 33/11 KV Electric Sub station at Various Locations
- Metro link to Greater Noida from SECTOR -122 Noida to 130.00 mtr wide link Greater Noida
- 137 MLD Sewer treatment plant near Ecotech –I
- 15 MLD Sewer treatment plant at Ecotech –II
- 20 MLD Sewer treatment plant at Ecotech –III
- 12 MLD Sewer treatment plant at Techzone IT City
- 72/36 MLD Sewer treatment plant at recreational green XU-I (36MLDIn 2012-17)
- 158/100 MLD Sewer treatment plant near sector I (100MLD In 2012-17)
- 85 cusec Ganga Water Supply Scheme shall be completed
- 130m wide road length 5.0 km shall be completed
- 105m wide road length 1.5 km shall be completed.
- Gautam Budh University shall be completed.
- 500 bedded Multi Specialty Hospital shall be completed
- Internal &External development works in 8000 heet Area Development works include roads, sewerage, water supply, drainage, electrification & horticulture works etc.
- Village development works
- ROB works at Dadri & Boraki
- Municipal solid waste deposal & treatment including the work of land acquisition , EIA clearance , commissioning of the composting plant (initially 100 TPD capacity and expandable to 500 TPD),commissioning of the RDF plant (initially 200TPD capacity and expandable to 200 TPD)
- Development Beautifications of Lohia Lake
- The remodeling and development of Lohia rivulet
- The action plan for land acquisition shall be prepared year wise as per detailed deliberations
- Bus Terminal
- Truck parking facility
- 293.98 Ha of green belt at city level to be developed
- 644.86 Ha of recreational green to be developed
- Replantation and development of 1010 Ha of forest area

3.3 Status of Data collection for RP 2041 works

3.3.1 For preparation of RP 2041, NCRPB has prepared detailed formats for data collection for various sectors that may be covered in the Regional Plan. The formats were circulated to all the NCR participating States in May, 2019 (both in hard and soft (excel) format). The NCR participating States were requested to provide the data, duly signed by the concerned district ADMs of the respective districts and also provide the duly filled excel sheets for the same, in the circulated format.

3.3.2 NCRPB continuously followed up with the NCR participating States during the review meetings as well as through video conferences, wherein matter is discussed with at district level as well. Consequently, NCR participating States have submitted data in print as well as excel format. Data received from the NCR participating States have been discussed and deliberated with the respective NCR Planning & Monitoring Cells and necessary data gaps, as identified have been communicated and reminders dtd..... and dtd.....were issued requesting data for the gaps. 06/03/2020

3.3.3 The current status of the data collection Sub-Region wise are given below:

1. **Haryana Sub-Region** – While most of the data has been received so far data gaps exists for the districts especially related to Gurugram, Faridabad, Rewari, Mewat, Karnal & Palwal. Reminder pertaining to submission of complete data sets, has been issued on 19.02.2020 & ...providing data gaps for all districts and matter is being followed up regularly. While analysing the data it is observed that the data provided by the Govt. of Haryana is not in line with the certain data as published on the websites of its different Departments like Health, PWD, etc. This should be checked by the Govt. of Haryana.
2. **Uttar Pradesh Sub-Region** – Substantial data pertaining to all sections have been received, however, data is awaited for few districts like..... for certain sections. Reminder regarding submission of complete data sets, has been issued on 19.02.2020 providing data gaps for all districts. The matter is being continuously followed up with NCR Cell, UP. The data for the gaps was to be submitted by NCR Cell, UP by 03.03.2020, however, the same is still awaited. Reminder has been issued on .....
3. **Rajasthan Sub-Region** – While substantial data has been received, data gaps have been communicated to NCR Cell, Rajasthan for districts Alwar and Bharatpur. Matter is being followed up with the NCR Cell, Rajasthan and

reminder letter dated.....has been issued requesting to expedite the submission of required data.

4. **NCT Delhi** – Substantial data has been received, however, it is observed that district-wise data is provided for few districts only, also the requisite data for certain sectors like ..... is yet to be submitted by GNCT Delhi. The data gaps were communicated to GNCT Delhi on ..... Further, matter was discussed with the officers of NCR Cell, GNCT Delhi on 05.03.2020 at NCRPB office w.r.t. data gaps. Reminder letter dated.....has been issued.
5. All NCR participating States/ NCR Planning & Monitoring Cells are requested to expedite the submission of the data for gaps. Data pertaining to sectors like transport, power, water, drainage & sanitation (SWM & Sewerage infrastructure), heath and education should be completed and provided on priority. Also, maps as requested to various sectors should be arranged, in any available format.

Proposal:

NCR participating States may ensure submission of all required data along with necessary maps within a week.

COMPENDIUM

Minutes of 17 Stakeholder Workshops conducted regarding Regional Plan-2041 preparation

NATIONAL CAPITAL REGION PLANNING BOARD

(R) SCHEDULE OF PROPOSED SECTOR-WISE WORKSHOPS

PREPARATION OF REGIONAL PLAN-2041 FOR NCR

Timing **10:00 AM to 05:30 PM**

Date	Sector	Venue
03.12.19 (Tuesday)	Transport and Mobility	Scope Convention Centre
05.12.19 (Thursday)	Power and Energy	Gulmohar Hall, IHC
09.12.19 (Monday)	Water and Drainage	Silver Oak Hall, IHC
11.12.19 (Wednesday)	Sanitation and Comprehensive Waste Management	Scope Convention Centre
13.12.19 (Friday)	Environment and Disaster Management	Gulmohar Hall, IHC
16.12.19 (Monday)	Agriculture	Scope Convention Centre
18.12.19 (Wednesday)	Rural Development	Scope Convention Centre
20.12.19 (Friday)	Health	Scope Convention Centre
03.01.20 (Friday)	Education	Silver Oak Hall, IHC
06.01.20 (Monday)	Tourism and Heritage	Silver Oak Hall, IHC
08.01.20 (Wednesday)	Economic Growth and Income Generation	Jacaranda Hall, IHC
10.01.20 (Friday)	Sports, Skills and Social support system	Jacaranda Hall, IHC
13.01.20 (Monday)	Safety and Security	Silver Oak Hall, IHC
16.01.20 (Thursday)	Digital Technology and Platforms	Silver Oak Hall, IHC
20.01.20 (Monday)	Citizen Centric Planning	Silver Oak Hall, IHC
22.01.20 (Wednesday)	Housing Infrastructure and Zoning Regulations	Scope Convention Centre
24.01.20 (Friday)	Implementation Strategies	Jacaranda Hall, IHC

Registration	**09:30 AM to 10:00 AM**
Session-I	**10:00 AM to 11:15 AM**
Tea	**11:15 AM to 11:30 AM**
Session-II	**11:30 AM to 01:30 PM**
Lunch	**01:30 PM to 02:15 PM**
Session-III	**02:15 PM to 04:00 PM**
Session-IV	**04:00 PM to 05:15 PM**
Wrap-Up/Vote of Thanks	**05:15 PM to 05:30 PM**
High Tea	

Workshop Title: Transport and Mobility

Date: 03.12.19 (Tuesday)

Venue: Scope Convention Centre, CGO Complex, New Delhi

Brief Minutes of the Stakeholders Workshop on 'Transport & Mobility' held on 03.12.19 at Scope Convention Centre for preparation of RP-2041 for NCR

1) Workshop on "Transport & Mobility" was held on 3rd December, 2019 for Preparation of Regional Plan-2041-for NCR at Scope Convention Center, CGO Complex, New Delhi. The list of Participants is enclosed**.**

2) The workshop was divided into various sessions to caver the major topics under Transport. The list of Speakers is at **Annexure-I.** Session wise proceedings/ record of decisions are as under:

2.1 **SESSION-I** was Chaired by **Shri Amit Ghosh, Joint Secretary, MoRTH** and views were shared by **Shri V. K. Singh, Managing Director of NCRTC** & Shri Sudhir Sharma, GGM, NCRTC.

- For the vision to make India USD 5 trillion economy by 2024 and grow beyond, it should be a Region driven effort and emphasis is to be given on 3 mega regions: National Capital Region, Mumbai – Pune-Thane Belt and 350 Km stretch from Chennai to Bengaluru.
- Transportation aspects need to be looked in a holistic manner covering Environment, Infrastructure, Technology, Investment, Employment and Innovation.
- Mentioning the major transport projects recently implemented and under implementation and also mentioned in NCRPB's Functional plan on transport for NCR 2032, examples of Kundli-Manesar- Palwal Expressway (KMP), Eastern Peripheral Expressway (EPE), DME and Regional Rapid Transit System (RRTS), (three RRTS corridors of pits phase I i.e Delhi-Ghaziabad-Meerut, Delhi-Gurugram-Alwar & Delhi- Panipat) were discussed.
- Concerns were raised on air pollution due to transport in NCR along with exponential growth of population in the region.
- Need for adequate mobility facilities so that economic growth is not constrained
- Lack of Regional Public Transport, low frequency, lack of integration, and multiple interchanges were identified as some of the reasons for unmanageable urban sprawl.
- 40% increase in vehicular pollution between 2010 to 2018. Vehicles in the NCR region contribute to 40% to 50% of the pollution.
- Issue of vanishing off-peak hours and 63% of private transport in the region out of the total, contributing to congestion in the region, highlighted. With average traffic speed on major arterial roads being 50-60 per cent lower than their design speed and it was observed that the resulting Congestion imposes staggering costs on the economy.
- On accidents, it was informed that in 2016, 1591 deaths have taken place in Delhi which is highest among top 50 cities with million plus population.
- Regional Planning was identified as key where transportation system is the enabler.

- Necessary to create network of networks and have an integrated approach with a comprehensive mobility solution
    - National Level: Indian Railways, Airports, National Highways, High Speed Rail and ISBT.
    - Regional Level: Indian Railways, Regional Airports, State Highways, RRTS, ISBT and Orbital Rail.
    - City Level: Bus Rapid Transit, Light Rail Transit, Trolley Bus, Metro Rail Transit and Buses.
    - Last Mile: Cab Aggregators –Ola/Uber/City Cabs, shared auto/cycles, Electric cycles, Feeder Buses.
- Rail right of way could be critical factor for future.
- Necessity for seamless integration with other modes of transportation and minimizing number of interchanges for commuters was highlighted
- The key elements to be taken into consideration for an integrated planning are:
    - Public Transit and its Strategic Alignment
    - Transit oriented development and value capture along routes and around Transit interchanges
    - Accessibility improvements – last mile connectivity
    - Re-development, Re-vitalization & Transit facilities in Inner city, Derelict areas & Slums
    - Integrated Multimodal Transit Interchanges
- Role of Regional rails in transforming economies & lives of people, enabling inter-connected clusters to develop as a vibrant, dynamic whole, greater than some of its parts was highlighted (Paris Metropolitan Region was an example where there is co-existence of transit systems and express road networks. Its Regional Express Rails connected sub urban centers to Paris CBD and co-existence of multiple modes performing different roles in the metropolitan region. Similarly, example of Seoul Metropolitan Region presented GTX network connecting sub-urban centers to Seoul CBD along with expressways for private vehicles and freight)
- The proposed high speed rail corridors of
    - Delhi-Agra-Lucknow-Varanasi
    - Delhi-Chandigarh-Amritsar
    - Delhi-Jaipur-Ahmedabad

➢ **Smt. Usha Padhee, Joint Secretary, M/o Civil Aviation & CMD, Pawan Hans Ltd.** highlighted the importance of **Future of Air Connectivity in NCR**". Following could be summarized from same.

- NCR already has 2 airports large airports by 2 different concessioners & 1 heliport. Jewar airport is the new entrant.
- Given the time and economics of travel involved within NCR, although expressway and RRTS are under planning/execution to potentially address the larger demand, the desire of most to have connectivity with NCR/Delhi is a huge potential to be exploited for Inter NCR connectivity as more cities within and outside India want to be connected to Delhi.
- Hence constrained infrastructure at Delhi airport needs to be expanded.
- Hindon & Jewar are the opportunities and Multi-modal connectivity to access these airports shall be important..
- For Intra NCR connectivity the potential demand within shorter leads need to explore possibilities of making Helicopters as a popular option was highlighted. Option of considering the versatility, Heli operations can be viable for

  i) Higher disposable income customer,
  ii) Heli Emergency Medical Services,
  iii) Tourism,
  iv) Airborne policing.
- Support Infrastructure however need to be provided by Government while connectivity services could be left to private players. (In NCAP, Helicopters are free to fly from point to point without prior ATC clearance in airspace below 5000 feet).
- Policies for future need to be covering possibility of technology of Unmanned Aerial Vehicles (UAV) playing a major role in freight/passenger movement
- General Aviation Aircraft could be the biggest catalyst of regional connectivity. They are the first to land at small airfields in small towns that have significance due to a manufacturing plant, mine, port or tourist location. For 'Make in India' to succeed, General Aviation needs to be promoted in so that the investors, bankers and executives can travel between the headquarters and the production and logistics centres seamlessly.
- Given their versatility, helicopters have a far wider range of applications than fixed wing aircraft. These include - intra and inter-city commuting, cargo, air ambulance, law enforcement, search and rescue, tourism, fire fighting, agriculture, media and entertainment etc. These have tremendous potential in India. With the traffic situation worsening, in cities f developed world, commuters across the world are preferring air taxis as a smarter and faster way to reach their office. (A case study of Sao Paulo, Brazil was presented where the city alone, had 400 registered helicopters providing cost-effective services and more than 700 flights per day. Seven minutes to fly from Alphaville, (an upmarket residential area on the outskirts of Sao Paulo), to Avenida Paulista,

(financial heart of the city) while a car, taking up to two hours during rush hour.)

- On-demand helicopter services such as Voom, Uber Copter and Blade
- Suggested Way Forward for air traffic in NCR
  - Preparing/ Updating the master plan with identified locations for air connectivity.
  - Collaborating engagement with the safety and security Regulators
  - Enforcement for the use of the land in an integrated manner for various activities
  - Few No-frill airports.
  - Focusing on satellite townships.

- **Shri A.K. Singh, Principal Secretary, T&CP Dept. Govt. of Haryana** presented " Connectivity Scenario in Haryana" Key takeaways from the presentation were:
  - Need for Efficient, cleaner & safer movement – People & Goods.
  - Seamless mobility with inter-connectivity across various modes of transport.
  - Integration of transport planning with land use planning.

- Presenting status of rail and road projects in Haryana sub-region the implemented Road projects included Western Peripheral Expressway (KMP) , Eastern Peripheral Expressway, Four Laning of Major Roads (Bahadurgarh-Rohtak NCR Border (NH-10), RohtakNCR Border (NH-71), Gurgaon-Alwar (Old NH-8), Panipat-Gohana-Rohtak , JhajjarRewari Road (NH-71 & 71A), Elevated road connecting Delhi with Faridabad). The Rail Projects in the Haryana Sub Region for which DPR has been prepared include Sonipat-Panipat RRTS, Gurgaon-Rewari RRTS, Orbital Rail Corridor along KMP. The rail project being implemented includes Rohtak-Hansi Corridor. The road projects with estimated cost of Rs. 1210 crores are under implementation. Implemented metro projects in Haryana subregion included Sikanderpur Station to NH-8 (Rapid Metro) , Sikanderpur Station to Sector 56, Gurgaon (Rapid Metro), Badarpur to YMCA Chowk, Faridabad (DMRC) , YMCA Chowk, Faridabad to Ballabgarh (DMRC – Extension of Faridabad Line) , and Mundka to City Park Bahadurgarh (DMRC)
- Gurgaon Manesar Urban Complex (GMUC) Plan proposes metro lines of :

  a) Gurugram Fairadabad Line

  b) HUDA City Center to Panchgaon Chowk

  c) HUDA City Center to Railway Station and Dundahera RRTS Station.

  d) NPR and SPR

e) Tentative alignment of RRTS.

- For RRTS, the prioritised corridors identified for execution include a) Delhi-Sonipat-Panipat :111 km ; b) Delhi – Ghaziabad-Meerut: 90 km & c) Delhi- Gurgaon-Rewari- Alwar: 180 Km. For the second phase, the following corridors are identified:

  a) Delhi- Faridabad- Ballabhgarh-Palwal.

  b) Ghaziabad- Khurja

  c) Delhi- Ballabhgarh – Rohtak

  d) Ghaziabad- Hapur

  e) Delhi- Shahadra- Baraut

- Regarding Orbital Rail Corridor the total Route Length: 143.932 KM had average inter station distance of 8.696 Kms. The corridor stretches from New Palwal station with Connectivity with existing Indian Railway stations at Patli on Delhi-Rewari section, Sultanpur on Farukhnagar-Garhi Harsaru section, Asaudah on Delhi-Rohtak section and Harsana Kalan on Delhi-Panipat Section respectively. Estimated Land required for construction is 655.92 Hectares, of which 70 Hectares of land is under HSIIDC, 8 Hectares under Railway and 19.67 Hectares is under DFCCIL. The project also includes a 4.88 km tunnel length enroute. The Total project Cost is estimated at Rs. 5566 crores with an IRR:7.38% and EIRR:12.04%.
- Transit Oriented Development (TOD) has long been advocated as form of New Urbanism and Smart Growth as a more workable and liveable alternative to suburban sprawl. Haryana has implemented the policy of TOD along Metro Corridor and proposal for allowing the same along RRTS and Orbital Rail Corridor is under consideration. Enhanced FAR upto 350 within 500 mtrs intense zone along Metro Corridor and 250 between 500-800 mtrs zone with a provision of mixed land use has been proposed. Walkability is one of the most vital key elements in encouraging people to walk for transportation under the concepts of TOD and accordingly high density, especially around a transit stop or station was suggested so that more residents could be within proximity of the transit stop or station.
- On the aspect of Missing links in Road Connectivity attention was sought to even the micro level, which had impact over the citizen lives in terms of time and convenience. Following few missing links were listed for consideration:

  a) 80 M Dwarka link in Zonal Plan K-II connecting Gurgaon through NPR having a width of 150 M with 30 M wide Green Belt.

  b) Northern Periphery Road (150 M ROW).

  c) 75 M wide road link connecting Gurgaon area with Najafgarh road.

  d) Existing Gurgaon Mehrauli road linking Nelson Mandela T-Point (near Vasant Kunj Flyover) through Delhi ridge (Approved in Zonal Development Plan of Zone-J)

  e) Southern Periphery Road.

f) Upgrading Gwal Pahari-Mandi-Gadipur-jaunpur road upto Andheria Mor in Delhi

g) Faridabad Road.

h) Andheria Mor –Gual Pahari via Jaunapur.

i) Kalindi By Pass, Delhi to Faridabad Bypass.

j) Proposed Bridge Connecting Sector 168 & 167-A (Noida with lalpur Village,Faridabad) and 149-A & 150 (Noida with Tilori Village, Faridabad)

k) Proposed 80 m wide road linked between Rajiv Gandhi Education City Sonipat and New Delhi in the zonal plan of zone P-11 of master plan-2021.

l) Bawana-Auchandi Marg to be extended as SH-18 Haryana

m) Bridge over Yamuna between Chhaprauli (in District Baghpat, U.P.) and Hathwada (in District Panipat, Haryana)

n) Road on banks of Western Yamuna Canal in Sonipat District.

- Recommendation included:

a) Devising Models of Smart Mobility based upon sustainable transport systems in Cities to boost: Economic Efficiency, Well-being of its inhabitants and Environmental Health.
b) Concerted efforts are required to implement missing road links for smoother movement within Central NCR.
c) Ensure Seamless movement of public transport vehicles within NCR to cut dependence on private vehicles and reduction in pollution.
d) Optimise the use of materials, energy and information in an intelligent and efficient way.
e) Pedestrians and cyclists friendly cities be given due priority in the planning and development of towns instead of focusing on the movement of automated private vehicles alone.
f) Need for Strategies, Plans of Action and Regulations/Standards that are futuristic and consistent with the responsibility of Integrated Mobility and Smart Transport System for a sustainable future of National Capital Region in Regional Plan - 2041AD.

- **Shri Amit Ghosh, Joint Secretary, MoRTH** in his address informed about plans to build 10000 km of NH . Multi-modality should be given top priority. MoRTH is building countries first inter model station at Ajni it has been planned. Steps of MoRTH to tackle land cost issues, guidelines of NHAI in Bharatmala scheme were shared as per which 50% cost will be borne by the States. Suggestions also included

a) sharing of development fee being charged by the development authorities b) State govt. may levy 1% tax on sales in influence zone of highway project.

2.2 **SESSION II** focused on **Logistics**. **Shri Anant Swarup, Joint Secretary (Logistics), Deptt. of Commerce, Govt. of India** gave presentation on ' **Logistic Policies & Way Forward'**. Takeaways from his presentation included:

1. Huge scope to improve current logistics baseline as Logistics cost in India is much higher than peers like US, Europe and Japan. As per ASSOCHAM study, logistics cost is 14% GDP.

2. Key challenges in the Indian Logistics Sector include:

 Infrastructure:

a) Inadequate and low-quality modal and terminal transport infrastructure, limited availability of multi modal interchange points.

b) Inefficient and ill-designed storage facilities for cargo and containers.

c) Inefficient operational and maintenance protocols.

d) Poor adoption/adaptation of technology.

Regulatory Hurdles:

a) Obstacles in land acquisition and consolidation

b) Obstacles in change in land use

c) Lack of transparency in compliances

 Suboptimal Modal Mix:

a) Nearly 60 % of the cargo is moved by road, 32% by rail, and rest by the coastal shipping, airways and inland waterways. Pipelines constitute only a very minor proportion. Globally, it is accepted that movement of long haul bulk traffic by road is less efficient than by rail or coastal or waterways.

 Traffic Structure:

a) Cross-subsidy of passenger tariff by freight in railways leading to high freight cost of rail

b) Underdeveloped coastal transportation market leading to high and unstable tariffs

c) High vessel related charges on Indian ports

 Skill Development:

a) Lack of skilled manpower in truck drivers, seafarers, warehousing managers, quality inspection supervisors.

3. Vision of National Logistics Policy is to drive economic growth and business competitiveness of the country through a truly integrated, seamless, efficient, reliable, cost effective and green & sustainable logistics network, leveraging best in class technology, processes and skilled manpower.

4. Key objectives of the policy are:

a) Reduce Cost of logistics to 10% from 13-14% of GDP

b) Improve India's rank in LPI to <30

c) Logistics employment: Create additional 10-15 Million jobs

d) Single point for all logistics data in the country

e) Strengthen Warehousing industry and improve Cold Chain efficiency reduce agri losses to <5%

Thrust areas of the logistics policy have been divided into four groups:

Group 1 : **Logistics Infrastructure development and commodity cost optimization**

a) Optimal modal mix including road, rail, waterways, coastal, air cargo with first/last mile connectivity

b) Enhancing transport and rolling stock infrastructure

c) Logistics efficiency for movement of key commodities

d) National Logistics Action plan and respective state plans

e) Green & Sustainable Logistics

Group 2 : **Agri logistics, MSME and Warehousing**

a) Strengthening the warehousing sector

b) Developing Cold chain infrastructure

c) Strengthening the MSME sector

d) Development of Multi Modal Logistics Parks (MMLPs)

Group 3 : **Logistics processes, logistics skilling and standardization**

a) Streamlining EXIM processes

b) Reduce dwell time for interstate cargo movement

c) Generating employment and enhancing skilling

d) Promoting standardization

Group 4 : **New technology, e-commerce, leveraging data & analytics**

a) Single window Logistics e-marketplace

b) Logistics planning & performance monitoring tool

c) Center for trade facilitation and logistics excellence

d) Promoting startups in logistics

e) Promoting seamless movement of parcels in e-commerce

6. Urban Logistics:

a) Need to formulate a policy on „no entry" within the cities:

i. An exemption is required for perishable / export cargo.

ii. Transit delays due to „No Entry Restriction‟ leading to reduction of shelf life of perishable items and economic impact.

b) Efficient Planning is required for bypassing of trucks/trailers in cases where Delhi/NCR is neither the origin nor the destination of the cargo.

c) Taxes imposed on commercial vehicle by Municipal authorities.

d) Need to formulate a Zoning policy for logistics parks setup near urban cities to facilitate evacuation e.g.Azadpur Mandi in Delhi.

7. Incentivizing states to formulate a model warehousing policy:

a) Easing Approval Process

i. Streamline approval process

ii. Single window clearance

iii. Set licensing timeline, SLA

b) Land Allocation

i. Simplifying laws/procedure

ii. Assigned land for warehousing zones

iii. Environment, forest, pollution, and PWD clearances pre-issued

iv. Relaxed FSI Norms

c) Promoting minimum design requirements through incentives

i. States are providing blanket incentives based on size of warehouse (ex. UP, Haryana, Chhattisgarh)

ii. Incentivize other important infrastructure elements like- plinth Level, lighting, height, technology implementation.

8. Types and Numbers of approval and licenses (non-exhaustive) required for setting up of an MMLP:

- Rail Operation: 5
- DTA Warehouse (State government approvals): 13
- ICD Operations: 13

 HR/Admin/ Safety security/ fire-fighting / pollution control etc.: 13

 Other Approvals: 3

9. Inter-state Outward Supplies to top States from Delhi shows that a total assessable value of Rs. 7602.4 Cr. goes to Haryana, followed by Uttar Pradesh (Rs. 6354.56 Cr.).

10. Inter-state Inward Supplies from top States to Delhi shows that a total assessable value of Rs. 7063.64 Cr. comes from Haryana, followed by Uttar Pradesh (Rs. 5798.33 Cr.).

11. LEADS 2019 Report Recommendations:

a) To ease congestion, Delhi government to invest in widening of below reported roads stretches: – Roads in Mahipalpur area, – Road stretch connecting Dhaula kuan to Gurgaon – Rao Tula Ram Marg (single lane roads)

b) Delhi UT Administration to understand transport patterns and needs and suitably inform its plan for city freight logistics allowing more hours for movement of freight vehicles. It may alternatively consider development of dedicated freight lanes.

12. Integrated Logistics Geo-analytics tool to be used for planning. The objectives of the geo analytical tool are: Infrastructure Planning, Congestion Reduction, Optimize modal mix and Connectivity Enhancement.

13. Sensor based automatic detection & linkages with databases may be done to reduce stoppages & increase transparency.

- **Shri Abhishek Chaudhary, VP, DMICDC** shared his views regarding **Industrial Corridors,** which are summarised as below with respect to NCR:

1. National Industrial Corridor Development Programme includes 5 corridors i.e a) Delhi Mumbai Industrial Corridor, b) Amritsar Kolkata Industrial Corridor, c) Chennai Bengaluru Industrial Corridor d) East Coast Economic Corridor with Phase 1 as Vizag Chennai Industrial Corridor and e) Bengaluru Mumbai Industrial Corridor.

2. Integrated City Planning should include:

a) Physical Planning: Defines extent of the city, land use distribution and land use mix

b) Environment Planning: Takes care of health and wellbeing, natural environment, conservation and preservation

c) Social Planning: Helps support existing development / villages to grow, and provides essential amenities like health, education & daily needs

d) Integrated Resource Management Planning: exhaustive research based integrated plan prepared to assess the resource availability and efficient utilisation in perspective

e) Utility Planning: Ensures 24x7 availability of smart services at door step at each plot

f) Operational Planning: Emphasizes on transparency and governance mechanism

g) Digital Master Planning: Information and Communication Technology (ICT) needs to be incorporated across all components.

Status of Major related schemes/projects was updated as follows:

- Master Plan for Dadri–Noida Ghaziabad Investment Region (DNGIR) for an area of 210 sq. km. has been completed and approved by GoUP. Land acquisition for development of node/city to be initiated.
- Multi Modal Logistics Hub & Transport Hub planned at at Dadri (Area: 1208 Acres) and the Project comprises of container stacking area, container freight station, stuffing/ de-stuffing/ packaging, equipment storage areas and general warehouses etc. The PDR is already finalized and 84% of land in possession of State Govt. NICDIT has recommended the project for approval of CCEA in August 2019.
- Integrated Multi Modal Logistics Hub planned at Nangal Chaudhary, Haryana for which financial sanction of Rs. 1029.49 crore has been accorded by Cabinet Committee on Economic Affairs (CCEA) . Out of 886 acres, State Govt. has transferred 639 acres & matching equity of Rs. 191.67 crore released by NICDIT . DFCCIL has agreed to provide connectivity from nearest DFC station i.e. New Dabla and the project also has the requisite Environment Clearance.
- India International Convention & Expo Centre, Dwarka, Delhi which is one of Asia‟s Largest Exhibition and Convention Centres involves total area is 89.72 Ha, with proposed development area of 10.7 lakh sq. km. The project cost is Rs. 25,703 Cr. and the project is set to become a new Central Business District of Delhi . With a dedicated metro station being built in the heart of the complex the centre is to be operated by Korea‟s Biggest Venue Manager (KINTEX + eSang)

- **Dr. Amit Kumar Jain from Center for Railway Information System** gave a presentation on **Solutions to Mitigate Urban Traffic Congestion'**. It mainly included the following:

The Supply Management efforts may include Flyovers , roads widening, creating more space for vehicles , adding more trains , vehicle oriented development . However it was observed that ass per MOUD's High Powered Committee on Decongesting Traffic in Delhi, 2016, *"despite… increasing the length of the road network and road surface space through widening… the traffic congestion has continued to increase unabated".* Regarding impact of odd-even (2016) the Traffic Survey and Travel Attributes Study of SPA, Delhi stated a substantial reduction in traffic volume and congestion, average speed of a journey was as high as 50 kmph as against 20-25 kmph on regular days; busy Ring Road experiencing about 30 to 50 per cent increase in the average speed of vehicles during the odd-even fortnight; increase in average occupancy in personal cars at major nodes from 1.4 to 2.1.

Odd- Even (2019) with staggered working hours (Period: Nov 4-15, 2019) was successful but social acceptability is poor due to inconvenience caused- not sustainable.

Suggested different starting and closing times for different establishments included:

a) Educational institutes may start at from 7.30/8.00 AM

b) Central Government offices may start at 8.30 AM and close at 5.00 PM

c) State Government/Central Government subordinate offices may start at 9.00 AM and close at 5.30 PM

d) Central and State PSUs may start at 9.30 AM and close at 6.00 PM

e) Private Sector may start at 10.00/10.30 AM and close at 6.30/7.00 PM

f) Financial Institutions may start at 11.00 AM and close at 7.30 PM

g) Shops may start from 11.00 AM

Benefits of Staggered Working Hours could include 10-15% reduction in peak hour traffic , Reduction in commuting time , Improvement in workers‟ efficiency, better health and well-being of community, possible increasing participation of women in work force

Issues that however need to be resolved would include

a) Rescheduling of mass transit in accordance of new demand pattern- boarder peak period.

b) Car-pooling becomes difficult

c) Shift of commuters from mass transit to private vehicle

d) Resistance from employees and employers to change in their schedule

e) Difficulty in interaction among establishments operating at different hours of the day.

The issues are to be addressed by a gradual, phased and clear roll out shared well in advance so that establishments and employees adapt to the new schedules.

10. Other similar efforts may include

a) Flexi work hours (as in UK, all employees have the legal right to request flexible working hours; more than one third of employees in US work on flexi- schedule; Flexible Work Arrangements (FWA), Singapore- the employers offering flexi work hours are entitled to receive financial incentives).

b) Work from home- once or more in a week as in Singapore and Hongkong

c) Tele-meeting/Video conferencing

d) Compressed Work hours- 10-11 hrs for 4 days a week

e) Shared Mobility

The flexibility in working schedule is attributed to improvement in well-being of the employees, their productivity, level of satisfaction, attracting and retaining the talent.

- **Views from Retailers Association of India (RAI)** on requirement of retailers in terms of Logistics & Transportation facilities, mainly included the following:

  - Need to reserve places for retail areas in cities on the same lines as reservations for schools, hospitals, hotels, etc also covering the Tehbazzari and street vending – critical part of Indian Retail
  - Need for F & B park with large F & B outlets overlooking the highway.
  - Industry Status for warehousing which gives the option for Warehousing to setup in Industrial Estates - reduce costs of operations and provide for more optimal usage of unused plots (attrition/demand).
  - Renewal of Industrial Estates/ Commercial Localities that have aged - parking, un-authorised squatting (DISIDC Estates), organised transport for short transits for employees, waste management
  - Addressing issues of Overnight parking woes – conflicts with Residential Associations – "Lal Dora"
  - Have designated Delivery bays in markets - proximity requirement of vehicle to outlet
  - Consider future scenarios of having Self Driving Vehicles , electric vehicles needing guidelines – planning - charging hubs , Drone Delivery mechanisms needing– regulations – housing – landing areas
  - Other aspects to be considered include

    - Real time traffic data collection and analysis and information dissemination for general good
    - Introduction of Codes for Buses and Trucks as in most developed countries

2.3 **SESSION-III** of the workshop focussed on issues and prospects of expressways and highways. Chaired by: Shri Abhay Damle, Joint Secretary, MoRTH. Keys aspects included:

a) Comprehensive exercise of NHAI for decongestion of arterial road network of National Highways connecting NCT Delhi indicated that efforts are ongoing for development/ decongestion of NH1, NH 8 and NH 24. For complete decongestion, few more road network are required to be included.
b) Delhi has major 9 locations contributing to 75% of total entry traffic. The traffic enters majorly through NH 1, NH 10, NH-8, NH-2, NH-24, NH-91 & MG Road
c) Delhi has a total 90 lakh registered vehicles and another 3.07 lakh cars and 1.27 lakh two-wheelers enter Delhi daily from NHs along with about more than 50000 commercial vehicles (excluding taxis). About 70% of commercial vehicles which enter Delhi daily moves through various National Highway from neighbouring cities of Panipat, Rohtak, Gurugram, Sohna, Faridabad, Aligarh, Hapur, Meerut, Bagpat. About 2,30,000 vehicles are using Delhi Meerut Expressway Pkg- I (NH-9) in Delhi daily. Out of this, about 1,30,000 vehicle uses Expressway and another 1,00,000 pass through National Highway. Eastern Peripheral Expressway and Western Peripheral Expressway has given major relief to Delhi, which has resulted in diversion of about

35,000 heavy commercial traffic not destined for Delhi. The, traffic on EPE is about 1,00,000 PCUs.

d) NHAI has also taken up DPR for development of UER 2 (another Ring road for Delhi) under Bharatmala. On Development of Delhi Meerut Expressway (DME), 6 lane Expressway for through traffic along with 6/8 lane National Highway for local traffic to ensure seamless connectivity, has been planned with a total Investment of Rs 6273 crore . (First package: Sarai Kale Khan to UP Border (Within Delhi) completed, 8.72 Km, Rs. 842 Crore; Second package: UP Border to Dasna (Ghaziabad) 60% completed, 19.28 Km, Rs. 1989 Crore. ; Third package: Dasna to Hapur (Ghaziabad/Hapur) completed, 22.27 Km, Rs. 1058 Crore ; Fourth package: Dasna to Meerut (Ghaziabad) 57% completed, 31.78 Km, Rs. 2384 Crore.
e) Efforts on De-Congestion Projects in Delhi-Manesar Corridor on NH-48 include Signal free corridor from Dhaula Kuan to Airport. ; Grade separators at T Intersection of Station Road with NH 8 ; T Junction of Parade road with NH 8 (project cost Rs 270 crore)
f) Other projects included

- Construction of Elevated U-Turn near ambiance mall and near DLF Phase-II on Delhi-Gurugram NH-48 (Cost of the project is Rs. 163 Crore)
- Dwarka Expressway (bypass NH 48 from km 20 to km 40): 8 lane fully access controlled Highway having 29.2 km length (18.9 Km in Haryana &10.3 Km in Delhi) being developed in 4 packages.
- Improvement of Mahipalpur at Rangpuri: Bypass to Rangpuri is to Connect Dwarka/ NH 48 (from interchange at Shiv Murti on Dwarka expressway) with Vasant Kunj through Nelson Mandela Marg.
- Removal of bottlenecks on Existing NH 48: Flyover/underpasses at IFFCO Chowk, Signature Tower intersection, Rajiv Chowk, Hero Honda Chowk, Km 42 Kherki Daula Toll Plaza. Project Cost is Rs 1004 crore.
- Development of Gurgaon – Sohna Road NH-248A with elevated corridor and six lane highway. Investment: Rs 1689 crore.
- Decongestion on NH 44 (Delhi – Panipat Highway):
- 8 laning of Mukarba Chowk - Panipat in progress. Length is 70.50 Km. Investment: Rs 2,122 Crore.
- 4-laning of Gohana-Sonipat NH-352 A. Length is 38 Km, Cost is Rs. 899 Crore.
- 4-laning of UP-Haryana Border to Sonepat-Jhajjar Section of NH-334 B. Length is 45 Km, Cost is Rs. 1020 Crore.
- Development of Akshardham – Pusta road- Loni- EPC interchange on Bagpat road: Length 31 Km, Investment – 2800 crore.
- Construction of DND-Faridabad-Ballabgarh Bypass-Western Peripheral Expressway NH-148 N. Length 59 Km, Investment – 4500 crore.
- De-Congestion Projects in Delhi-Manesar Corridor on NH-8
    - Dhaula Kuan: T Intersection of Station Road with NH 8, T Junction of Parade road with NH 8
    - Mahipalpur: Shiv Murti, Rangpuri
    - Dwarka Expressway
    - Km. 24, NH-8 near Ambience Mall & Shankar Chowk
    - IFFCO Chowk
    - Signature Tower intersection
    - Rajiv Chowk

- Hero Honda Chowk
- Km 42 Kherki Daula Toll Plaza
- Development of Gurgaon – Sohna Road with elevated corridor and six lane highway.

- Road network upgradation proposal-completion of UER 2 (Urban Extension Road (UER) 2 proposed in Delhi Master Plan as 3rd Ring Road of Delhi along the Western boundary. Its alignment connects NH 8, NH 10, NH 1 & NH 2 passing through Dwarka, Najafgarh and Rohini. The project is being development under Bharatmala at a cost of Rs. 5000 Cr)

- **Shri Gangwar, Member Technical, Inland Waterways Authority of India**, while discussing Options of Inland waterways in NCR indicated that:

a) DPR study for River Yamuna awarded to M/s WAPCOS. Study is under finalization. It would have 110 Terminals with Okhla, New Delhi (Dirty Cargo and Multipurpose Terminal); Naujhil Bridge, Matura (Dirty Cargo) ; Mahewa Khachhar, Kaushambi (Dirty Cargo) ; Daulatpur, Kanpur (Dirty Cargo); Naini Bridge, Allahabad (Dirty Cargo) ; Yamuna Bridge, Allahabad (Dirty Cargo) ; Kalpi, Jalaun (Dirty Cargo and Multipurpose Terminal). Challenges/ Intervention involved in such a project would include Modifications of Cross structures on River Yamuna (77 No‟s bridges – Road & Rail & HT/LT Lines-43 No‟s) ; Modification for Existing Barrage for Navigational Locks ; Construction of 20 No‟s of Barrages for LAD 2.5 M.

b) Issues and aspects of traffic data were discussed and it emerged that while lot of data was available for Delhi, rest of NCR also required lot of data for making informed decisions. Shri Piyush Kansal, Executive Director, RITES also brought out the issues of land ownership and involvement of different organizations ass a challenge for project implementation. Suggestions were made to review and look into fast but cost effective transport systems. Better and optimal usage of huge railway land in NCR along with possible sharing of right of ways of railways, was also suggested. Need for effective institutional arrangement and training especially to have the resources for future transport requirements ready in terms of our planners, experts which are required for planning such mega projects was also highlighted.

- Regarding "Multi Modal Integration", **Dr. Mangu Singh, MD DMRC** highlighted the following important points:

- Basic Design Principles of Multi Modal Integration (MMI) to
  - ensure seamless integration of Metro stations with all public transport within 300m radius distance from the metro station.
  - create adequate pick up and drop off facilities
  - create pedestrian pathway/ plaza, cycle track for safe and easy movement of people
  - improve walkability around metro station.
  - follow UTTIPEC Street Design Guidelines.
- Regarding essential Interventions required from MMI following aspects were suggested to be considered at the micro level:

a) Road junction improvement & traffic calming measures.

b) Creation of Pedestrian Zones with Universal Access.

c) Drop off zones & road crossing facilities.

d) Improvement of lighting.

e) Provision of all public facilities.

f) Creation of Cycle Track and dedicated bays for IPT.

g) Provision of Signages.

h) Provision of Railings.

i) Shifting of Bus stops within 150m of metro station entrance.

- Example of Chattarpur Metro Station where catchment extended upto approximately 7 km with almost 19,000 people approaching the station using the para transit modes of transport like metro feeder bus, Gramin seva (shuttle service) ,auto rickshaws and city bus services was cited. The station experienced Per day 60 lakh people use Metro across the Delhi-NCR with almost 5000 train trips per day with the punctuality of 99%..
- Bharat Electronics shared its views on "National Common Mobility Card Ecosystem". Development of NCMC Ecosystem was important as Fare collection in cash poses challenges: Cash handling & reconciliation should be efficient and Revenue leakages are to be stopped.
- Digitization of fare collection using Closed Loop Cards has its set of problems which included

  □ Proprietary

  □ Mostly imported –Expensive

  □ Vendor Lock-in –High Maintenance Costs, Monopoly

  □ Not Interoperable

- For Solutions to Development of NCMC Ecosystem it was suggested that the Goals should be :

  - One card for all transit needs –travel, parking, toll.
  - Also useable for retail transactions
  - Specify complete ecosystem
  - Make In India

- MoHUA constituted an Expert Committee to make recommendations for a Transit Fare Collection system based on a Common Mobility Card, Vendor Agnostic –based on standard interfaces , be Indigenous. National Common Mobility Card (NCMC), is an inter-operable transport card conceived by the Ministry of Housing and Urban Affairs of the Government of India, launched in March, 2019. The technology used is

contactless smart grid, EMV. The operator of this is National Payment Corporation of India (NPCI) and is being managed by MoHUA. NCMC is valid in all public transport systems, Toll Roads, ATMs

- **Shri Abhay Damle, Joint Secretary, MoRTH** suggested that there is a need for mobility at a rapid pace and at a cheaper price without burdening government too much. There should be a better quality of transport. It highlighted the fact that while the entire city of Delhi can be serviced with 10 lakh vehicles based on number of trips being performed, it had more that 1 crore vehicles. DMRC has 2400 coaches in rakes of 678 and is servicing 31 lakh passengers' rides. About 5000 buses are taking care of 30 lakh people everyday. For improving the private mobility, buses need to provide quality and cleanliness. Commercial vehicle movements have to be seamless at borders. Parking areas should have designated parking for taxis as well to discourage private car parking. Initiatives can be taken in areas like Connaught place in Delhi to demonstrate the change. The modes which help in reducing congestion, should not be penalised. Vehicles like autos, taxies are to be supported for proper multi modal integration.
- **Ms. Ashmita Joshi, from Uber** indicated that the problem is of car usage, and with about 22% population moving on cars, the private cars for individual usage mostly remain idle. About 14% of Delhi is occupied by parking spaces. Purpose of aggregators is primarily to reduce private car usage. Shri Vijender Kumar, Transport Department, GNCT Delhi – informed that 2000 electric buses are proposed. DTC app has been launched. 10000 auto rickshaw new permits have been issued. One Cell for Electric Vehicles has been created for providing subsidy. Phase-IV approval has been given for DMRC.

- Concerns were also raised regarding accidents on highways. It emerged that National Highways which comprise of 1.94 %of total road network, accounted for 30.2 % of total accident and 35.7 % of deaths in 2018. Similary State Highways which comprise of 2.97 % of the road length, accounted for 25.2% and 26.8 % of accidents and deaths respectively in 2018 . Other Roads which constitute about 95.1% of the total roads were responsible for the balance 45% of accidents and 38% deaths respectively. The severity of Road Accidents in Delhi as measured by the number of Road accident deaths per 100 accidents is estimated as 25.9 as against a national average of 32.4% in 2018.
- Motorized two wheelers vehicles account for 28.8% of total accidents. Over speeding is responsible for 44.3% of the road accident deaths in Delhi. The time interval of a day between 21:00hrs to 24:00hrs has recorded maximum 16.8% of road accidents in Delhi.

- **Shri S.K. Lohia, from IRSDC**, emphasised on importance of the stations to be multi model transport hubs, need for single window clearance. IRSDC which is single agency for railway station development, and proposes to consult State Govt. authorities. Sustainable public transport shall facilitate sustainable cities. In NCR, IRSDC has signed MoU with DDA. Sarai Rohilla, Delhi Cantt., Adharsh Nagar, Chanakya Puri will be taken up for redevelopment. Lot of development can happen in areas in ring railway so that ring railway can be revived.\

2.4 Conclusion

Summarising, the approach towards Transport and Mobility in the Regional Plan 2041, shall be to address the issues and concerns of various stake holders and simultaneously making NCR, future ready, considering the aspects of enhanced air travel, usage of ICT, facilitating seamless, hassle-free movement of passenger and freight, focussing on public transport, fast travels at the macro level and pedestrian and cyclist friendly network and facilities at the micro level. Multimodal Integration , ToD along with planning for adequate capacity augmentation for transport infrastructure as well as ensuring the positive impact of transport on landuse of the region, are proposed to be looked into, in the plan.

List of Participants - Transport and Mobility on 03.12.2019

Sl. No.	Name, Designation & Organization
1.	Shri S.K. Lohia, Managing Director & Chief Executive officer, IRSDC, 7th floor,Tower-1, Konnectus Building, Bhavbhuti Marg, New Delhi 110002
2.	Shri H.B. Singh, Prof (Rtd.)
3.	Shri Manish Dahiya, ATP, Sonipat, T&CP, Haryana
4.	Smt. Gurpreet Kaur, Assistant Director (CMD), AMDA
5.	Dr. Pawan Kumar, Associate TCP, TCPO, MoHUA, Govt. of India
6.	Shri Vijay Meena, Deputy Town Planner, NCR Cell, Rajasthan
7.	Shri Manish Yadav, J.E, Municipal Committee Atelimandi, Mahendergarh, Haryana
8.	Shri Rahul, J.E, Municipal Committee Kanina, Mahendergarh, Haryana
9.	Smt. Sangeeta Srivastava, CRL- BEL,Bangalore
10.	Smt. Renuka,On DTP Fbd. Behal of DC. Fbd.
11.	Shri Vikas Chopra, Communication Specialist, IBI Group India
12.	Shri Sudhir Kashyap, Associate Planner, TCPD, UP
13.	Shri Virender Singh, (Building Inspector), M.C. Meham
14.	Shri Mutum Chaobisana, Sector Coordinator, NIUA
15.	Shri Sunil Verma, ATP, UCB, Haryana
16.	Shri VK Goyal, CCP (NCR), Panchkula
17.	Shri Manoj Kumar, alongwith CCP, Haryana IT, Haryana
18.	Smt. Asmita Joshi, Public Policy Lead, Uber
19.	Shri Gaurav Jain, Admin Officer, AMDA
20.	Shri Mohit Jain, Accounts Officer, AMDA
21.	Harminder & Group
22.	Shri Shailender Sharma, Secretary MC, INDRI
23.	Shri Jatinder Sharma, Secretary MC, Nilokheri
24.	Smt. Jyoti, NCRTC
25.	Shri M.V. Subrahmanyam, DIAL
26.	Shri Totak Acharya, Assistant Director (Plg.), AMDA
27.	Shri Jitender, DMRC
28.	Smt. Shikha Singh, DMRC
29.	Shri P. Selvadurai, Director, AMDA
30.	Shri RamaKrishna P, Sr. Transportation Planner, IBI Group
31.	Shri Vivek Bhaskar, Associate Planner, TCPD, Moradabad Div.
32.	Shri Surat Singh, Asstt/ Secy, RTA Rewari
33.	Shri Sudhir Kumar Sharma, GGM, NCRTC
34.	Shri Vinay Kumar Singh, MD, NCRTC
35.	Shri Neeraj Sharma, J.E, H.P.D.A, Hapur (UP)
36.	Prof. Sanjay Gupta, Head, TP Deptt. SPA, Delhi
37.	Shri Sushil Kumar, Manager, Bharat Electronic Limited
38.	Shri Amit Ghosh, JS, MoRTH
39.	Shri A.K. Singh, Pr. Secretary, Town & Country Planning Department, Govt. of Haryana
40.	Shri Mahipal, STP, MCF
41.	Shri Probhat Kr. Paul, ATP, HPDA
42.	Shri Maneesh Verma, Exen, PWD, Ghaziabad

Sl. No.	Name, Designation & Organization
43.	Shri M. Vijay Kumar, Jt. Advisor, NITI Aayog
44.	Smt. Neelanjani, Dy. Director
45.	Shri M.L. Chotani, Consultant, IUT
46.	Smt. Indira Chaudhary, Chief Town Planner, Govt. of Rajasthan
47.	Shri Asheesh Shivpri, Chief Town Planner, Ghaziabad Div. Authority
48.	Shri S.C. Gaur, Chief Coordinator Planner, NCR Cell, UP, Ghaziabad
49.	Shri Saurav Mondal, Manager, IBI Group
50.	Smt. Usha Kinay, Sr. Town Planner, ULB, Deptt.
51.	Smt. Shivani Chawla, ACS, Rites Limited
52.	Smt. Monika singh, SPA Delhi, (PHD Scholar)
53.	Shri Jail Singh, ITTA, Delhi
54.	Shri Krishnan Kutm, ITTM, Delhi
55.	Shri Rohan Anand, JLL
56.	Shri Manoj Kumar, JEE, TC&P
57.	Shri Manjit Pal Singh, STP (MCF)
58.	Shri Ravinder Singh, Executive Engineer, PWD, Shamli
59.	Shri A.K. Jain, Railways
60.	Shri G.S. Raut, Jt. Director, GNCT, Delhi
61.	Shri Rajesh Sharma, Secretary, MC, Assandh Karnal, Haryana
62.	Smt. Usha Padhee, Joint Secretary, Ministry of Civil Aviation & CMD, Pawan Hans Ltd.
63.	Shri Kushagra Sinha, Ph.D Scholar,SPA, New Delhi
64.	Shri Sangram Roy, Dy. Programme Manager, Sustainable Mobility
65.	Smt. Shanti Mahajan, Senior Advisor, Urban Mass Transit Company (UMTC)
66.	Shri A. Hori Krishna Rao, Senior Manager F&AGAIL (India) Ltd.
67.	Shri M.N.V. Pavan Kumar, Ph.D Scholar, SPA, Delhi
68.	Shri Vijender Kumar, Spl. Secretary, Dy. Comn. TPT Deptt. GNCTD
69.	Shri Sanchet P. PHD Chamber of Commerce
70.	Shri Shahid, O/o the District Magistrate (Kotwali) Delhi (Statistical Officer)
71.	Smt. Archana Sharma, Associate Planner, NCR Cell, Uttar Pradesh
72.	Shri Desh Pal Singh, J.E, HPD
73.	Shri Surata Ram, Dir, CEA, MoP
74.	Jaibir Singh Arya, IAS, ADC, Sonipat
75.	Shri Rajesh Singh, ARFO, Ghaziabad
76.	Shri Rishi Dangi, DDPO, Charkhi Dadri, Haryana
77.	Shri Gyan Pradesh, Addl. Director, PCRA
78.	Shri V.K. Singh, RTO, (GZB.)
79.	Shri Suresh Bhandari , Spl. Secretary (UD), GNCTD
80.	Shri Rajesh Srivastava, ARTO (A), Hapur
81.	Shri Rajeet M, Head, Urban Dptt., WRI India
82.	Smt. Shalvi Sharma, PhD. Scholar, SPA, Delhi
83.	Smt. Shilpi Dudiya, ToI, Manesar
84.	Shri Abhishek Jatain, DGM-I, HSRDC, Gurugram
85.	Shri Rajeev Yadav, SI, HSRDC, Gurugram
86.	Shri Varun Bhardwaj, CII

Sl. No.	Name, Designation & Organization
87.	Smt. Vinita Yadav, SPA
88.	Shri Zeeshan Brar, Research Scholar, SPA, Delhi
89.	Shri Manish Sharma, DMICDC
90.	Shri Abhishek Chobey, DMIDC
91.	Shri Tarun Jain, DGM,RITES Ltd.
92.	Shri R.K. Gupta, Executive Engineer, PWD FSI (GNCTD)
93.	Shri Rahul Chaddha
94.	Shri Piyush Kansal, EDI, RITES
95.	Shri P.R. Sharma, AE, PWD, Shamli, UP
96.	Prof. P.K. Sarkar
97.	Shri Rohit, PS, Amit Kumar Jain, (CRIS)
98.	Shri Ravindra Kumar Chaudhary, A.Exn, UIT, Bharatpur, Rajasthan
99.	Shri Ram, Asstt. Director, PWD
100.	Smt. Palak Taneja Sapra, RAI- Rectailers Ass. of India, Mumbai
101.	Shri Ashish Agnihotri, PHD Chamber of Commerce and Industries
102.	Shri Sanjay Kumar, Dy. Collector, Bulandshahr
103.	Shri Sushil Kumar, Building Inspector, M.C, Julana
104.	Shri Prateek, AIR, PIB, - 2702, Prateel Srivastava (Media)
105.	Shri Dinesh Yadav, NHAI
106.	Shri Raj Kumar XEN, PWD B&R, Karnal
107.	Shri Sumit Kumar Singh, Manager, CEOCONCOR
108.	Shri Rahul Singh, Manager/ C&O, CONCOR
109.	Smt. Papiya Sarkar, CA/ DMRC
110.	Smt. Rashmi Bhardwaj, Dy. CA-I/ DMRC
111.	Shri Vijay Mendratta, Manager, DMRC

Annexure-I

TRANSPORT AND MOBILITY

Date: 03.12.2019
Venue: Scope Convention Centre, New Delhi

S.No	Topics	Speakers
Session I: Inaugural Session		
Chief Guest: Shri Amit Ghosh, Joint Secretary, MoRTH		
1.	Welcome address	Shri Satish Prashar, Chief Regional Planner, National Capital Region Planning Board
2.	Transport & Mobility for Regional Plan 2041 – Keynote Presentation	Shri V. K. Singh, Managing Director, National Capital Region Transport Corporation Shri Sudhir Sharma, Group General Manager, National Capital Region Transport Corporation
3.	Future of Air Connectivity in NCR	Smt. Usha Padhee, Joint Secretary, M/o Civil Aviation & CMD, Pawan Hans Ltd
4.	Connectivity Scenario in Haryana	Shri A.K. Singh, Principal Secretary, T&CP Dept. Govt. of Haryana
5.	Transport & Mobility	Address by Chief Guest: Shri Amit Ghosh, Joint Secretary, MoRTH
Tea Break		
Session II: Transport & Economy: Logistic Hubs & Warehouses – Emerging Role & Way Forward		
Chair: Shri A.K. Singh, Principal Secretary, T&CP Deptt. Govt. of Haryana		
6.	Logistic Policies & Way Forward	Shri Anant Swarup, Joint Secretary (Logistics), Deptt. of Commerce
7.	Dedicated Freight Corridor: Industrial Corridors in India	Shri Abhishek Chaudhary, Vice President, Delhi–Mumbai Industrial Corridor (DMIC)
8.	Logistics & Planning Requirements-Views by Delhi International Airport Limited,	Shri M.V. Subramanian, General Manager (Planning), Delhi International Airport Limited
9.	Solutions to Mitigate Urban Traffic Congestion	Shri Amit Kumar Jain, General Manger (Operations), CRIS, Railway Board
10.	Requirement of retailers in terms of Logistics &	Shri Rahul Chadha, Retailers Association of India (RAI)

S.No	Topics	Speakers
	Transportation facilities	
11.	Transport & Economy	Chair- Shri A.K. Singh, Principal Secretary, T&CP Deptt. Govt. of Haryana
Lunch		
Session III: Multimodal Transport		
Chair: Shri Abhay Damle, Joint Secretary, Ministry of Roads, transport and Highways		
12.	Expressways & Highways: Delhi Decongestion	Shri Dinesh Yadav, General Manager, Expressways & Highways, National highway Authority of India
13.	National Waterway 110- River Yamuna	Shri Gangwar, Member Technical, Inland Waterways Authority of India
14.	Perspective on Future Transport: RITES	Shri Piyush Kansal, Executive Director, RITES Limited
15.	Multimodal Transport & Integration	Dr. Mangu Singh, Managing Director, Delhi Metro Rail Corporation
16.	Need for Mobility	Shri Abhay Damle, Joint Secretary, Ministry of Roads, transport and Highways
Sub Session III		
Chair: Shri S.K. Lohia, Managing Director & Chief Executive Officer, Indian Railway Stations Development Corporation Limited		
17.	Enabling Environment & Institutional	Coordination : Ms. Ashmita Joshi, Uber
18.	Perspective by Govt. of Delhi	Shri Vijender Kumar, Dy. Commissioner, Transport, GNCT-Delhi
19.	Enabling Environment & Institutional	Shri Kal Singh, DDG (TRW), Ministry of Roads, transport and Highways
20.	National Common Mobility Card	Shri Bharat Electronics Limited
21.	Need to be multi modal transport hubs	Address by Chair: Shri S.K. Lohia, Managing Director & Chief Executive Officer, Indian Railway Stations Development Corporation Limited
22.	Closing Remarks	Shri P Selvadurai, Director, Association of Municipalities and Development Authorities

S.No	Topics	Speakers
23.	Vote of Thanks	Shri Jagdish Parwani, Director (A&F), National Capital Region Planning Board

Workshop Title: Power and Energy

Date: 05.12.19 (Thursday)

Venue: Gulmohar Hall, IHC, New Delhi

Brief Minutes of the Stakeholders Workshop on 'Power and Energy' held on 05.12.19 at India Habitat Centre, for preparation of RP-2041 for NCR

1) Workshop on "Power & Energy" was held on 5th December, 2019 for Preparation of Regional Plan-2041-for NCR at Gulmohar Hall, India Habitat Centre, Lodhi Road, New Delhi. The list of participants is enclosed**.**

2) The workshop was divided into various sessions to caver the major topics under Power & Energy. The topics discussed during the workshop included 'Future of Distribution Strategies in NCR; Power Security of NCR; Transmission & Grid Management for 2041; Planning for Power NCR 2041; Perspectives by Central Transmission Utility; Views of National Load Dispatch Authority; Future Energy Scenarios; Demand Side Management; Perspectives by Private Power Distribution Companies; Inducing Efficiency & Empowering Power Consumers; and Sub-Regional Power Scenario & Views of State Power Departments.

3) The key contributors included, Shri Mrityunjay Narain, Joint Secretary, Ministry of Power, Shri Sudhir Kumar Rahate, Additional Secretary, M/o Power Shri Dinesh Chandra, Member, Grid Operations, CEA, Dr. Subir Sen, COO, (CTU Planning) Power Grid Corporation of India, Shri K.V.S. Baba, CMD, Power Systems Corporation of India (POSOCO), Shri Abhay Bakre, DG, Bureau of Energy Efficiency , Shri Mukesh Dadich, Head, Systems Planning & Shri Gaurav Sharma, Head, Engineering, BSES (Y), Shri Sushanta Chatterjee, Chief (Regulatory Affairs) , Central Electricity Regulatory Commission and representatives from NCR States. The list of Speakers is at **Annexure-I.**

4) **Major aspects suggested** to be kept in mind included the following:

- Technology is changing fast, hence the plans and proposals for power need to have dynamic elements in it.
- Due to issues of Climate change International pressures could be much higher and country needs to be ready to face such challenges.
- Future will be more of a distribution network and role of Distribution will change
- Emphasis should be on getting power for Delhi from other States.

5) Session wise proceedings/ record of decisions are as under:

5.1 **SESSION-I:** Presenting "**Future of Distribution Strategies in NCR", Shri Mrityunjay Narain, Joint Secretary, Ministry of Power** drew attention to following aspects:

- On Socio Economic Trends in India and their Energy Context, it was highlighted that increasing populations will lead to an increase in per capita consumption.
- Rapid Urbanization would lead to a massive future energy demand.
- Manufacturing Contribution to Economic Structure: Base of functioning poised to increase in future. This would require adoption of modern fuel sources.
- Electrification of Energy Demand: Primary Energy demands such as transport and cooking are shifting to electricity. Hence, leading to an energy intensive economy.
- Adoption of Clean Energy Sources: Renewable energy is now cheaper to conventional sources which has given a fillip to its adoption. The impact of this is that it is it has led to Grid Integration Challenge and DSM.
- India's Per Capita Electricity Consumption compared to World's average is < 50%. India ranks 3rd (third) in Primary Energy Consumption. Presently India is 2nd in World as coal consumer. India"s share in world primary energy consumption is 5.6%. India's share in world total oil import is 9.4%.
- The International Energy Agency predictions for India indicate it to be :

- 30% of World Energy Demand between now and 2040.
- World Oil Demand in 2040 from India will be 50%
- 3 times increase in electricity demand by 2040
- 30% share of EVs in all vehicles by 2030 in India
- 40% share of RE in generation by 2030.

- The Key Reform Initiatives in Distribution and Impact: Challenges were identified with respect to Power Sector in general and Distribution in specific:

a. DISCOM Turnaround was possible with Ujwal DISCOM Assurance Yojana (UDAY) with its focus areas as :

- *Operational Efficiency Improvement*
- *Easing Legacy Financial Burden*
- *Bringing Financial Discipline*

These had lead it to achieve,

- ACS-ARR Gap: 0.59 (FY16) to 0.27 (FY19) Rs/kWh.
- AT&C Loss 20.7% (FY16) to 18.2% (FY19)

b. Electricity Access & Rural Infra- Saubhagya (16,320 Cr.), DDUGJY (75,893 Cr.) had its focus areas as :

- *Connecting all unelectrified HHs*
- *Network Strengthening & Consumer Metering*
- *Agri Feeder Separation*

Major Achievements under the scheme were:

- *100% Villages electrified*
- *99% Houses electrified*
- *2.48 Cr Houses electrified in 17 months*

c. Power Quality & Reliability – IPDS (65,425 Cr.) scheme had its focus areas as:

- *T&D Strengthening*
- *N/W and consumer Metering*
- *IT Enablement*

Achievements under the scheme included:

- 83 %Target Completion Rate for Substations
- Cabling (U/G, O/H) : 73% Target Completion
- Distribution Transformers: 84% Target Completion

d. Digital Enablement- Portals and Apps had its focus areas as:

a. *Uniform and exhaustive data dissemination*

b. *Central Monitoring and Program Management*

Its achievements include Portals & Apps: DEEP, Vidyut Pravah, PRAAPTI, URJA, MERIT India etc.

- With regards to concerns of RP 2021 on power, it was brought out that, even in last 12 month National Peak deficit was just 0.78% and the National Energy Deficit was just 0.5%. Hence, as per National Electricity Plan no additional coal based capacity during 2017-22 & 46,420 MW during 2022-27 was required.

Regarding the Regional Plan recommendation that Modern techniques for Load Management to flatten the load curve, the status was as follows:

- Smart Metering implementation is being rolled out at national level
- ToD/ToU tariffs are applicable in all concerned Discoms for industrial/ commercial consumers
- Draft Tariff policy recommends ToD tariff to be introduced to all consumers having suitable meters as soon as possible.

Key Utility Trends that are emerging, included:

- Digitization: Digital enablement of utilities would lead in better operational efficiency and better consumer service.
- Smart Grids: Information enabled grids would lead to higher control with consumer and loss reduction and other data enabled services.

- Higher RE Deployment: Increasing procurement from RE would lead to low consumer bills and higher variation in Grid.
- Distributed Generation – Multiple small grid connected generators would lead to Prosumer's supply to grid through net-metering, lower bills and better control.
- Demand Electrification: Increasingly diverse energy demands shifting to electricity. Majorly leading to higher penetration of EVs and more V2G & V2H services.

5.2 **SESSION-II pertained to aspect of Power Security of NCR: Transmission and Grid Management for 2041 and was chaired by Shri Sudhir Kumar Rahate, Additional Secretary, M/o Power.** The key points discussed are as under:

1. From analysis of power supply position for last 3 years following was observed:

- In year 2016-17, in Delhi the percentage of demand not met is 1.28% and in Uttar Pradesh it is 4.18%. In Haryana and Rajasthan 100% of demand was met.
- In year 2017-18, in Delhi the percentage of demand not met is 0.41%, 3.83% in Haryana and 1.41% in Uttar Pradesh. In Rajasthan 100% of demand was met.
- In the year 2018-19, in Uttar Pradesh 0.48% of demand was not met. For other three states Haryana, Delhi and Rajasthan 100% of demand has been met.

a) The peak demand forecast for Haryana Subregion in 2030 is 9379 (MW).
b) The peak demand forecast for Rajasthan Subregion in 2030 is 1978 (MW).
c) The peak demand forecast for UP Subregion in 2030 is 7319 (MW).
d) The peak demand forecast for Delhi NCT in 2030 is 11884 (MW).
e) The peak demand forecast for NCR in 2030 is 29233 (MW).

2. Anticipation of PSP for 2041:

- Would be comfortable
- Large re generation expected [175 GW by 2022], major portion in Northern Region [Bhadla, Rajasthan]
- Roof top solar encouragement
- Grid frequency around 50 Hz for all time
- Currently, thermal stations with high variable charges running on technical minimum

3. Status of power sector projects financed by NCR Planning Board is as below:

- For Sub-transmission and distribution projects in Haryana, loan sanctioned is 5.93 Cr and actual loan amount released till March 2019 is 0.59 Cr. The project is ongoing.

- For transmission and distribution projects (11 Nos.) in Haryana , loan sanctioned is 403.45 Cr. and actual loan amount released till March 2019 is 397.56 Cr. The project is complete.
- For Transmission and Distribution projects (5 Nos.) in Rajasthan, loan sanctioned is 205.03 Cr. and actual loan amount released till March 2019 is 200.29 Cr. The project is complete.
- For Transmission and Distribution projects (1 Nos.) in Uttar Pradesh, loan sanctioned is 224.89 Cr. and actual loan amount released till March 2019 is 140.40 Cr. The project is complete.
- Apart from above, the other power sector projects completed under the funding of NCR Planning Board includes:

i. Kota Thermal power station extn. unit 7 CMA in Rajasthan

ii. Setting up of coal based Power Project in Hisar-CMA in Haryana

iii. Sub-transmission and distribution projects Hisar –CMA in Haryana

4. Status of Planned Inter State (ISTS) network in NCR Area: Northern region is very well connected with the Western Region and Eastern/North-Eastern Region through various high capacity AC and HVDC corridors. Surplus power available in NER/ER & WR may be transferred to NR through these corridors. Various S/Ss located in the NCR area are also having enough capacity. Therefore, from transmission point of view, prima-facie there are no constraints envisaged in the near future.

5. Inter-Regional Capacity for Northern Region:

- Present cumulative IR capacity (MW) is 22530 in NER/ER-NR and 25320 in WR-NR.
- Future cumulative IR capacity (MW) is 22530 in NER/ER-NR and 36720 in WR-NR.

6. Setting up of Peaking Power Plants:

In view of wide variation in demand between peak and off peak period in our system including NCR, there is need of peaking power plants with high ramp rates. Following aspects need to be taken care of:

- Estimation of the quantum of peaking/reserve power plants needed.
- Technological options for setting up peaking/reserve power plants.
- Time of day (ToD) metering and regulatory issues for peaking and reserve power plants.

7. Sub region wise status of Automatic Demand Management System:

- Delhi – Fully implemented by TPDDL
- Rajasthan – Under Implementation. LoA placed on 12.12.2018 with an execution period of 18 months for ADMS at the level of 33kV feeders at EHV Substation of RVPN under SCADA / EMS part of project. ADMS functionality at 11 kV

feeders from 33/11 kV substation is under the jurisdiction of the DISCOMs and matter is being perused with DISCOMs authorities.

- Uttar Pradesh - Not fully implemented. Remote operation of 132 kV feeders under ADMS is operational. For the down below network, issue taken up with the DISCOMs.
- Haryana – Not Implemented.

8. Promotion of Renewable Energy in the NCR Area:

- NCT of Delhi in its Solar policy set the target for 2020 as 1000 MW however, actual achievement till March, 2019 is only 128 MW.
- Building code of DDA need to be amended for giving clarity on roof rights
- Building bylaws should enforce compulsory solar roof top installation irrespective of building is new or old.
- RPO Obligation: For non-solar it is 10.50% by 2021-22, and for solar also it is 10.50% by 2021-22.

i. Present compliance of Delhi is 3%. Delhi DISCOMs are entering into Long term and short term power contracts to fulfill this requirement

ii. Rajasthan would be able to meet this as it has wind and solar capacity

iii. UP & Haryana need to meet it through procurement of renewable power or purchase of Renewable Energy Certificates (RECs).

- **Dr. Subir Sen, COO, (CTU Planning) Power Grid Corporation of India** presented "**Power Security of NCR for 2041: Transmission Perspective**". It mainly included the following points:

1. As on October, 2019, total installed capacity of India's power system was 365 GW. (Thermal:229 GW, Renewables: 83 GW, Hydro: 46 GW, Nuclear: 7 GW). In Northern Region, the installed capacity is 96 GW (Thermal: 58 GW, Renewable: 16 GW, Hydro: 20GW, Nuclear: 2 GW). The peak demand in India is 184 GW and in Northern Region , it is 66 GW. In northern region, Transmission Line (≥220kV), ISTS are about 55000ckm. Transformation Capacity (≥220kV), ISTS is about 106380 MVA at 73 substations. More than 45 % of power generated in India is transmitted through ISTS Network. In the National Grid, the Present Inter Regional (IR) Capacity is 1,00,550 MW and Inter Regional (IR) Capacity by 2022 is expected to be 1,18,050 MW.

2. Peak Demand status of NCR Constituent States is as presented below:

- Peak Demand (met): In Delhi it is 7,409 MW, in UP it is 22,599 MW, in Haryana it is 11,001 MW, in Rajasthan it is 12620 MW.
- Demand by 2022: In Delhi it is 7,471 MW, in UP it is 23,664 MW, in Haryana it is 12,222 MW, in Rajasthan it is 14,435 MW.
- Demand by 2027: In Delhi it is 8,751 MW, in UP it is 31,064 MW, in Haryana it is 16,451 MW, in Rajasthan it is 20,131 MW.
- ISTS network is adequate to cater power transfer requirement through ISTS transaction by 2022.

3. As per Power Map for NCR indicating power generation from Hydro, Renewable resources and from Thermal Resources it was established that the region is well connected with resources.

4. Regarding Renewable Energy Integration,

- GoI has set target to establish 175GW renewable energy capacity mainly from solar and wind by 2022.
- About 83 GW renewable capacity is already integrated into the Grid at various voltage levels.
- In this direction, to cater the power from renewable sources in RE rich states (Rajasthan in NR), Green Energy Corridors being implemented.
- Transmission scheme for 7 solar parks (about 6450MW) is also being implemented under ISTS.
- Transmission infrastructure for supporting RE in also being developed.

4. As a **Way Forward following was suggested regarding Power Transmission**

- Potential Assessment for RE generation beyond 2022 is under progress and needs to be completed expeditiously.
- Associated transmission system to be provided which shall be extended to NCR region as well.
- Control infrastructure to be provided in RE dominant region.
- All India integration of RE rich regions is being accorded highest priority which shall also facilitate providing clean and green power to NCR region as well.
- For absorption of power, matching Intra-state system to be developed.

➢ **Shri K.V.S. Baba, CMD, Power Systems Corporation of India (POSOCO)** gave his views on "**Power system in National Capital Region- System Operator's Perspective**". It mainly included the following:

- The maximum demand in NCR is 21 GW which is 28% of Northern Region Demand.
- Status of Generation capacity in NCR
    - Total Thermal: 5560 MW.
    - Total from Other Sources: 456 MW.
    - Total Gas: 3480 MW.

- Growth in Demand:
    - Per-capita energy consumption in NCR - 1694 kWh (2018-19), 953 kWh in Northern Region as a whole
    - NCR demand may increase to 40 GW by 2041
    - Present energy demand density is 1.9 MU/km2/year

Hence, the demand may double by 2041 but the Constraints due to lack of space/land/right-of-way still persist and need the solution. Hence, new technological solutions required to solve these problems. These may include underground GIS/GIL in new buildings. Further, Transmission constraints could be faced, in case of closure of coal based generation in NCR. In case closure of 5000 MW coal-based generation in Delhi/NCR is considered due to environmental concerns, likely overloading of transmission elements below is expected:

i. 765 kV Aligarh-Greater Noida (765 kV Ghatampur-Hapur line (exp. by Mar 2021) to relieve)

ii. 220 kV Mohana-Sonipat PG

iii. 220 kV Kirori - Jind

There could be Limiting constraint in transmission network under merit order dispatch:

NCR has 3480 MW gas based installed capacity. In addition to closure of coal-based generation, if gas-based generation is also required to be taken out due to its high fuel cost, then overloading of following elements is possible:

- 220 kV Maharanibagh - Sarita Vihar
- 220 kV Pragati - Sarita Vihar
- 220 kV Indraprastha - Patparganj
- 220 kV Preet Vihar- Patparganj
- 220 kV Gazipur – Maharanibagh

Regarding HVDCs in NCR: Three long distance HVDC bipoles terminate within NCR (within 200 km radius) . These include HVDC Mundra-Mohindragarh , HVDC Balia-Bhiwadi and HVDC Rihand-Dadri. Two more HVDCs present in vicinity of NCR include the HVDC Champa Kurukshetra and MTDC BNC-Alipurduar-Agra. High capacity links enable bulk power transmission towards NCR along with regulation of parallel AC line flows

Risk of delayed fault clearance in AC system could be Outage of HVDCs due to consequential commutation failure and Fault induced delayed voltage recovery leading to load loss.

Regarding Islanding and Restoration, it emerged that it is difficult to island safely and there is low likelihood of survival of island. This is because there is inadequate internal generation - merit order dispatch/environmental concerns and more than 100 interconnecting tie lines are feeding NCR.

Hence it was **suggested that we need to build resilience through**:

i. Adequate black start resources (hydro/gas)

ii. Regular mock drills

iii. Backup supplies for essential loads (airports, hospitals, metro, railways etc.)

iv. FACTS devices/filter banks for maintaining voltage and reactive power.

v. Harnessing distributed storage devices/ DG sets in the region

Major suggestions included:

- Reconductoring of existing transmission lines in NCR with higher capacity conductors.
- Solar inverters or energy storage systems with grid forming capability may be explored
- HVDC VSC may be considered due to their black-start capabilityas it shall be also helpful with right of way, which could be an issue in future.
- Converting old thermal units in NCR into synchronous condenser (help in Inertia & dynamic VAR)
- Off river pumped storage plants may be explored in the adjacent hilly states
- Strict implementation of five star efficiency ratings for air conditioners in NCR as they are the major source of load growth is thermal comfort and space cooling
- Ensuring reliability of multi circuit towers – greater than n-2 contingencies
- proper regulatory measures should be in place for DG Sets

Closing session address by Shri. Sudhir Kumar Rahate, Additional Secretary, M/o Power summarised the Planning for power and the role of transmission, central systems, and utility, and indicated that, there is adequate generation capacity, power flow, adequate systems and evacuation system and DISCOMS are also doing good job in bringing power to the consumer in NCR region. But adequacy vis-à-vis affordability is the issue. The areas to bring down the cost of power may be looked at. Accurate forecasting of the demand for 2041 is essential. Need to identify where the load centres are and whether all the infrastructure planning is also in consonance with that. Project financing is also an important element and NCRPB was requested that in formation of regional plan financing aspect may be included.

5.3 **Session-III focussed on Future Energy Scenarios chaired by Shri Abhay Bakre, DG, Bureau of Energy Efficiency where** Shri Abhay Bakre, DG, Bureau of Energy Efficiency, MoP gave his views on **Demand Side Management.** It mainly included the following:

1. Climate Change: It emerged that an unwarranted consequence of carbon intensive activities was observed since the industrial revolution. The subject found top most priority in the agenda item of all major economies of the world. In Indian Context, Climate Change has emerged as one of the primary developmental challenge. India‟s per-capita emission in 2016 was 1.7 tCO2, which was well below the global per capita average of 4.3 tCO2. As per Per Capita "Consumption- Based Emissions" of CO2 in G20 Countries India scored the lowest terms of Tonnes of CO2 per person.

2. Mitigation through Energy Efficiency: "Energy Efficiency alone can deliver substantial economic, environmental and social benefits". Efficient World Scenario (EWS) shows what would result if all available energy efficiency measures were implemented between now and 2040. All these measures are cost effective, based on energy savings alone, and the technologies that are readily available today. EWS could result in lower emissions in 2040 compared with today, despite a doubling in the size of global economy.

3. On Global CO2 reduction potential it was established that by 2040, the scenario may be 44% efficiency, 36% renewables, 2% fuel –switching, 6% nuclear, 9 % CCS, and 2 % Other.

4. India in its Nationally Determined Contribution has stated that it will propagate a sustainable way of living by adopting climate friendly technologies and a cleaner growth

path. It has set the target to reduce the emissions intensity of its GDP by 33 to 35 percent by 2030 from 2005 level. It also plans to achieve about 40 percent cumulative electric power installed capacity from non-fossil fuel based energy resources by 2030

5. It was established that the contribution of Coal is highest, followed by Industries, Electricity and Petroleum Products.

6. Energy Savings in 2017-18 – Highlights indicated the following:

- Electricity savings of 93.2 BUs (21.16 GW of avoided capacity generation) i.e. 7.7% of total electricity consumption of the country
- Electricity savings resulted in cost savings worth INR 46,598 Crore and reduction in 77.35 Million tonne of CO2 emission
- Thermal energy savings of 9.41 Million Tonnes of oil Equivalent
- Thermal saving resulted in cost savings worth INR 11348 Crore and reduction in 39.94 Million tonne of CO2 emission.
- Total energy savings of 17.19 Million Tonnes of oil Equivalent i.e. 2% of total primary energy supply of the country
- Total cost savings worth INR 56440 crores approximately.
- Total reduction in CO2 emission of around 114.8 Million Tonnes

7. Electrical Energy – Consumption vs Savings:

- Sector wise total electricity consumption:

  i. Industries – 481.88 BU

  ii. Domestic – 289.13 BU

  iii. Agriculture – 216.85 BU

  iv. Commercial Buildings – 108.42 BU

  v. Others – 84.33 BU

  vi. Railways – 24.09 BU

- Net consumption is 1204.7 BUs.
- As per information on Scheme wise share of energy savings:

  i. S&L (Appliances) – 55.05 BU (includes AgDSM, BEEP and BEE Star rating for buildings)

  ii. Lighting (UJALA) - 31.43 BU

  iii. Municipal (Street Lighting) – 3.70 BU

  iv. Industry – 3.01 BU

v. Buildings 0.0056 BU (Only ECBC)

- Net savings is 93.2 BUs i.e. 7.7% of net electricity consumption.

8. Total Energy – Consumption vs Savings

- Sector wise total energy consumption:

  i. Industry – 347 Mtoe

  ii. Transport – 128.4 Mtoe

  iii. Domestic – 52.3 Mtoe

  iv. Agriculture – 19.4 Mtoe

  v. Commercial – 9.1 Mtoe

  vi. Municipal – 2.8 Mtoe

- Net consumption is 559 Mtoe
- Scheme wise share of energy savings:

  i. Industries (excl TPP) – 7.82 Mtoe

  ii. Appliances (includes AgDSM, BEEP and BEE Star rating for buildings) – 4.73 Mtoe

  iii. Lighting (UJALA) – 2.70 Mtoe

  iv. MuDSM (Street Lighting) – 0.318 Mtoe

  v. Buildings (only ECBC) – 0.0005 Mtoe

- Net savings is 15.6 Mtoe, i.e. 2.8% of net energy consumption.

9. Regulatory Framework broadly includes the following:

- Bureau of Energy Efficiency was set up in 2002 under EC ACT 2001
- To discharge regulatory function on energy efficiency
- Provides the legal framework for promoting energy conservation activities:

  i. Standards and Labelling for appliances & equipment

  ii. Energy Consumption norms for energy intensive industries

  iii. Demand Side Management (DSM) programme

iv. Energy Conservation Building Code (ECBC) for commercial buildings.

v. Certification of Energy Auditors and Managers

- Mission Directorate for National Mission for Enhanced Energy Efficiency (NMEEE)
- Supported by States Designated Agencies at State level
- Bureau helped create EESL for implementation of EE & DSM activities

10. National Mission for Enhanced Energy Efficiency is one of the eight missions of NAPCC

- Perform, Achieve and Trade (PAT) : Mandatory Energy Saving Targets for Energy Intensive Industries
- Energy Efficiency Financing Platform (EEFP): Stimulate Funding for Energy Efficiency Projects
- Market Transformation for Energy Efficiency (MTEE): BLY – UJALA, SEEP
- Framework for Energy Efficient Economic Development (FEEED): Partial Risk Guarantee Fund (PRGF), Venture Capital Fund (VCF).

11. **Suggestions for Energy Efficiency in Building Sector**:

A.) Energy Conservation Building Code (ECBC) - Commercial

- Minimum energy efficiency standards
- Applicable to large commercial buildings (connected load of 100 kW/contract demand of 120 kVA and above)
- ECBC prescribes standards for:

i. Building Envelope

ii. Lighting

iii. Heating Ventilation and

iv. Air Conditioning (HVAC)

v. Solar Water Heating

vi. Electrical Systems

B.) Efforts on Energy Conservation Building Code (ECBC) for Residential sector included development and launching of Eco-Niwas Samhita (Part 1: Building Envelope).

12. UJALA (Unnat Jyoti by Affordable LEDs for All) : UJALA — is the flagship program of EESL wherein zero subsidy is provided for LED bulbs to all domestic consumers. Under this, 1430 million LED bulbs were deployed across the country and target exceeded one year earlier itself. Due to economy of scale, price of LED bulbs fell from INR 310 to INR 40 over a period of 3 years. Distributional arrangements were made with CSCs, Deptt. of Information Technology (e-Mitras), Post Offices. Distribution through Oil Marketing Companies and over 3,000 Petrol pumps. Further, EESL is replacing conventional street

lights with LEDs at its own costs with zero investment from ULB and municipal corporations. In all, about 14 million LED street lights installed across the country. The consequent reduction in energy and maintenance cost of the ULBs is used to repay EESL. EESL has enrolled 941 ULBs and work is completed in 624 ULBs . About 4.66 billion units is the average energy savings per year. The scheme has helped in reduction of about 3.2 million tonnes of CO2 greenhouse gas emissions and avoid 777 MW of peak demand.

Or achieving Energy Efficiency in Transport Sector, Corporate Fuel Efficiency Standard for passenger cars and Fuel Efficiency Standard for Heavy Duty Vehicles were devised.

13. Under the ROSHANEE (Roadmap of Sustainable and Holistic Approach to National Energy Efficiency) scheme, following strategies are being adopted.,

A.) Mitigation Strategies:

i. Enhancing Energy Efficiency-efficient lighting, S&L, SEEP, PRGFEE, VCFEE, ECBC

ii. Enhancing Energy Efficiency In Industries- PAT, ZED, E-mobility, Vehicle Fuel Efficiency , PAT, EC guidelines, FLCTD

iii. SMEs- SME cluster programs,, ZED, PAT in SME

iv. Appliances - S&L, Efficient Lighting in India, SEEP, NCAP

v. Buildings- ECBC, Buildings under PAT, NZEB

vi. DSM, Demand side Analytics and Digitization

vii. Transport - Vehicle Fuel Efficiency Programme, Indian Railways, e-mobility

B.) Adaptation Strategies:

• INDIA‟s NDC: Knowledge Management & Capacity Building

• ROSHANEE: NECA, National level Painting competition for school children, Professional Certification and Accreditation, Energy Clubs in schools, Development of Text Module for NCERT, EEFP, Capacity Buildings of DISCOM

C.) India‟s Climate Change Finance Instruments

• INDIA‟s NDC: Other Fiscal Instruments and Incentives for Low Carbon Growth

• ROSHANEE: Development of ESCOs, Partial Risk Guarantee Fund for Energy Efficiency (PRGFEE), Venture Capital Fund for Energy Efficiency (VCFEE), Partial Risk Sharing Facility (PRSF), Energy Efficiency Finance Facility (EEFF).

- **Shri Mukesh Dadich, Head, Systems Planning & Shri Gaurav Sharma, Head, Engineering, BSES (Y)** presented **Perspectives by Private Power Distribution Companies**. It included mainly the following aspects:

1. Key Focus Areas:

- Customer Satisfaction: Supply of uninterrupted and quality power
- Load Growth: Delhi has a CAGR of 5%, Delhi Load expected to touch 18000 MW in 2041
- Network Reliability: Focus on building N-1 contingency
- Operational Efficiency: Quick troubleshooting and supply restoration
- Safety: Safe for operation staff and public
- Losses: Minimize network losses
- Demand Side Management & DR: Use of energy efficient appliances, Home & Building Automation
- Future Ready : Ability to adopt to upcoming public needs

2. Primary Challenges: Substation Space Constraint

- Present Scenario

  i. High population density and rising living standard

  ii. Absence of space for construction of new substations/augmentation

- Constraints

  i. Difficulty in meeting load growth

  ii. Equipment overloading resulting in failure

  iii. Difficult to troubleshoot

  iv. Impact on safety due to clearance issues

  v. High losses due to long LT lines

- **Way Forward**

  i. Policy for Space allocation for S/S in both existing and new areas based on load density and size of land

  ii. Standardization of substation sizes based on capacity and voltage ratio

3. BYPL Initiatives for Space Constraint :

A) E-house Grid

- Due to non-availability of space for conventional grid sub-station, at C Block, Krishna Nagar, Delhi , E house has been created with Installed Capacity of 36 MVA and Voltage level of 33/11 kV.
- The E House includes:

i. Prefabricated outdoor enclosure

ii. Houses switchgear & auxiliary equipment

iii. Ready to operate in field

B) 2MVA PSS

- The challenge is Non availability of space for DT addition, and insulation of exposed live parts
- To overcome the challenge, 2 MVA Package Substation in a size of 10 Sqm (80% less than conventional), enhanced public safety (Touch Proof), and Enhanced Fire Safety (Ester Oil fire point is 350 degrees) has been developed.
- The location of the substation is at Nehru Gali (Krishna Nagar), Post Office (Laxmi Nagar)
- Installed Capacity – 2 MVA
- Voltage Level – 11/0.4kV.

C) 66kV Hybrid

- The challenge is Back to back addition due to space constraint, High maintenance conventional switchgear.
- To overcome the challenge, 66kV Hybrid was developed where back to back bays were made with low maintenance design and remote load transfer technology.
- It has been developed at Ghonda, Nand Nagri, Yamuna Vihar
- Voltage Level – 66kV

D) Micro S/S

- The challenge is space constraint for new substation, and insulation of exposed live parts
- The Micro Substation was developed with Size – 5 sqm (40% less space than PSS), having enhanced public safety (Touch Proof)
- It has been developed at Gali Kundewalan (Daryganj), Delhi with Installed Capacity of 1MVA
- Voltage Level – 11/0.4kV

4. Primary Challenges: Cable Laying & ROW Issues

- Present Scenario

i. Cables laid through digging

ii. Road cutting permission constraints

iii. Trenchless cable laying for crossing main roads

iv. Unauthorized colonies exist under many lines

- Constraints

i. Difficult to lay new cables due to congestion

ii. Fault identification & restoration is time consuming

iii. High cost of fault repair

iv. Cables everywhere resulting in safety issues

- **Way Forward**

i. Construction of dedicated utility corridors

ii. All developed countries have dedicated utility corridors

5. Primary Challenges: Managing DERs

- Present Scenario : Exponential rise in penetration of rooftop solar
- Constraints : Intermittent nature of solar rooftop
- **Way Forward**

i. Need to install grid level and DT level battery storage for grid stability

ii. Policy for Space allocation for battery storage to be finalized

7. Primary Challenges: Managing Electric Vehicles

- Present Scenario

i. Delhi has a dual peak from 1300 hrs to 1600hrs and 2200hrs to 0100hrs

ii. NCR has the highest penetration of four wheelers

- Constraints: EV adoption will lead to huge rise in peak load especially during night
- **Way Forward**

i. Space allocation policy for substations to serve charging station load

ii. Standard should mandate all public chargers to be grid interactive

iii. Home chargers should have facility to program charging time and duration

iv. TOU based tariff for domestic consumers to manage night peak load

- **Shri Sushanta Chatterjee, Chief (Regulatory Affairs), Central Electricity Regulatory Commission** gave presentation on **Inducing Efficiency & Empowering Power Consumers**: It was indicated that regulators do not predict but regulators enable. Role of regulator is to regulate the framework properly. CERC started in 1991. It has taken

initiatives to try to induct efficiency. End beneficiary is the consumer. CERC have different parameters based on which it inducts efficiency. CERC have been taking lot of steps to bring in competitors that has a direct linkage to the consumer. There are 4-5 months in a year when a large surplus remains. So, whether power programme planning can be done, needs to be explored. The account of impact, distributed energy resources are going to have was discussed. Scenarios which can emerge in future were discussed in detail. There are generation system, transmission lines, and distribution companies. This is going to witness major change. The load growth are going to undergo significant change all over the world.

5.4 **SESSION-IV: Sub-Regional Power Scenario views of State Power Departments**

Govt. of Uttar Pradesh - Mr. M. Devraj, UPPCL presented on "NCR 2041- Energy Plan covering 8 Districts of Uttar Pradesh". He indicated that as per District-wise Average MW Demand, Distribution & AT&C Losses it is observed that Gautam Budhh Nagar scored lowest (4.20 % of Distribution loss and 10.02% of AT & C losses) while Shamli scored highest (23.30% of Distribution loss and 32.66% of AT & C losses) in the sub region. The total distribution loss is 12.51% and total AT & C loss is 19.21 percent in the UP subregion.

• Factors affecting future power demand:

i. Population- Normal Growth and Migration.

ii. Area– 20 years ago, only two districts in NCR. It may expand to Moradabad, Bareilly, Agra and Aligarh divisions.

iii. Urbanisation- 80% population will be living in Urban areas.

iv. Transport Mode: Mass transport will shift from fossil fuel to electric transport including metro, electric bus, etc.

v. More dependence of E-mobility - Increase in Power Demand

vi. Higher use of AI – higher growth of service sector

vii. Service sector share more than 80% in State GDP against current contribution of 55%.

viii. Pollution– De-carbonisation by shift of polluting industries away from NCR.

ix. Lead to reduction in Demand from Industries

x. Jewar Airport development of service sector and real estate. Better job opportunities.

xi. Increase in Commercial Demand

xii. Amendment (2018) to Electricity Act 2003 (MoP Proposed) - separation of carriage and content

xiii. Upcoming Power Plants

xiv. New Technology- Solar Battery Storage

xv. Pollution – Shutting down of Thermal Power plants

xvi. Higher penetration of Green / Renewable Energy

xvii. More Captive Power Plants

xviii. De-regulated Tariff - Consumers to have real time market base for purchasing electricity

xix. Energy Exchange and E-Trading platforms

4. Demand Supply Projections:

• Demand Forecast (till FY 2041): CEA‟s (GoI) Peak Demand Forecast as per19th Electric Power Survey (EPS) is 6% YOY Growth on the basis of Monthly Scenario Analysis.

• Demand Forecast (till FY 2041): IIT-Kanpur Report on Average Demand Forecast for the State of UP states that 7% YOY Growth on the basis of Hourly Scenario Analysis.

• Other Consideration:

i. Energy Tie-ups upto FY 2027

ii. Additional Demand from Saubhagya Connections

iii. Distribution Losses to come down <5% by FY 2041 from current level of 12.51%

iv. Solar Battery Storage will kick-in from FY 2025 onwards.

v. Increase in E-mobility services from FY 2025 onwards.

5. Demand (Average) Supply Gap Scenario considering the current power tie-ups was discussed. The projection for demand and supply of power sector in the UP Districts was shared. It was further informed that considering the current tie-ups the deficit will kick in from FY 2030 onwards.

6. Demand (Average) Supply Scenario with Solar Battery Storage and current capacity tie-ups was discussed. Thus considering the current capacity tie-ups the deficit will kick-in from FY 2034 onwards. Accordingly the State will plan from new power purchase tie-ups from FY 2028 onwards

7. Regarding Power Procurement Planning it was informed that for the peak shortage upto FY 2030, purchase of short term bilateral power and energy exchange. Was being done. Long-term tie-ups between FY 2029 to FY 2034 needed to meet the demand supply gap from FY 2034 onwards. More renewable energy stations would be required to avoid the burden of fixed cost on account of thermal power plants. Efforts need to be made for banking of power with Hydro surplus states to optimise power purchase cost.

8. For Augmentation of Distribution & Transmission Infrastructure, Investments were required in Transmission corridors to meet the Power demand. Further, 100% Underground Cabling was necessary. Then all consumers should have smart meters installed. Others actions required could include:

• Installation of energy efficient devices including LED bulbs, ACs, pumps, etc.

• Use of sensors/ apps to control electric supply at residences and public places.

• Creation of E-charging stations

• Man power – less but highly skilled

• Funds from Government of India

• Private Investment – PPP model

Representative from **Delhi Transco Limited** presented that Delhi Transco being the State Power Transmission Utility of Delhi, was responsible for development, operation and Maintenance of EHV Network to facilitate DISCOM‟s for providing 24 X 7 Power to Delhi. Its existing Transmission network comprised of a 400kV Ring around Delhi interlinked with 220kV Network. The distribution network is dealt by Five Distribution companies namely BYPL, BRPL, TPDDL, MES, NDMC. It was noted that highest ever peak load of Delhi met by DTL during summer 2019- 7409 MW.

For 400 kV, they had 4 ESS. Its Transformation Capacity was 5410 MVA with 249 CKM long Transmission lines. Similarly, for 220 kV, it had 39 ESS. The Transformation Capacity was that of 13140 MVA with 823 CKM (OH -620 CKM and U/G is 203 CKM) long Transmission lines. The estimated Projected Peak Demand of Delhi by 2035 was 12700 MW. As per its Business Plan (2017-22) the 13th plan focuses on existing system strengthening along with load growth requirement. The transmission planning exercises have been carried out to determine the system strengthening requirement during the 13th Plan (2017-22) with the major inputs being Absolute zero local generation and N-1 contingency. As per the plan, for 400 kV, number of new ESS is 2, Transformation Capacity 3000 MVA and Transmission line is 14 CKM. For 220 kV, number of new ESS is 10, Transformation Capacity 7400 MVA and Transmission line is 237 CKM (OH -37 CKM and U/G is 200 CKM)

Transmission Network of Delhi by end of 13th Business Plan, FY 2022-23: For 400 kV, number of new ESS is 6, Transformation Capacity 8410 MVA and Transmission line is 263 CKM. For 220 kV, number of new ESS is 49, Transformation Capacity 20, 540 MVA and Transmission line is 1060 CKM (OH - 657 CKM and U/G is 403 CKM)

Regarding System Strengthening beyond 13th Plan: Preliminary outcome of meetings with CEA for long term requirement indicated following

- By the end of 14th Plan (2026-27):

i. 400/220 kV GIS sub-station in Central Delhi area near Karol Bagh, through underground DC lines from proposed 320 kV Voltage Sourced Converter (VSC)

ii. 400/220kV, 2000 MVA S/s near Barwala/Kanjhawala by LILO of Mundka- Bawana 400 kV D/c line which would cater to the loads of Wazirpur, Peeragarhi and Rohini area and would relieve the loading of Bawana 400/220 kV substation.

iii. 400/220 kV, 2000 MVA S/s near Jhatikalan with 400 kV at 765 kV Jhatikalan (PG) in order to feed the upcoming load for Dwarka expansion plan including L-Zone of DDA (land pooling).

iv. 765/400 kV GIS substation in the South of Delhi by LILO of either 765 KV line from Agra to Jhatikalan or 765 KV line from Agra to Greater Noida.

v. 400 kV S/s near Rangpuri area or up-gradation of 220/66 kV substation at Mehrauli to 400/220 kV sub-station.]

- By end of 15th Plan(2031-32):

i. 400 KV sub-station near Geeta Colony area by LILO of 400 kV line from Maharani Bagh to Mandola to relieve the loading of lines at Patparganj, Gazipur and portion of Trans Yamuna areas, including the existing 400 kV Maharani bagh S/s and to strengthen the systems at the Eastern part of Delhi.

ii. 400 KV sub-station in the South Eastern part of Delhi near BTPS to feed the increasing loads of Sarita Vihar, Nehru place and Okhla Industrial area.

iii. Above long term plan is under deliberation with CEA.

- Norms For Establishment of 400kv Transmission Line included a) Dedicated Right Of Way (Row) I.E, 52 Meters For Establishment Of 400kv Overhead (O/H) Double/Multi-Circuit Transmission Lines is Required and b) Transmitting Capacity of Double Circuit (Quad Bersimis) =2200 Mw & Multi Circuit (Quad Bersimis) =4400 Mw . The Plot Size For

    - Establishment Of 400/220/66kv Gas Insulated Metal Enclosed Switchgear (Gis) Sub Station shall be 220 X 230 Sq. Mtr.
    - Transformation Installed Capacity : 4 X 500 Mva (2000 MVA)
    - Reactive Power Management Installed Capacity For Over Voltage : 1 X 125 MVAR
    - Capacity To feed Downstream Transmission Network at 220kv Voltage Level : 4 Nos. Substation X 500 MVA = 2000 MVA (Considering the reliability (N-1) at both level).

- Norms for Establishment of 220 KV Sub Station:

    - Plot Size For Establishment Of 220/66 /33kv Gas Insulated Switchgear (Gis) Sub Station: 120 X 100 Sq. Mtr.
    - Transformation Installed Capacity : 3 X 160 MVA (480 MVA)
    - Reactive Installed Capacity For Over Voltage Management : 2 X 25 MVAR
    - Capacity To Feed Downstream Sub-Transmission Network At 66/11 kv Voltage Level For Discom‟s : 4 Nos. Substation X 95 MVA = 380 MVA (Considering The Reliability (N-1) At Both Level).

- Dedicated Right Of Way (Row) I.E, 35 Meters For Establishment Of 220 kv Overhead (O/H) Double/Multi-Circuit Transmission Lines is required.
- Transmitting Capacity for Double Circuit (Htls) = 800 Mw & Multi Circuit (Htls) = 1600 Mw

- Right Of Way (Row) Requirement for Establishment of 220 kv (U/G) Double Circuit Transmission Lines is 2 X 2 (Width And Depth) Meters. 220kv Underground Cables is Preferred in place of Overhead Transmission Line because of space constrainsts/non-granting of row by land owing agencies.
- Norms for Establishment Of 220kv Transmission Line: Over Head Transmission Line Is Preferred Over Underground Cable due to following reasons:-

  i. Underground cable generate reactive power which leads to over voltage in network and to compensate this issue, reactors are required to be installed which add to the cost of project and extra space (land).

  ii. Higher current carrying capacity of 1200A per circuit in case of O/H transmission line with comparison to underground cable having capacity of 700A per circuit only.

  iii. By using the overhead multi circuit transmission tower in the same corridor, the current carrying capacity can be increased by a factor of 2.

  iv. Lower Project Cost (Tentatively 1/3 of Underground Cable).

  v. Easy Fault Detection and Lower Fault Rectification Time.

Accordingly, suitable ROW Corridor for 400kv and 220kv Overhead Transmission Lines may also be kept for new Land Development Schemes.

- Safety Norms For O/H Transmission Lines:
  - For AC Voltage of 765 kV the minimum ground clearance according to CEA regulation 2010 is 12.1 M and ROW requirement is 67 M.
  - For AC Voltage of 400 kV the minimum ground clearance according to CEA regulation 2010 is 8.8 M and ROW requirement is 52 M.
  - For AC Voltage of 765 kV the minimum ground clearance according to CEA regulation 2010 is 7 M and ROW requirement is 35 M.

- Challenges & Operational Constraints:
  - Right Of Way (Row) Issues:-

  i. Approval from multiple agencies like DDA, PWD, forest, NDMC, MCD, NHAI, IGL, Flood & Irrigation, Railways etc.

  ii. Encroachment in line corridor before and after construction.

  iii. Litigations from private land owning agencies.

- Impact on transmission due to reduction in core generation. At present not more than 1000MW capacity is available.
- Availability of Land for new substation & granting RoW for proposed Transmission links facilities by DDA.

- **Representing Govt. of Rajasthan** – Shri Suresh Chauhan, Jaipur DISCOM indicated that Space has been a constraint and. ROW is the main issue. GIS is the most important thing. For Alwar and Bharpur load is sufficient presently. There is capability of generation also in the region. Rajasthan is going to be solar hub. There is a need for standardization of infrastructure usage. Preference may be given to solar hubs for quality power.

6. Conclusion

Summarising the above, the key areas of concerns included the problem of ROW which is observed in entire country. If the issue of ROW is resolved it will not be for NCR but for the entire country. There are certain data gaps. Actual data may be made available by State Govts. It may be manual or online mode. There is a necessity to avoid the mismatch of figures. Total peak demand expected for 2041 is 54000 MW. Today in 2019 it is 16000 MW. There is a necessity to plan accordingly. Discussion on Solar rooftops being done needs to show results on ground. In Delhi there is a solar policy. Efforts may be made to reduce the battery storage cost. The major challenge presently is to face resiliency in power sector. There is a cyber-threat as well that needs to be addressed at appropriate level. States and Central agencies need to work accordingly, in close cooperation.

List of participants "Power and Energy" held on 05.12.2019

S. No.	Name, Designation and Organisation
1.	Shri Suresh Chouhan, Director (Technical), Jaipur
2.	Shri Sumit Purohit, ITBP Academy
3.	Shri Mohit Jain, Accounts Officer, AMDA
4.	Shri S.R. Narasimhan, Director, System Operation, POSOCO
5.	Shri K V S Baba, CMD, POSOCO
6.	Shri Sheetal S. Jain, Dy.Director, CEA
7.	Shri P. Selvadurai, Director, AMDA
8.	Shri Gaurav Jain, Admin Officer, AMDA
9.	Padmini Singla, Secretary, Power, GNCTD
10.	Ms. Ekta Mehra, Sr. Sector Specialist, KPW
11.	Anuj Kr. Gehlaut, DGM (Planning), DTL
12.	Shri Saif Rehman, Dy. Manager (POSOCO)
13.	Shri Birendra Prasad, GM(T), DTL
14.	Shri Mukesh Kr. Sharma, Director, Delhi Transco Ltd.
15.	Shri Totak Acharya, Asstt. Director (Planning), AMDA
16.	Shri Amit Maan, XEN/ NCR-Planning HVPNL, Gurgaon
17.	Shri Bharat Tiwari, Manager, Delhi Transco
18.	Ms. Gurpreet Kaur, AMDA
19.	Shri A K Rajput, CE, CEA, R.K.Puram, New Delhi
20.	Shri Rajani Kant Gupta, DGM, NTPC
21.	Shri Mukesh Dadhich, BSES Yamuna Power Ltd., Delhi
22.	Shri Deepak Kamodia, UHBVN
23.	Ms. Bhanu Gehlot, Sr. Manager, BSES Rajdhani
24.	Shri Pawan Kumar Kalarwal, Director, Ministry of Power
25.	Shri Naresh Bhandari, MS, NRPC
26.	Shri Pankaj Prakash, AEE/ HVPNL
27.	Shri Sanjeev Mehta, AEE/ Planning UHBVN

S. No.	Name, Designation and Organisation
28.	Shri Anurag, FA/HQ, UHBVN
29.	Shri Lokesh Thakkur, GM, BSES, RPL
30.	Shri R Agarwal, NHPC
31.	Shri Abhinav Srivastava, GM, BSES Rajdhani Power Ltd.
32.	Ms. Neelanjali, Dy. Director
33.	Shri R.K Srivastava, GM, IPGCL & PPCL
34.	Shri Vijay Meena, Dy.Town Planner, NCR Cell, Jaipur, Rajasthan
35.	Shri Sudhir Kashyap, Associate Planner, TCPD, UP, Kanpur
36.	Ar. Lovvesy Sharma, MPD-2041, NIUA
37.	Shri Sanjay Sharma, GM, SECI
38.	Ms. Archana Sharma, Associate Planner, NCR Cell, UP
39.	Shri Gaurav Sharma, BSES Yamuna Asst VP
40.	Shri A.K. Goel, Asstt. Director, UD Deptt., GNCTD
41.	Ms. Ishita J. Kumar, DTP, Alwar (Raj.), NCR
42.	Shri S.K. Kassi, Director, Ministry of Power
43.	Shri Praween Rastogi, Meerut, UPPTCL
44.	Shri Alok Kumar, Sr. DGM, NRLDC, POSOCO
45.	Shri Kashik Mann, XEN, UHBVN, Karnal
46.	Shri Benjamin M J, NIUA
47.	Shri Uttam Thakur, CGO Complex
48.	Shri Shameen Ahmed, SDO, DHBVN
49.	Shri J.K. Pal, SE, UPPCL, Shamli
50.	Shri Rameshwar Singh, Project Officer, New and Renewable Energy Department, Haryana (& DC office Nuh)
51.	Shri M. Devaraj, MD, UPPCL, Lucknow
52.	Shri V.N. Singh, CE, UPCL, Lucknow
53.	Shri S P Sharma, Protocol Officer (alongwith MD, UPPCL)
54.	Shri Jacob Manohar, Town Planner, TCPO, MoHUA, Govt. of India
55.	ER.A.K.Jain, Executive Engineer, EDMC

S. No.	Name, Designation and Organisation
56.	Shri A M Bangari, MD, UPPCL, Meerut
57.	Shri R K Rana, CE, UPPCL, Ghaziabad
58.	Shri Roushan Kumar, Engineer, Power Grid
59.	Shri Yatin Sharma, Astt. Manager, CTU Plg., Power Grid
60.	Shri Subir Sen, Power Grid
61.	Shri Mrityunjay Narain, JS, M/o Power
62.	Shri Manish Kushwaha, EE, PVVNL
63.	Shri Abhay Balne, DG, BEE/ M/o Power
64.	Ms. Neetu Ahuja, Kotak Mahindra Bank
65.	Shri Anil Kumar Goyal, SE(OP), DHBVN, Gurgaon, DHBVN
66.	Shri Sahdesh Sharma, Member Planning, CEA
67.	Shri Aravind M. Banyari, MD, Meerut
68.	Ms. Saumya Pandey, Young Professional, Niti Aayog

Annexure-I

POWER AND ENERGY
Date: 05.12.2019
Venue: Gulmohar Hall, India Habitat Centre, Lodhi Road, New Delhi

S. No.	Topics	Speakers
Session I: Inaugural Session		
Chair: Shri Praveen Kumar, Special Secretary, Ministry of New and Renewable Energy		
1.	Welcome address	Shri Satish Prashar, Chief Regional Planner, NCR Planning Board
2.	Future of Distribution Strategies in NCR	Shri Mrityunjay Narain, Joint Secretary, Ministry of Power
3.	Power & Energy	Address by Chair- Shri Praveen Kumar, Special Secretary, Ministry of New and Renewable Energy
Tea Break		
Session II: Power Security of NCR: Transmission and Grid Management for 2041		
Chair: Shri. Sudhir Kumar Rahate, Additional Secretary, Ministry of Power		
4.	Planning for Power NCR 2041	Shri Dinesh Chandra, Member, Grid Operations, Central Electricity Authority of India (CEA)
5.		Shri Naresh Bhandari, Grid Operations, Central Electricity Authority of India (CEA)
6.	Perspectives by Central Transmission Utility	Dr. Subir Sen, Chief Operating Officer (COO), (CTU Planning) Power Grid Corporation of India
7.	Views of National Load Dispatch Authority	Shri K.V.S. Baba, CMD, Power Systems Corporation of India (POSOCO)
8.	Security of NCR: Transmission and Grid Management for 2041	Address by Chair- Shri Sudhir Kumar Rahate, Additional Secretary, Ministry of Power
Lunch		
Session III: Future Energy Scenarios		
Chair: Shri Abhay Bakre, Director General, Bureau of Energy Efficiency, Ministry of Power		
9.	Demand Side Management	Shri Abhay Bakre, Director General, Bureau of Energy Efficiency, Ministry of Power
10.	Perspectives by Private	Shri Mukesh Dadich, Head, Systems Planning, BSES

S. No.	Topics	Speakers
	Power Distribution Companies	Yamuna Power Limited (Y)
11.		Shri Gaurav Sharma, Head, Engineering, BSES Yamuna Power Limited (Y)
12.	Inducing Efficiency & Empowering Power Consumers	Shri Sushanta Chatterjee, Chief (Regulatory Affairs), Central Electricity Regulatory Commission
Session IV: Sub-Regional Power Scenario		
Chair: Shri M. Devraj, Managing Director, Uttar Pradesh Power Corporation Ltd. (UPPCL)		
13.	Views of State Power Departments	**Govt. of Delhi**: Shri Mukesh Sharma, Director (Operation), Delhi Transco
14.		**Govt. of Rajasthan**- Shri Suresh Chauhan, Jaipur DISCOM
15.		**Govt. of Uttar Pradesh**: Shri M. Devraj, Managing Director, Uttar Pradesh Power Corporation Ltd. (UPPCL)
16.		**Govt. of Haryana:** No speaker
17.	Closing Remarks on Sub-Regional Power Scenario	Shri Sandesh Sharma, Member Planning, Central Electricity Authority of India (CEA)
18.	Vote of Thanks	Shri Jagdish Parwani, Director (A&F), National Capital Region Planning Board

Workshop Title: Water and Drainage

Date: 09.12.19 (Monday)

Venue: Silver Oak Hall, IHC, New Delhi

Brief Minutes of the Stakeholders Workshop on 'Water and Drainage' held on 09.12.19 at India Habitat Centre, for preparation of RP-2041 for NCR

1) Workshop on "Water & Drainage" was held on 9th December, 2019 for Preparation of Regional Plan-2041-for NCR at Silver Oak hall, IHC, New Delhi The workshop was divided into various sessions to cover the major topics under Water and drainage. The list of participants is enclosed**.**
2) The major topics of discussion included Water & Drainage in NCR – Planning for 2041; Management and Maintenance of Natural Drainage Network in NCR; Yamuna River Waters and Quality Management; Universal Drinking Water Access ; Jal Jeevan Mission, Irrigation & Ground Water Development ; Status & Management of Ground Water in NCR and Community based Ground Water Recharge ; New Solutions for Ground Water Recharge amongst others.
3) The key contributors to the discussions included Shri A.B. Pandya: Secretary General, International Commission on Irrigation and Drainage (ICID); Shri Mohile, Ex-Chairman, Central Water Commission; Shri Husain, Ex-Chairman, Central Water Commission; Prof. Gosain, Ex-Prof. IIT (Delhi); Shri Niteshwar Kumar, Joint Secretary, Deptt. of Water Resources; Shri Nikhil Kumar, Chief Executive Officer, Delhi Jal Board; Shri Naresh Kumar, Chief Engineer, CWC; D.P. Mathuria, Member Secretary, Yamuna River Board, CWC; Shri Ashok Goyal, Chief Engineer, Yamuna Basin Organisation, CWC; Shri Muralidharan, Dy. Advisor, Jal Jeevan Mission; Shri K.C. Naik, Chairman, Central Ground Water Board; Dr. Sushil Gupta, Ex-Chairman, Central Ground Water Board; Shri Avinash Mishra, Advisor, Water Resources, NITI Ayog and representatives from NCR States. The list of Speakers is at **Annexure-I.**
4) Session wise proceedings/ record of decisions are as under:

4.1 **SESSION-I** pertained to Management and Maintenance of Natural Drainage Network in NCR and was chaired by Shri A.B. Pandya, Secretary General, International Commission on Irrigation and Drainage (ICID).

4.1.1 **Prof. Gosain, Ex-Prof. IIT (Delhi)** presented on Management of Drainage System in NCR – and advocated the need to bring the 'science' in the planning. In ant natural area, nature provides us relief to the area by creating natural drains. Each system has its own catchment e.g. . Yamuna has its own catchment. He suggested that the need of the hour is to delineate the area into catchment area. Reasons cited for worsening drainage situation in NCR included:

- Intervening with the natural system, leading to run off.
- Not maintaining the drains properly.
- Drains getting choked.

It was also suggested that:

- Rain fall needs to be analyzed.
- capability to stimulate the flow.
- vulnerability assessment has to be known.
- need to understand whether it is a natural drain or manmade drain.
- GIS framework is a good solution for drainage system in NCR. A GIS framework loaded with Storm Water Management Model can be used for:
  i. Analyzing the flooding situation in NCR corresponding to any rain
  ii. Effective design of various interventions

iii. Analyzing impacts of various interventions through simulation
iv. Mechanism for effective deployment of desilting process
v. Can become a segment of the Integrated Framework for Planning and Management of NCR having many other segments

- GCRF hub on water security and sustainable development states to "enhance water security through governance and management of water resources for NCT of Delhi (in an equitable and sustainable manner.) Four Outcomes were envisaged:
  i. Equitable and effective management of water resources by government (meeting needs of people and environment)
  ii. Extended/Improved network of water supply and sewerage in NCT of Delhi(pilot area)
  iii. Efficient use of water by the stakeholders.
  iv. Appropriate governance and regulatory frameworks that enables better integration of policies and plans for NCT of Delhi and NCR.
- Overloading is not a standalone issue and hence the initiatives should be towards tackling water security and sustainable development as one cannot talk of water with understanding its sources.
- Study regions for drainage are the Ganga and Yamuna River drains. NCT cannot be developed in isolation. The areas around Delhi need to be developed in an integral manner. Within NCT, Barapullah is the basin. Segregation of the sewage need to be looked into in a scientific manner.
- Alongside, the climate change issue needs to be addressed. Since we are talking of 2041 plan, almost middle of the century, all these climate change issues will be in much of advance stage. All implications and issues need to be taken into account.

4.1.2 Address by **Shri A.B. Pandya, Secretary General, International Commission on Irrigation and Drainage (ICID)** covered, vital issue of water management and role of water management in Regional Plan 2041. He indicated that:

- Drainage is also very closely related with the water management.
- Drainage network becomes the first causality of planning. With encroachments and slums on both the banks of Yamuna in Delhi, natural drain is blocked.
- The first and foremost requirement is finding the waterway requirement of drainage network.
- the storm level network are intertwined with the sewerage network (Najafgarh drain is actually a Nadi. In 1978 floods which took place in Delhi that time Najafgarh drain played very important role in Delhi areas)
- So we need to plan the drainage network and then do the land use planning.
- Merging the drainage with storm water network, creates the quality problems.
- Lot of pollutants get into these drains which creates large amount of slit in the drains and back flows.
- May be we need to even treat the storm water as in done in US to ensure the quality of storm water.
- With the higher intensity of rain fall, we could face higher intensity of food due to climate change and this also need to be looked at and put in the plan.

4.1.3 **As per Shri Husain, Ex-Chairman, Central Water Commission**

- Planning of drainage in NCR, it is basically a part of the overall water management
- Need planning of water resources management.
- In case of water, NCR is dependent on outside systems. NCR should plan sources within the region. Delhi is getting supply from Bakhra-Yamuna system. Renuka is the project from where dedicated supply is planned for Delhi. Allocation to the Delhi is based on Upper Yamuna agreement which is between six states. New sources of water need to be explored
- Inter basin transfer has been considered as one of the source to Delhi. Inter-linking of rivers- Sharda-Yamuna linkage from where Delhi could get certain amount of water. However, hardly any link project could be executed under ILR. The first was Ken Betwa, which is still in approval stage. Inter-linking of rivers Sharda-Yamuna linkage from where Delhi could get certain amount of water could be looked into. Sharda Yamuna link will be built to provide water to Delhi subject to condition that agriculture areas being irrigated by water they are taken over by some other project.
- Demand of the region is increasing; so need to have a proper planning for the water supply not only in the Delhi but for the entire NCR.
- Issues regarding the protection of land for ground water recharging need to be addressed.
- States need to first plan drainage network and then do the landuse planning.
- The subject needs to be approached in a very systematic and realistic manner.
- Need to do water planning and water management as well as design of drainage network provided all the details and data which as very important data about various aspects related to the water management and the drainage network, is in place

4.1.4 **Views of Shri Mohile, Ex-Chairman, Central Water Commission** on " **NCR 2041- Some thoughts on the Planning of Drainage**" included the following:

- What you plan should sustain for even 2060. It is not correct to follow 1970 model while planning for 2041.
- There is a need to rethink upon the 1970 model because:
  i. Much stronger economy means much larger losses.
  ii. Closing of Urban Rural gap. NCR "villages" will be rich urban habitats.
  iii. Climate change may, in particular, increase short period rain intensity and frequency. This affects urban drainage.
  iv. Transport of commuting population will be the backbone of services and industry. Disruptions due to lack of drainage will be costly.
- Till now, rural drainage is designed to drain for 3 days rainfall of 5 year frequency in 3 days. Hence, submergence for 2 days will be involved. With high value crops, this seems un-acceptable.
- Urban storm water drains are designed for a 5 year return. This needs to be reviewed for NCR. While land flooding for upto 3 hours may be acceptable once in 5 years in residential areas, it cannot be accepted in commercial or industrial areas. Much larger safety is required.

- In NCR, the separation of Storm Water Drainage and Sewage is not prescribed uniformly. It is stated that areas of low annual rain (less than 650mm) need not separate these. This appears both unhealthy and illogical. Even in low annual rain areas, short period high return period rains can be comparable to other areas.
- Adopt a firm policy of separating storm water and sewage systems, throughout the NCR.
- Except in large agricultural tracts, the primary, secondary and tertiary storm drainages need to be covered free flow pipes and barrels. Only trunk drains may be open.
- The relation between the NCR rain and local flood and the flood in Yamuna/Ganga/Hindon/Sahibi will have to be considered
- Standard and credibility should be of international standards.
- Climate change in particular increases short period rain intensity and frequency and its effects on urban drainage need to be taken care of
- The national standard for drainage, has a convention in the hydrologic and statistical methods. Some suggestions are to adopt a firm policy of separate storm water and sewerage systems throughout the NCR. Only traffic drains may be open. The primary scrutiny and testing storm drainage need to be covered.
- In the present practice, the design of the outfall where the manmade system discharges into a much larger natural system gets included. But even in the NCR, the relation between the local flood and flood in Yamuna need to be analysed.
- To accommodate the climate change areas, the return period rain values obtained from the past data may be slightly increased say by 10%. Revamping and remodelling existing drainage in built up area is a problematic and required more though.
- NCR may adopt better standards even before the national drainage standards are revised
- CWC has given advisory in 1974 but few States came forward for the suggested flood plan zoning. The local administration needs to plan permitted and prohibited activities in such areas.
- Adequate and reliable Data shall be required to plan the same
- No further encroachment should be allowed along and in the drains.
- Efforts be made to augment the existing drains
- MoHUA manual on urban drainage be referred and IMD approached for the data of respective subregions/districts.
- Need to plan and identify places which can be used under circumstances of flooding.

4.2 **SESSION-II** was on Yamuna River Waters and Quality Management and was chaired by **Shri Niteshwar Kumar, Joint Secretary, Deptt. of Water Resources**. In his presentation, Shri Nikhil Kumar, Chief Executive Officer, Delhi Jal Board stated and suggested the following;

- Delhi Jal Board produce 950 MGD of water per day and is also responsible for treating the water with various constraints and various limitations. Yamuna enters Delhi from Palla and its length within Delhi is 48 km. The Flood plain area is of around 97 sqkm. As many as18 drains fall in river Yamuna in Delhi. There are

instances of high level of ammonia pollution in the river water during winter season. During the monsoon season there is hardly any problem.

- **Sources of Pollution in the River Yamuna Upstream of Wazirabad Barrage are:**
  - When river flow is available at Wazirabad Barrage during winter season, there are instances of high level of ammonia pollution in the river water. On many occasions, maximum level of ammonia in the water crosses treatable limit & reaches to the level of upto 3.3 PPM. Source of pollution is waste water flow entering into River Yamuna in Haryana Territory through Diversion Drain-8/ Diversion Drain-6 and Diversion Drain-2. Further, a map showing the network of DD -8, DD-6 and DD-2 was shared.
  - Waste water/polluted water from Panipat Drain falling into Diversion Drain-2 enters in the River Yamuna at Khojkipur. This is the main source of pollution carrying untreated sewage of Panipat and its industrial area.
  - Diversion Drain-6 also carries industrial waste water/polluted water. Diversion Drain-6 and Diversion Drain-8 near Piau Manihari are running adjacent to each other and are separated by a low level embankment.
  - Diversion Drain-8 joins the River Yamuna just upstream of Palla.
  - Waste water/polluted water from Rohtak Drain (regulator) sometimes enters into Diversion Drain-8 near Garhi Birdroli Sonipat. Also whenever flow in Diversion Drain-6 overflows and enter into Diversion Drain-8, discharge of waste/polluted water in Diversion Drain-8 increases to large extent and reaches to the River Yamuna and upto Wazirabad Barrage.
- Waste water from Panipat in Yamuna is the main concern of pollution carrying entire sewerage of Panipat. Drain DD-6 also carries industrial waste.
- There are 9 major WTPs in Delhi and River Yamuna caters to 65% need of Delhi.
- DDA in in its land pooling policy has assessed additional population load of 75 lakhs. In such scenario, in order to meet water requirement for the citizens of Delhi, there is immediate need of coordination and cooperation amongst NCR States.
- On the demand side, Delhi is buffeted by one of the highest population density (presently, about 14000 persons per sqkm and is estimated to increase to 15500 persons per sqkm).
- NCRPB may play a crucial role for the integrated approach. Revival / rejuvenation of river Yamuna is required. Increased flow in the river Yamuna will reduce river water pollution.
- **Revival/Rejuvenation of River Yamuna in the Stretch Upstream of Wazirabad Barrage:**
  - Presently, 352 cusec (10 cumec) water is released from Hathnikund Barrage in the River Yamuna as e-flow. This is not sufficient and even dries up before reaching Wazirabad Barrage, particularly during summer season.
  - As described above, when river flow is available at Wazirabad Barrage during winter season, there are instances of high level of ammonia Pollution in the river water. On many occasions, maximum level of Ammonia in the water crosses treatable limit & reaches to the level of upto 3.3 PPM. Source of pollution is waste water flow entering into River Yamuna in Haryana Territory through Diversion Drain-8/ Diversion Drain-6 and Diversion Drain-2.

- Inadequate flow reaching Wazirabad Barrage through River Yamuna in summer season or pollution in the river water at Wazirabad Barrage in winter season impact potable water production in Delhi.
- There is need to have increased flow in the River Yamuna to maintain adequate e-flows in the stretch.
- Increased flow in the River Yamuna will reduce river water pollution and will help in adequate availability of water to Delhi at Wazirabad Barrage.
- The matter of e-flow in the River Yamuna has been dealt in detail by the Hon'ble NGT in OA No. 06 of 2012 pertaining to Clean and Rejuvenated Yamuna River.
- Order dated 11.06.2015 include the observation of the Principal Committee with respect to minimum e-flow required in the River Yamuna for its rejuvenation and suggested that lower limit (minimum e-flow) at Hathnikund Barrage may not be less than 2500 cusec. However, in terms of Hon'ble NGT Order of 2015, 10 cumec or 352 cusec is being released from Hathnikund Barrage.
- Till the time, the three upstream storages (Renukaji, Lakhwar & Kishau) are constructed on the River Yamuna and its tributaries, about 1500 cusec may be released from the Hathnikund Barrage in the River Yamuna.
- These releases in the River Yamuna will revive it to large extent between the stretch from Hathnikund Barrage to Wazirabad Barrage and will make available enough water for keeping Wazirabad pond full in terms of the Hon'ble Supreme Court Orders dated 29.02.1996 to meet present drinking water needs of Delhi.
- Additional water at Wazirabad Barrage will be released downstream which will improve the quality of river water between the stretch from Wazirabad Barrage to Okhla Barrage and increased availability of water at Okhla Barrage for its distribution.
- The neighbouring states of Uttar Pradesh & Haryana can utilize treated effluent from Delhi for their irrigation needs and in lieu can provide river raw water to Delhi for its drinking water needs.
- Delhi Jal Board has proposed to discharge treated effluent of high quality standards from its upcoming Coronation STP in the River Yamuna at Palla which can be lifted with river water at Wazirabad for use as raw water source for further treatment to augment its limited water resources. Delhi may even consider to provide the same to Haryana directly for its irrigation needs. Haryana can provide river raw water from its share to Delhi for its drinking water needs.
- Delhi Jal Board has also taken up matter with the state of Uttar Pradesh for providing river raw water from its share in lieu of treated effluent of adequate quality by Delhi for irrigation needs of Uttar Pradesh.
- NCR Planning Board can play a vital role in this integrated water resource management approach among the neighbouring states. Further, Delhi Jal Board requested NCRPB regarding the same.

- **Revival/Rejuvenation of River Yamuna in the Stretch between Wazirabad & Okhla Barrages (Delhi Segment):**
  - Delhi is making persistent efforts to improve the quality of river water in Delhi Segment.
  - During the last 4 years, the treatment of waste water has increased by about 140 MGD i.e. from 360 MGD to 500 MGD. This has resulted in the reduction of pollution in River Yamuna to the tune of 95 Metric Ton of BOD load per day. By

December, 2022 the BOD load in River Yamuna will be further reduced by 141 Metric Ton per day after completion of the new sewage treatment plants and further trapping of untreated sewage.

- There is a flow of about 105 MGD from Haryana through Badshahpur and Dharampuri Drains (90 MGD) & Diversion Drain-6 (15 MGD), which contribute flows to Delhi Segment. Out of this, about 80 MGD is un-treated. Haryana has to take suitable measures for it.
- Delhi is taking multifarious measures to improve the quality of river water in Delhi Segment. Focal areas include;
  i. Increasing the sewage treatment capacities
  ii. Increased collection and conveyance of sewage to existing and proposed sewage treatment plants.
  iii. Extending sewerage system including in un-planned development in Delhi which is more than 50%.
  iv. Motivating people to take sewer connections.

- NCRPB can play an important role in integrated water resource management amongst the NCR States.
- DJB is motivating people to take sewer connections, extending sewerage system in planned development in Delhi. GNCT has notified Delhi water based Septage Management Regulations 2018.
- The basic hindrance in new sewerage connection was Developmental charge. Now this has been removed. Now, a water connection or a sewer connection in Delhi can be availed by paying Rs. 2300 and it is a flat rate.
- Dual piping system has been made mandatory for any upcoming development plan in Delhi.
- Large developments which has more than 10,000 litres per day have to have their decentralized waste water treatment plant and have to be zero discharge.
- District Metering Areas (DMA) may be proposed in different parts of Delhi in order to reduce the non revenue water
- Way forward would be that
  - NCRPB plays vital role in creating arrangements for integrated water resource management among the neighbouring States
  - prioritizing drinking water needs among various use of water,
  - ensure e-flow in the river, quality monitoring of river water.
  - **High Powered Committee comprising of Principal Secretaries, Drinking Water, UD and Irrigation of the States may be constituted.**

4.2.1 Presenting his views on Water Resources availability in NCR region **Shri Naresh Kumar, Chief Engineer, CWC** proposed the following:

- NCR is falling in 3 basins and we have just one study in the Yamuna basin up to Okhla.
- Water resources assessment of earlier studies has been done by CWC in 2019 and should be referred to, as the study looked at topographic data, the rural and urban demand taken as 70 lpcd – 140 lpcd etc. and has considered 30 years data.
- One of the strategies identified for implementation under the Comprehensive Mission Document of National Water Mission is Reassessment of basin wise

water situation under present scenario by using latest techniques. It was estimated that for Domestic use, Rural Water Demand is 70 lpcd and for Urban Area it is 140 LPCD. For livestock, 30 litres/livestock/day was estimated. For Industrial areas the norms used are same as domestic use. For domestic use, the consumptive use (of demand) considered is 15%, for industrial use it is 50% and for livestock it is considered as 15 %.

- Sub basins of Yamuna and Upper Ganga falling in NCR region include Baghpat, Galeta, Uncalibrated A, Uncalibrated B, Aronta, Pratappur (including Okhla), Chhatang. The total area of all these sub basins is 165000.57 sq. km. The area falling within the NCR is 41979. The total Water Resources Availability (WRA) is 60.59 BCM. Water resources availability of NCR is 13.32 BCM.

4.2.2 **Shri Ashok Goyal, Chief Engineer, Yamuna Basin Organisation, CWC** presented presentation on "Issues to be considered for Master Plan 2041 from Water Quality point of view". He brought out that:

- Yamuna is facing water quality issues and high organic contents, high nutrients, excessive presence of pathogens, accumulation of pollutants in catchment areas, aesthetic value, and reduction in the quality of water.
- River Yamuna is just 22 km stretch river Yamuna indicates that Delhi less than 2% stretch but pollution load contribution is more than 70% of the total pollution load of the river.
- Important issues to addressed as way forward included:
  - Acceptability by MoEF for restoration and conservation of river.
  - NGT assigned responsibilities to DDA, Upper River Yamuna Board, MCD, DJB and UP & Haryana and all should work in tandem.
- Expert Committee constituted by the MoEF&CC in September, 2013 for Restoration and Conservation of River Yamuna, under directions of Hon'ble NGT. Extracts from the Report provide way forward towards planning from WQ point of view.
- Responsibilities assigned by Hon'ble NGT :
  i. Provide universal access to Sewer Quality.
  ii. To capture entire Sewage and convey it to STPs, treat and dispose it safely
  iii. To prevent dumping of garbage in the drains and river.
  iv. Desilting/Fencing of Drains
  v. Closing illegal industries, slaughtering and Dhobi Ghat in residential areas.
  vi. Desilting and Channelizing of drains preventing solid waste, idols and plastic waste from being thrown in the river or falling back into river.
  vii. To prevent discharge of untreated industrial effluent and sewage into water coming into Delhi.
  viii. Ensure all Industrial effluent is treated through CETPs before discharge.
  ix. Removal of squatters from the banks of the river and flood plain.
  x. Flood Plain rejuvenation.
  xi. Protect river bed from dumping of debris, MSW and Biomedical Waste.
  xii. To release adequate water for dilution.
- The major stakeholders are Delhi Jal Board, MCD, Upper River Yamuna Board, DDA, DSIIDC, UP and Haryana, Irrigation and Flood Control Department.

- Solid Waste:
  i. All solid waste dumps within the active floodplain should be removed forthwith.
  ii. Recycling units, farm houses, cattle farms and nurseries to be relocated.
  iii. Construction of new bunds, roads etc. within the active floodplains should be stopped and banned.
  iv. No filling of the floodplains / riverbed be allowed for ghats.
  v. The floodplain under built up areas be recovered.
  vi. All recreational facilities for ghats be created close to the embankments/roads, by diverting channel for this purpose.
  vii. Construction of new barrages and roads, railway and metro bridges, and embankments and bunds only in most exceptional cases.
  viii. Identify additional landfill sites catering to the next 25 years of requirement.
- River Zone:
  i. The 'O' zone as defined in MPD 2021, be designated as the river zone.
  ii. The River Zone so designated should be preserved and protected for the conservation and restoration of the river.
  iii. No development activity should be permitted within the river zone that encroaches upon the active floodplain, obstructs the flow or pollutes the river (solid waste or wastewater).
  iv. The existing constructions/facilities/ within the river zone allowed as an exception, be treated as a Special Zone - a regulatory regime to ensure that these areas do not impact water quality or flow of the river.
  v. Barbed wire fencing in highly vulnerable areas for preventing encroachments and waste dumping in future.
  vi. The polluter-pays principle should be enforced for defaulters.
- No to Riverfront:
  i. Yamuna Riverfront Development is untenable and should be stopped – as the area of the proposed YRFD is within the active floodplain.
  ii. The Riverfront Development Scheme should be replaced by a plan for restoration of the river and its floodplain as suggested below:
    a) Controlled dredging of riverbed, barrage, wetlands and floodplain water bodies.
    b) River training works (spurs etc.) to be relooked -extension and development be stopped, length of spurs should be restricted to allow a wider space for the river channel.
    c) Culverts be constructed under the existing guide bunds of roads and flyovers, for flood discharges, aquatic biota (e.g., fish) and enhanced the groundwater recharge.
    d) A mosaic of wetlands and floodplain vegetation having native biodiversity be developed, along the banks. Outfall from all the major drains (after treatment in STPs) to be routed through them.
    e) A greenbelt/greenway be developed on both sides of the embankment, for controlling erosion, reducing sediment, reduce pollution, and beautification. Nature trails.

f) Nature trails be provided across riparian areas for recreation to the public without losing the ecological functions of the floodplains.

g) Control of sewage pollution must be given highest priority: interceptor sewer, capacity augmentation of STPs, enhanced efficiency, extension to un-sewered areas, and the present sewerage systems be rehabilitated.

h) Adoption of new technologies to reduce BOD levels.

i) Ensure the provision of environmental flows. Treated sewage and storm water, if within acceptable quality norms, be counted for e-flows.

j) A comprehensive master plan for sewerage for complete city.

k) Agricultural activity on the floodplain be regulated to totally prohibit the use of agrochemicals (fertilisers and pesticides), & restricted to areas beyond 100 m.

l) Access to the river channel for social/cultural/religious functions and recreation be allowed provided it avoids construction of paved (pucca) paths and does not cause any kind of pollution.

- Institutional Arrangement:
  i. The river stretch in Delhi should be declared as a Conservation Zone under section 3 of the Environmental Protection Act 1986 (29 of 1986) and appropriate rules be framed for the human activities to be permitted or prohibited.
  ii. High Power Committee for integrated management and coordination among various planning, execution, funding and regulatory agencies.
- Recommendations and other issues:
  i. The Environmental Flows requirements, particularly for the lean season, may be re-assessed and be ensured.
  ii. Public awareness be prepared and implemented through a separate Society / Trust.
  iii. River policing by a dedicated unit should be enforced by the respective states.
  iv. Augmentation of lean season flows be looked into.
- The 3 dams proposed – Renuka dam, Lakhwar dam and Kishau dam and the proposed sharda yamuna link is very important for rejuvenation of water in Yamuna, and be pushed for implementation

4.2.3 **Shri Niteshwar Kumar, Joint Secretary, D/o Water Resources**, while giving his views on demand and supply aspect highlighted that:

- Demand and supply if looked from Administrator point of view shows that:
  - Either something has to be done on the demand side or supply side.
  - Some kind of technology initiatives need to be brought if you are planning of 2041.
  - **If we start harvesting water, ground water will automatically increase.**
- From user side
  - behavioural change need to be accounted for
  - the rural urban migration and illegal colonies need to be accounted for

4.3 **SESSION-III** covered the ' Universal Drinking Water Access', aspect and was chaired by **Shri Muralidharan, Dy. Advisor, Jal Jeevan Mission**. Mr. Kumar, DJB, Govt. of

Delhi, Jal Jeevan Mission, Irrigation & Ground Water Development by DJB while presenting his views, suggested and indicated that:

- Water is that commodity which is not generated and it can only be saved.
- There is need of the time that we save the water.
- DJB is committed to provide potable water at the doorstep of consumers and same should be the moto of all water agencies in NCR states
- Present requirement in Delhi is that of 1200 MGD and with supply 935 MGD, the shortfall is of 265 MGD.
    - Present population of Delhi is around 20 million and present coverage of water supply is 93%. Total unauthorized clusters 1725. Water lines have been laid in 1544 UAC. Water being supplied in 1412 UAC.
    - Action Plan: Requisition of Surface Water From Neighbouring States, Reducing Leakages, Water Audit Through Flow Meters, Use Of Treated Effluent and Recharge of Ground Water.
- As per JICA study for MPD 2021, creation of District Metering Areas for assessment and reduction of NRW is proposed and hence a Data Centre has also been established at Jhandewalan.
    - Reuse of water supply for the horticulture and agriculture purposes, Recreational purposes, industrial recycling, land scale irrigation should be promoted. Water reuse categories and typical applications may be as follows:
        i. Agricultural land - Crop Irrigation, Commercial Nurseries
        ii. Landscape Irrigation - Parks, Schoolyards, Freeway Median, Golf courses, Cemeteries, Green Belts, Residential
        iii. Industries recycling and reuse - Cooling Water, Boiler Feed, Process water, Heavy Construction
        iv. Ground Water Recharge - Groundwater Replenishment
        v. Recreational/ Environmental uses - Lakes and ponds, Marsh enhancement, stream water augmentation, fisheries, Snowmaking
        vi. Non-potable urban uses - Fire- Protection, Toilet Flushing
- Current utilisation of treated effluent is around 85 MGD. DJB expects to enhance the treated effluent capacity to 341 MGD.
- Its proposed recharging projects in Delhi include Project of roof top rain water schemes in Govt. buildings, government hospitals, universities, institutions and collages, shopping and malls, housing societies, individual housing. There is a plan for rejuvenation of 155 water bodies by DJB. New water bodies using treated effluent or raw sewage is also being developed in Delhi.
    - Proposed recharge projects in NCT Delhi:
        i. Project of Roof Top Rain Water Schemes in Government Buildings, Government Hospitals, Universities, Institutions and Colleges, Shopping Malls, Housing Societies, Individual housings etc.
        ii. Project of Rejuvenation of Existing Water Bodies & Creation of Artificial lakes.
        iii. Project of Aquifer Storage and Recovery (ASR) Wells.
        iv. Project of Flyovers and City Roads.
        v. Project of Sport Complexes (Play Ground and Golf Ground).

- Creating a new water body using treated effluent or raw sewage - New Water Body at Dwarka, Timarpur Oxidation Pond, Rohini WWTP, Nilothi WWTP, Pappankalan WWTP.
- The design prepared for Timarpur Oxidation Pond was shared. It included Primary Sewage treatment plant, Art Café, Elder Parks, Food Court, Football Ground, Literature Café, Kids Play area etc.

4.3.1 **Dr. Vivek Bhave, Govt. of Rajasthan** while presenting his views stated that :

- As far as ground water is concerned, surface water is not feasible in Rajasthan subregion. First assessment of State done as per the direction of Ground Water Estimation Committee in 1994, 235 blocks of Rajasthan were on safer zone and as on 2017, 39 blocks are safe and others are over exploited.
- 14 blocks of Alwar and 11 blocks of Bharatpur are the major areas where ground water withdrawal is going on. We have to consider ground water below surface does not follow the political boundaries it follows the natural boundaries.
- So far as ground water area is concerned, Rajasthan has to consider ground water below surface which does not follow the political boundaries
- Western Rajasthan percolation rate is just 15%. but in Alwar and Bharatpur, percolation rate is less than 10%. Hence, the rainwater hardly percolates to the ground in this region. During the rainy season there are floods. There should be site selection of percolation points.
- To manage ground water, there should be effective implementation of Rain Water Harvesting. There is a law in Rajasthan which states that buildings having more than 300 Sq M of roof top area have to construct Rain Water Harvesting structures.
- Agriculture is the preliminary source which consumes more water. Demand and supply side management need to be done in Agriculture sector to reduce water stress.
    - So far as drinking water supply is concerned Rajasthan is 100% dependent on ground water. Drinking water supply in Rural and Urban Areas of Bharatpur and Alwar is based on ground water resource. The percentage of water to be withdrawn and the maximum limit of withdrawal to be done, needs to be looked at.
    - Possibility of using urban storm water for recharging aquifers need to be looked at. However, proper measures should be taken such that the polluted storm water does not reach the aquifer, otherwise the existing water in the aquifer will get polluted as well.
- The practice of going for new bore wells is to be controlled and need to increase monitoring functions
- Budget issues are also demanding adequate attention
- GIS should be wisely used in our State as well as NCR through which one can identify ground waters flows towards and away from NCR.
- In 8 towns in Alwar District, population- wise 90 % of the village coverage for drinking water has been done and 53.652 mld is the daily requirement. This is totally dependent on Ground Water. Ground water is declining by 1.7 m per annum.

- In rural sector there are 14 blocks, and 100% drinking water requirement is met through ground water resources.
- PHED has projected and proposed 727 mld for the coming years and the water will be coming from Chambal River basin. This river is passing through Dholpur. Water is to be collected from Dholpur and supplied at Bharatpur and Alwar.
- There are no linkages of river in this area.

4.3.2 **Shri Harish Vardani, Govt. of Rajsthan** presented his views on Irrigation in Rajasthan.

- As far as Alwar and Bharatpur is concerned, the major part of Alwar comes under Sabi Ruparail and Banganga river basin. In Bharatpur region there is Banganga, Gambir and Ruparail basins. All the rivers in these two districts flow only in the monsoons and these are seasonal rivers and rest of the seasons there is no water.
- There are 129 dams in Alwar District, out of which 21 dams are under the jurisdiction of Water Resource Department having the capacity of 138 MCM . The rest of the dams are under the jurisdiction of Panchayati Raj Department having the capacity of 82 MCM. In last 10 years, WRD dams has received only 17.5 % of water of their full reservoir capacity.
- There are 197 dams in Bharatpur, having total capacity of 224 MCM. Out of which 41 dams are under the jurisdiction of Water Resource Department having the capacity of 153 MCM . The rest of the dams are under the jurisdiction of Panchayati Raj Department having the capacity of 71 MCM.
- Rajasthan has proposed Eastern Rajasthan canal project to divert the water available in the surplus basin to the deficit basin. It proposes transfer of water of Kalisind and Parbati sub basin of Chambal basin to the water deficit sub basins of Banganga, Ruparail, Gambir and Banas sub basin. This project is expected to meet the demand of drinking water for 13 districts of Rajasthan which includes Bharatpur and Alwar Districts also.
- The Eastern Rajasthan canal project will also rejuvenate the command area of 0.8 lakh hectare in this region and will also create 2 lakh hectare command area in the new region.
- This project will also fulfill the industrial demand which also includes Delhi Mumbai Industrial Corridor. It will also augment supply in 26 existing dams which will include Jaisamand Dam of Alwar District and Baretha Dam of Bharatpur District.
- The Govt. of Rajasthan has submitted DPR for 'Eastern Rajasthan canal project' to Central Water Commission which is under examination.
- Sprinkler and Dip irrigation has been made mandatory by Govt. of Rajasthan in all the future irrigation projects.

4.3.3 **Shri Bhanu Prakash, Govt. of Haryana** stated the following during his presentation:

- 2024 is the deadline set by Hon. PM to supply drinking water to every household at 55 lpcd. Haryana has made the deadline from 2024 to 2022. In this, survey of every household is being done by geo-tagging. It will reflect the location, photo, identity proof etc. The idea is to capture the data of actual consumers.
- Haryana in 1992 itself had covered all villages through piped water supply. Piped water supply is available in all villages and towns. The state is in 4th position in terms of providing water at the household level. However, by 2022 Haryana is expected to become the 1st State to supply water in all the households at 55 lpcd..

- Before Jal Jeevan Mission, consumers had to take connection into their houses from the transmission line through ferrule connection. But, under the Jal Jeevan Mission, Haryana Govt. will now provide GI pipe (0.5 inch) ferrule connection to every household.
- 53% of the households in villages are already registered under PHED. The target is to cover 70% of the households by June, 2020 under Jal Jeevan Mission. By 2021, 80% of the households and by 2022, 100% of households are to be covered.
- It is important that the houses at the tail end or at undulated surface, also receives the same quantity of water as are being received by others. It has been an issue and efforts are being made to overcome it.
- Though designing is done at 135 lpcd or 55lpcd, it is important to estimate how much of actual water is being received by the consumer. In Singapore designing is done at 80 lpcd. In India it is 135 lpcd. The water demand calculation need to be done accordingly. Demand for drinking water and demand for other uses need to be calculated separately.
- For efficient implementation of RWH, motivating the people is an important aspect. There is a necessity to motivate the people so that they are aware about the positive effects of Rain Water Harvesting technique. Rainwater Harvesting plan should not only be limited to roof tops but also it should include public open spaces. **Rain water harvesting, be implemented through incentives and not by rule**
- Wastage of drinking water should be minimized and recycling of water should be promoted. There are enough resources inside the region. Only deficit amount should come from outside the region.
- The recommendations of National Water Mission and National Climate mission which also states about designing of the water demand also needs to be taken into consideration. A separate chapter on **Water Resource Assessment** may be added in the plan.

4.3.4 **Shri Muralidharan, Dy. Advisor, Jal Jeevan Mission** while giving the Key Note Address informed that in Telengana most of the water is through surface water not ground water. There is no ground water planning in the sewage sector.

- In case of designing of the sewage sector 80% of 135 lpcd is considered for calculation purpose. However, there are number of wells from where water is drawn, used at the household level and then it adds to the sewer. Such things should be considered while planning too. Presently there is no information on the actual water being used in the urban areas or in the rural areas. Assessment of what is the actual water being used in the urban areas or in the rural areas needs to be made. He suggested that:
- While addressing the issue about the planning of ground water efforts required to save water in pipe leakages be also looked into. In every 2-3 years, leak detection systems need to be in place.
- Almost 85% water is for agriculture and hence Agriculture water reduction needs to be thought of
- Rain water harvesting ‘s actual problem is enforcement otherwise it will never show results
- In rural water supply, kits be provided to check the quality of water and similar process should be done in urabn areas as well to lend credibility.

- All small towns should have water recharge areas designated for its own good. The recharge activities need to be done scientifically. NRSC to share **Isotop based recharging, injection based recharging procedures.** This is to be shared with NCRPB so that it may be included as a part of the chapter.

- Mechanical meters be replaced with Digital meters
- Agencies like DJB in Delhi and similar ones for other states should have continuous IEC and related cost be covered while planning the system
- Kits may be provided to RWAs by the department to check water quality. This adds a lot of credibility to the trust factor.

4.4 **SESSION-IV** was related to: Status & Management of Ground Water in NCR and Community based Ground Water Recharge, and was chaired by Shri K.C. Naik, Chairman, Central Ground Water Board. Dr. Sushil Gupta, Ex-Chairman, Central Ground Water Board expressed his views on that Dynamic ground water resources in NCR. He indicated that asper the categorization of blocks in NCR, the total safe blocks were 60. Ground water management strategies are unit of measurement and management, efficient use of water, use of waste water and artificial recharge. He highlighted that:

- There was no commonality while planning for water resources by different Ministries / Departments. At least the Unit of measurement should be same and that should be watershed for all programmes.
  - Unit of measurement & management:
    i. No commonality while planning for water resources by different ministries/departments/users. For surface water resource, measurement/planning unit is Basin, Ground Water Resources measurement/planning unit is Block/Taluka, Waste Water Resources measurement/planning unit is City, Drinking Water measurement/planning unit is Village/Town/City, Industrial water measurement/planning unit is Industrial Area and Irrigation Water measurement/planning unit is District/Block/Taluka.
    ii. Unit of measurement and planning should be the same all over the country so that fixing and achieving of targets, provision of funds, execution and monitoring, is easily quantified and there is no duplicity of programs.
    iii. Unit of measurement as well as planning for water resources should be a watershed for all programs/activities that require water as one of the major component.
    iv. Various departments have already prepared Watershed Atlases of the country that can be adopted (https://www.indiawaterportal.org/data/watershed-atlas-india, http://cgwb.gov.in/watershed/)
  - Second step would be assessment of water requirement in each watershed as per present use and future projections, say , for 25 years. The sectors would be:
    a. Drinking & Domestic , Irrigation, Industry- including power plants etc
    b. Environmental flows
    c. Any other use
    d. Assess whether the watershed is water positive or deficit.
       - If the watershed is water deficit- how to overcome the deficit-It could be:
         a. Importing water from a nearby water surplus watershed (river linking on a small scale).

b. Making efficient use of water -both in irrigation and industrial sector- thus resulting in net saving of water.
c. Arresting water leakages in the piped water supply
d. Taking up artificial recharge to Ground water and rain water harvesting- based on proper plans prepared by state govt./CGWB
e. Treating waste water and using it for various purpose as per its level of treatment- Horticulture, building , industry etc etc.

- Next strategy would be efficient use of water.
  - If the watershed is water-surplus, how best to utilise that water:

a. One can still make the watershed more water efficient and save even more and recharge it so that the downstream watersheds are benefitted.
b. Have more area under crops- for increasing food requirement
c. Have more industries.
d. Assess the feasibility of transferring surplus water to nearby watersheds.

- Re-allocation of water source-wise and activity wise as per the management plan developed for each watershed.
- The planning of water for the Smart Cities mission, **Swachh Bharat Mission, Har Ghar me Nal** should also be done on Watershed basis rather than in isolation.
- Any Ministry/Organization/NGO/Individual will require to refer to the watershed water management plan to initiate any action plan
- Will avoid duplicity and also lead to a balanced approach with targeted goals in mind.
- Maybe taken up in a few stressed watersheds of the NCR/country as an experiment
- Artificial Recharge:

i. Recharge in areas Surrounding Ridges- CGWB -check dam at down slope of Aravalli ridge, in JNU
ii. Roof Top Rain Water Harvesting
iii. Rainwater Harvesting of Runoff from Flyovers
iv. Deepening/rejuvenation of village ponds and lakes
v. Groundwater Recharge Policies for rural and urban areas- should be uniform for NCR. Presently it is not. For NCT Delhi, Haryana and UP roof top area should be 100 Sq. m,, for Rajasthan it is 300 Sq. m.

  - Master Plan for Artificial Recharge to Ground Water in India 2013:

i. CGWB has prepared Master Plan for Artificial Recharge to Ground water in India.
ii. Proposed structures:-Check dam, Recharge Shaft, Recharge Shaft with Injection Well, Percolation Tank, Nala Bund, and Recharge Tube Well / Dug Well and Anicut.
iii. State Governments may use this plan for implementation in the NCR area.

- Then we need a strategy for use of waste water and ensure utilisation of entire waste water for various uses.
- PPP model be explored for urban local bodies with industries.

- Another strategy could be to have uniform policies for artificial recharge and ground recharge policies for rural and urban areas in NCR.
  - Community based recharge & conservation in Hiware Bazar – Case Study
    i. Developmental Transformation of Hiware Bazar village in Maharashtra
    ii. Success story of Watershed development and Water Management lead by its farmer Sarpanch- Popat Rao Pawar
    iii. Combined efforts of the Gram Sabha, local government and NGOs turned a drought-ridden village into a healthy and wealthy community.
    iv. Brought about suitable changes in the cropping patterns.
    v. One of the few cases where reverse migration was observed
    vi. a model worth emulating.
  - Bundelkhand Jal Saheli Manch, Chhatarpur, Bundelkhand: – Case Study
    i. Three years ago, Sirkoo, a 39 year old woman and a few other women came together to form an informal water committee or 'Paani Panchayat' to work on water issues which is what affected them the most.
    ii. Their agenda was simple – ensure water availability for all through the creation and conservation of water resources in their villages, so that water was available as a basic right.
    iii. They now meet, discuss and decide on how to tackle local water related problems, have a say in where a new handpump should be constructed, how to revive a dying 'talaab' or village pond and also where check dams are needed for better irrigation.
    iv. All this work is done through the village panchayat and at the block level .
    v. Outcome Today, nearly 500 Sahelis are distributed across 7 districts of Madhya Pradesh and Uttar Pradesh. And they do not stop just at meetings but ensure that their voice reaches the state level officials.
    vi. The 'panchayat' considers the village Water Security Plan (WSP) or the 'Jal Suraksha Karya Yojana' prepared by them before any major decisions on water.
    vii. Dressed in blue saris, they flaunt their 'water' purpose to change the world or in their own words 'Badlenge Zamana'.
  - Andhra Pradesh Farmer-Managed Groundwater Systems (APFMGS)- Case Study
    i. Project's objective - to equip groundwater farmer users with the necessary data, skills and knowledge to manage groundwater resources available to them in a sustainable manner, mainly through managing and monitoring their own demand.
    ii. The project did not profess to secure livelihoods, alleviate poverty, or increase incomes of project participants. The assumption was that access to scientific data and knowledge would enable farmers to make appropriate choices and decisions regarding the use of groundwater resources and agricultural practices
    iii. APFAMGS project's key premise was behavioural change leading to voluntary self regulation.
    iv. In seven drought prone districts of Andhra Pradesh, thousands of farmers residing in 638 habitations spread over several hundred kilometres had

voluntarily taken a number of steps to reduce groundwater pumping, for tiding over the problem of groundwater depletion.

v. The project reached out to over Nine hundred thousand of the population forming part of Anantapur, Chittoor, Kadapa Kurnool, Mahabubnagar, Nalgonda and Prakasam.

- Rejuvenation of Aravari River, Alwar District, Rajasthan
  i. River-Basin/watershed focused approach
  ii. Tarun Bharat Sangh (TBS) lead by Sri Rajendra Singh, the Waterman of India, winner of Ramon Magsaysay Award for the Community Leadership
  iii. Result- rejuvenation of seasonal rivulets as perennial rivers.
- Sum – up
  i. Decide on a common unit of measurement and planning- WATERSHED
  ii. Large scope of reviving water bodies, ponds, lakes by way of catchment treatment, de-siltation work and deepening for ground water recharge with a provision of recharge shafts.
  iii. Consolidation and expansion of program of, Repair, Renovation and Restoration of water bodies.
  iv. Farmers need to be educated and awareness created about ground water recharge, water use efficiency and more income per drop of water.
  v. Flood waters of the Yamuna and Ganga may be stored with construction of Barrage at suitable locations and used for managed aquifer recharge .
  vi. Induced recharge along the Yamuna
  vii. Areas surrounding the ridges may be treated to allow higher subsurface recharge -constructing trenches , gully plugs, gabion structures etc.
  viii. Recycle and reuse of water to be made mandatory .
  ix. Storm water drains to be separated from sewage drains and should be used for recharge to ground water.
  x. Water use should be made more efficient in all the sectors – agriculture, industrial as well as domestic. All the sectors need to carry out water auditing.
  xi. Urgent need to promote crops requiring less water
  xii. Micro-irrigation techniques to be adopted for enhancing water use efficiency
  xiii. To prepare a unified ground water policy in NCR and should restrict ground water exploitation in OE and Critical Areas.
  xiv. Constituent States should adopt the Model Bill, to regulate and Control the Development and Management of Ground Water in their respective Sub-regions.
  xv. Dialogue with corporate sector to associate with water projects in NCR.

- Sub-Region wise data on Annual Extractable Ground Water Resource, Annual Ground Water Extraction, Annual Allocation for Domestic Use upto 2025, Net Ground Water Availability for future use and Stage of Ground Water Extraction be referred for better understanding

4.4.1 **Shri Shalabh, DJB** presented his views on "**New solution for ground water recharge**". It included the following:

- There should be one unit of measurement for the water as discussed above.

- The boundaries of the watershed should be defined.
- Waste water resources should be thought off for recharging ground water.
- The experts should come forward and study area wise.
- Coordination among various departments should be there in this matter.

4.4.2 **Shri Avinash Mishra, Advisor, Water Resources, NITI Aayog** presented the status and management of ground water in NCR. He stated that :

- Water is supplied to about 18 million people in Delhi through a water supply network comprising 11,350 km of pipeline and 105 underground reservoirs for rationalized distribution of supply.
- Delhi uses an average of 835 MGD raw water daily from various sources.
- Sources for Raw Water for Delhi: Groundwater (83.5 MGD), Yamuna River (334 MGD), Ganga River (209 MGD), Bhakra Storage (208 MGD).
- The present Sewage Treatment Capacity of Delhi Jal Board is 512.4 MGD.
- Regarding Status of Ground Water in Delhi it was informed that Karol Bagh, Vasant Vihar, Patel Nagar, Kalkaji, Hauz Khas, Chanakyapuri, Connaught Place, etc. are the areas which are over exploited. The salinity affected districts include North-West, West, South-West. Flouride affected districts include East, North-West, South, South-West, West. Nitrate affected districts include Central, New Delhi, North, North-West, South, South-West, West.
- Interventions:
  i. Repair, Renovate and Restore traditional water bodies
  ii. Groundwater modelling and development of aquifer management plan
  iii. Construction of permeable pavements at least in new developments; replacement of the existing non-porous pavements as far as possible
  iv. Installation of rain-water harvesting structures according to hydrogeological conditions of the locality
  v. Aquifer Mapping of entire Delhi-NCR region on the scale of 1:50000 scale on GIS platform by depicting aquifer geometry in 2D/3D
  vi. Experimental studies for recharge of storm water run-off from roads and footpaths through installation of pre-fabricated structures between roads and footpaths
  vii. Enforcement of Groundwater Bill, 2017
  viii. Encouraging community involvement, strengthening of groundwater governance institutions and providing performance-based incentives across the NCR – Enforcement of Atal Bhujal Yojana
  ix. Encourage water saving technologies, treatment & reuse of wastewater, and changing of industrial processes
  x. In-situ treatment and use of waste water among housing complexes and supply through two-pipe system
  xi. Refurbish piped water supply network to reduce distribution losses in urban areas
- Best Practices:
  i. Maharashtra Groundwater Development and Management Rules 2018
     a. Mandatory registration of wells

b. Permission requirement for digging new wells which is contingent on building a groundwater recharge structure alongside
c. Provisions to regulate even prohibit (in some cases) extraction of groundwater through wells.

ii. Hiware Bazaar
a. Community-led watershed management to capture rainwater
b. Bans on digging deep bore-wells
c. Adoption of water budgeting approach
d. Ban on production of water-intensive crops

iii. Efficient utilization of technology – Andhra Pradesh
a. Geo-tagging of 15 lakh bore-wells for effective monitoring and management of groundwater resources through an online portal
b. Real-time information on groundwater levels in public domain
c. Use of Remote-Sensing and GIS technology to identify and prioritize regions facing fast decline in ground water resources

4.4.3 **Shri K.C. Naik, Chairman, Central Ground Water Board** while concluding stated that the ground water is a hidden resource and managing a hidden resource is very difficult.

- In NCR, hydro-geology of the area is complex thus making the management of ground water more difficult.
- The per capita availability of water is decreasing day by day. The reason being increase in population, Urbanization, Industrialization and Climate Change.
- Rainfall pattern is changing. All of sudden heavy rain is there. Much more precipitation is going as run off, creating flash floods. Recharge is less.
- A change in living style has increased the requirement of water.
- Not only management of ground water to be done, but also it needs to be a sustainable management.
- Jal Jeevan Mission has been discussed. Further, it was emphasized that maintaining the rate of supply at 55 lpcd would be difficult. Maintaining that rate is very difficult as water availability is to be ensured first.
- Water is available mainly in those areas which are over exploited. The other areas are either water –scarce or draught areas. Hence, sustainability of source of water is an issue.
- National Aquifer mapping program has been carried out by CGWB in which entire NCR area has been covered at 1.50,000 scale.
- Artificial recharge projects need to be done after proper study. Areas where water level is available till 5 m, generally artificial recharge process is not advisable.
- There should be connectivity between the shallow aquifer and the deeper aquifer.
- Participatory approach need to be promoted. For participatory ground water management, awareness activities should be done at village level/community level.
- The water levels fall immediately after monsoons, so need to ascertain ways to make the tube wells sustainable. For planning any artificial recharge projects, detailing is required.

- CGWB, Ministry of Jal Sakti has signed an MoU with MARVI (Managing Acquifer Recharge and Sustaining Groundwater Use through village level intervention) to work at the village level.

5) Conclusion

It could be concluded that the vast NCR would have huge water requirements by 2041 and the water source and availability needs to be assured. Simultaneously, NCR should attempt to become eater resilient, with strict monitoring of water use and reuse. Watershed management could play a key role in this. The water guzzling activities might need a relook as per the water availability. Further, drainage issues need to be looked at from regional and sub region level as developments in the natural drainage areas of the three water basins of NCR ultimately result in issues of flooding. Efforts need to be made to minimise runoff water so the ground water levels are enhanced. Water polluting activities and zones need to be strictly monitored and such activities should device methods to survive on allotted quotas, which would encourage reuse. The plan for 2041 need to carefully address all such aspects that were highlighted during Regional Plan 2021 review as well as the subsequent workshop and deliberations thereafter, considering views of maximum stakeholders as possible.

List of participants "Water & Drainage" held on 09.12.2019

S. No.	Name, Designation & Organisation
1.	Shri Manoj Kumar, Scientist, Sulabh International
2.	Dr. Naresh Kumar, Chief Engineer, Central Water Commission
3.	Dr. Prabhakar Shukla, Hub-Scientist, IIT Delhi
4.	Shri G.P.Sharma, Supt. Hydrogeologist, Ground Water Deptt., Rajasthan
5.	Shri Dharam Vir Singh, Executive Engineer, PHE Division No.3, Jhajjar (Haryana)
6.	Shri Akshay Chhabra, Sub-Divisional Officer, Irrigation Department, Gohana, Haryana
7.	Dr. V.N. Bhave, Superintending Hydrogeologist, GWD Udaipur, Rajasthan
8.	Shri Harish Vasdani, Superintending Engineer, WRD, Rajasthan, Jaipur
9.	Shri Mukesh Mittal, STP, Jaipur
10.	Shri S K Juneja, Scientist D, CGWB
11.	Shri Gaurav Jain, Admin Officer, AMDA
12.	Shri Bhanu Parkash Sharma, XEN, PH-2, Rohtak
13.	Dr. Deepak Khare, Professor, WRDM, IIT Roorkee
14.	Shri P. Selvadurai, Director, AMDA
15.	Shri A.K.Gupta, CE (Plg) Water, Delhi Jal Board
16.	Shri S M Jawad, AE (UP Jal Nigam), Hapur
17.	Shri Honey Jalali, SPA Delhi faculty, PhD Scholar
18.	Shri Gurmeet Singh, Executive Engineer, PHED-2, Jind
19.	Shri J K Bassin, Chief Scientist, CSIR-NEERI, Delhi
20.	Shri Lovlesh Sharma, NIUA
21.	Ms. Deepmala, EE (Plg.), Dr. DJB
22.	Shri Banat Singh, Executive Engr. WRD Bharatpur (Raj.)
23.	Shri S. Massod Hussain, Ex.Chairman, CWC
24.	Shri Ash Kumar, Nagar Palika Parisad, Hapur (UP), JE (JAL)
25.	Dr. Shiv Singh Rawat, Superintending Engineer, Haryana Irrigation Deptt., Gurugram
26.	Shri Dharmveer Yadav, Executive Engineer, PHED Circle Alwar
27.	Shri M C Ram, SE, DJB

S. No.	Name, Designation & Organisation
28.	Shri Deepak Kumar Sharma, Assistant Engineer, UIT, Bharatpur
29.	Ms. Ritu Pachai(..), MoHUA
30.	Shri P K Aggrawal, EE, CD, UPJN, Muzffar Nagar
31.	Shri Archana Sharma, Associate Planner, NCR Cell, UP, GZB
32.	Ms. Deepti Bhatnagar, Spatial Decisions
33.	Shri Pradeep Kumar (JE), UP, IP
34.	Shri Neeraj Aggarwal, DS (UD), Govt. of Delhi
35.	Shri Manoj Kumar, XEN, Irrigation Department, Haryana
36.	Shri Kapil Chaudhery, Spatial Decisions
37.	Shri R.S.Negi, Member (Dr.), DJB
38.	Shri Dipendra Raj Singh, Executive Engineer, PHED, Faridabad
39.	Shri A S Goel, Chief Engineer, CWC
40.	Shri S K Arora, Advisor, National Water Mission
41.	Prof A K Gosain, IIT Delhi
42.	Shri Ravi Sihag, Sr. Town Planner, Faridabad, Town & Country Planning Haryana
43.	Shri Ranjana Ray Chaudhary, Lecturer, TERI School of Advanced Studies
44.	Shri Om Prakash Yati, S.E., UP Irrigation Deptt.
45.	Shri Suresh K Bhandar, IAS, Spl Secretary (Urban Development), GNCT Delhi
46.	Shri Rajiv Tyagi, AE, MDA, MZN
47.	Shri S K Saini, O/o EE, M-II/S2 SDMC
48.	Shri Prem Singh Singhal, XEN, Public Health, Palwal
49.	Shri Padam Singh SDM, Bulandshahar, UP
50.	Shri Rameshwar Dayal AE, CD, UPJN, Muzaffar Nagar
51.	Shri Mukesh Kumar, SE FCIII, I&FCD
52.	Shri Pramod Kumar, J E C, N P P, Hapur
53.	Shri Rishi Dangi, DDPO, Ch.Dadri (Haryana)
54.	Shri K.C. Meena, SE, PHED NCR Alwar (Raj.)
55.	Shri Rajesh Kumar, Assistant Research Officer, YBO, CWC, New Delhi

S. No.	Name, Designation & Organisation
56.	Prof. Subir Paul
57.	Shri Shalabh Kumar, Member (Water), Delhi Jal Board
58.	Ms. Neelanjali, Dy. Director
59.	Shri Faisal Ibrahim, XEN, PHED, NUH, Haryana
60.	Shri Subhash APE, Urban Work Unit UP Jal Nigam, Muzaffarnagar
61.	Shri Sudhir Ransiwal, Executive Engineer, Public Health Engineering Deptt., Haryana
62.	Shri Aditya Sarin, Astt. Researh Officer, Central Water Commission
63.	Shri Zeeshan Brar, Research Scholar, SPA, Delhi
64.	Ms. Deep Shikha, Deputy Director, Central Water Commission, Delhi
65.	Shri R Muralidhara Naik, TCP, TCPO, New Delhi
66.	Shri Atul Anand Jha, Asst. Professor, University School of Arch., & Plan., IP University
67.	Shri Avinash Gupta, AE, UP Jal Nigam, Baghpat
68.	Shri Rupesh Chander, Executive Engineer, Public Health Engg., Division No.2, Bhiwani (Haryana)
69.	Shri Nikhil Kumar, CEO, DJB
70.	Shri Jaibir Singh Arya, IAS, ADC-Sonipat
71.	Shri Totak Acharya, Asstt. Director (Planning), AMDA
72.	Shri Yavar Abbas, DPRO, Hapur
73.	Shri Anek Singh, AE, Irrigation Lower Yamuna Canal Shamli, UP
74.	Shri Umesh Kr. Meena, EE, PHED, Bhiwadi (Rajasthan)
75.	Shri A D Monle, Former Chairman, CWC
76.	Ms. Vinita Yadav, SPA
77.	Shri Tauseef Hussain, Delhi Jal Board Jhandewalan
78.	Shri Vinod Kumar, Delhi Jal Board Jhandewalan
79.	Shri Harcharan Singh, Asstt. Director (Plg.), DDA
80.	Shri Sanjay Saxena, Chief Engineer, I & FC, Govt. of Delhi
81.	Shri Muralidharan, Dy. Advisor, Jal Jeevan Mission, Universal Drinking Water Access
82.	Shri Suresh Rohilla, Sr. Director, CSE
83.	Shri Ashwani Kumar, Asstt. Engineer (C), DDA

S. No.	Name, Designation & Organisation
84.	Shri G.S. Lal, Joint Director, Delhi
85.	Shri Ankit Bhardwaj, SDO, Irrigation, NWR Deptt, Faridabad
86.	Shri K.C. Naik, Chairman, CGWB
87.	Shri Avinash Mishra, Advisor, WR, Niti Aayog
88.	Shri Chamdu Sarkar
89.	Shri Darshan Singh

Annexure-I

WATER & DRAINAGE

Date: 09.12.2019
Venue: Silver Oak Hall, India Habitat Centre, New Delhi

S. No.	Topics	Speakers
Session I: Inaugural session		
1.	Welcome address	Shri Satish Prashar, Chief Regional Planner, National Capital Region Planning Board
Session II: Management and Maintenance of Natural Drainage Network in NCR		
Chair: Shri A.B. Pandya, Secretary General, International Commission on Irrigation and Drainage (ICID)		
2.	Management and Maintenance of Natural Drainage Network in NCR	Prof. Ashwini Kumar Gosain ,Ex professor -IIT Delhi
3.		Shri A.B. Pandya, Secretary General, International Commission on Irrigation and Drainage (ICID)
4.		Shri Musood Husain, Ex-Chairman, Central Water Commission
5.		Shri A D Mohile, Ex-Chairman, Central Water Commission
Session III: Yamuna River Waters and Quality Management		
Chair: Shri Niteshwar Kumar, Joint Secretary, Department of Water Resources. Ministry of Jal Shakti		
6.	Yamuna River Quality Management (Delhi's Perspective)	Shri Nikhil Kumar, Chief Executive Officer, Delhi Jal Board
7.	Water Resources availability in NCR region	Shri Naresh Kumar, Chief Engineer, Central Water Commission
8.	Issues to be considered for Master Plan 2041 from Water Quality point of view	Shri Ashok Goyal, Chief Engineer, Yamuna Basin Organisation, CWC
9.	Yamuna River Waters and Quality Management	Address by Chair- Shri Niteshwar Kumar, Joint Secretary, Department of Water Resources. Ministry of Jal Shakti

S. No.	Topics	Speakers
Lunch		
Session IV: Universal Drinking Water Access		
Chair: Shri Muralidharan, Dy. Advisor, Jal Jeevan Mission		
10.	Jal Jeevan Mission, Irrigation & Ground Water Development"	**Govt. of Delhi**: Mr. Kumar, Delhi Jal Board, Govt. of Delhi
11.		**Govt. of Haryana**: Shri Bhanu Prakash, Public Health Engg. Department, Haryana
12.		**Govt. of Rajasthan**: Dr. Vivek Bhave, Govt. of Rajasthan
13.	Irrigation water	**Govt. of Rajasthan**: Shri Harish Vardani
14.	Universal Drinking Water Access	Address by Chair- Shri Muralidharan, Dy. Advisor, Jal Jeevan Mission
Session V: Status & Management of Ground Water in NCR and Community based Ground Water Recharge		
15.	Status and Management of Ground Water in National Capital Region	Dr. Sushil Gupta, Ex-Chairman, Central Ground Water Board
16.	New solution for ground water recharge	Shri Shalabh, Delhi Jal Board
17.	Status and Management of Groundwater in Delhi – NCR	Shri Avinash Mishra, Advisor, Water Resources, NITI Ayog
18.	Status & Management of Ground Water in NCR and Community based Ground Water Recharge	Shri K.C. Naik, Chairman, Central Ground Water Board
19.	Closing Remarks	Shri A.B. Pandya, Secretary General, International Commission on Irrigation and Drainage (ICID
20.	Vote of Thanks	Shri Jagdish Parwani, Director (A&F), National capital Region Planning Board

Workshop Title: **Sanitation and Comprehensive Waste Management**

Date: **11.12.19 (Wednesday)**

Venue: **Scope Convention Centre, CGO Complex, New Delhi**

Brief Minutes of the Stakeholders Workshop on 'Sanitation & Comprehensive Waste Management'' held on 11.12.19 at Scope Convention Centre, for preparation of RP-2041 for NCR

1) Workshop on "Sanitation and Comprehensive waste Management" was held on 11th December, 2019 for Preparation of Regional Plan-2041-for NCR at Scope Convention Centre, New Delhi The workshop was divided into various sessions to cover the major topics under 'Sanitation and Comprehensive Waste Management'. The list of participants is enclosed.
2) The major topics of discussion included Sanitation and Comprehensive Waste Management; City Transformation, Indore Experiences ; Liquid and Solid Waste Management in Rural Areas ; Creating Financial Sustainable Liquid Waste Management Infrastructure; Rurban Solid and Liquid Resources Management – Challenges and Opportunities ; Solid Waste Management for NCR-2041; Presentation on Reduction, Reuse and Recycle of Waste & Decentralized Waste Management; Decentralised Liquid Waste Management and Perspectives by States on the subject.
3) The key contributors to the discussions and invitees included Shri Arun Baroka, Additional Secretary, M/o. Jal Shakti ; Shri Ajay Mathur, DG, TERI ; Shri V.K. Jindal, JS, Swatchh Bharat Mission, M/o. HUA; Shri Ashish Singh, Municipal Commission, Indore; Dr. Ritesh, NEERI, Nagpur; Shri B. Chugh, GM (Ash Management), NTPC; Shri Sandeep Dutt, Unit Head, Okhla Waste Management Company; Shri Kartik, Va Tech, Delawas STP, Jaipur; Shri C. Srinivasan, Vellore, Resource Management Expert; Ms. Almitra Patel, Solid Waste Management Expert and Member, Hon'ble Supreme Court Committee on SWM ; Dr. Ajay Pradhan, National Solid Waste Association of India ; Dr. Parameswaran Iyer, Secretary, M/o. Jal Shakti ; Ms. Thara, JS, AMRUT, M/o. HUA; Prof. Subir Paul, Ex Prof, SPA, IIT, Kharagpur; Mr. Saket Kumar, KPMG; Dr. J.K. Bassin, Ex-Head, NEERI, Delhi and representatives from NCR States. The list of Speakers is at **Annexure-I.**
4) Session wise proceedings/ record of decisions are as under:

4.1 **SESSION-I** was the Inaugural Session chaired by Shri Arun Baroka, Additional Secretary, M/o. Jal Shakti.

4.1.1 **Shri Ajay Mathur, DG, TERI** presentation focussed on a) what are the kind of things we learnt from previous plan and b) what are the things we can do. Major points highlighted by him included:

- Infrastructure created is still not sufficient. There is need to generate licensing requirement on the generation side as has been done in the power sector.
- The best way to make it sustainable is to create a mechanism to manage the collection of the waste. It may be done by monetising it. Example, a *Kabadiwala* who collects newspapers from consumers sell it in the recycling plants at a higher rate, hence creating a supply chain. In this process, jobs are created, making it a financially viable model.
- Difference between demand and supply is increasing. There is huge generation capacity and it would be advisable to look at paradigm change to manage effluent in NCR area.
- The wide range of technologies available need to be benefitted from and appropriately used as per the waste type, particularly the methods in the area of solid waste. ; Mechanism for collection of waste.
- Organic Waste includes 40% of the waste generated in NCR which is biodegradable and also capable of converting into composting manure. This manure is required for various horticulture projects and for gardening purpose. The key issue is availability of land where composting can be done. The second issue is who will manage this. Hence, there is a need for an institutional structure to manage it so that the manure can be sold to various consumers.
- NCRPB may recommend that all the manures generated can be used for gardening in all the public parks in Delhi. This will help creating a supply chain and jobs. Appropriate certification mechanism shall however be put in place before recommending its usage

- Second large waste is stones and other construction and demolition waste (40% of total waste), which will increase as the urban rejuvenation increases and this waste should not go to the land fill sites. This construction and demolition waste could be put to this use as construction material. As per Indian Road Congress the C&D waste needs to be processed and tested to be used as road construction material and for this we could think of a large stage plant and small plants for which Technologies are available. So having separate collection of C&D waste and biodegradable waste makes sense
- If the both Organic Waste and C&D waste does not go to the landfill site, which is 80% of the total waste, requirement of landfill gets decreased accordingly.
- Liquid Waste: There is no necessity of drawing long sewage lines to the large sewage treatment facilities, rather small sewage plants at local level may be emphasized upon. There are technologies that are available to develop small sewage plants. The grey water may be used for irrigation, flushes etc. The building by laws may be developed such that, in the new building a separate network for grey water is developed. Hence, the residue left is manure. A certification of the manure that is produced may be recommended both in decentralized sewage plant and also in case of manure produced from Organic Waste. This would ensure the quality of manure that is being produced.
- Cities like Bangalore have started using grey water in flushes and same system could be adopted in new buildings. Efforts could be made to minimize laying of long sewer lines by emphasizing treatment at local level itself , followed by reuse also at the local evel
- NCRPB could think in terms of recommendation and certification of manure that is produced both in the decentralized stage system plan as well as compost waste that is produced from the kitchen.
- In short, it was suggested that while on one side the efficiency of water usage is enhanced, what comes out of the pipes as waste can also be converted into material. It is to be understood that waste are just material of value in some other sector
- Wastes are „Material of Value" in some other sector. It is necessary to capture that value. In RP, space may be allocated for Compost Plants in various locations and also space for decentralized sewage treatment plants.
- Efficiency of usage of resource should be enhanced. Monetizing and up cycling of the solid waste and liquid waste by converting it into materials that consumers willing be willing to pay for.

4.1.2 **Shri Arun Baroka, Additional Secretary, M/o. Jal Shakti** also placed important points and concepts as mentioned below:

- There is a requirement of paradigm shift and new technologies as technologies are changing and we need to be flexible. A mechanism may be developed such that technologies that evolves are vetted. In NCR issues are related to decentralized facilities in terms of waste and grey water;
- Emphasis should be on developing a decentralized system. Then a semi decentralized system may be developed followed by the large system. It should be there in a gated community. However, the burden should not be on the community totally, efforts should be made to incentivise people for such efforts.
- Regarding NCR specific requirements and the aspect of decentralized waste, grey water etc. it was suggested that some sort of algorithm be prepared which can indicate cases where a decentralized system is required or not.
- Other issue is how to address the land requirement issue. Here there needs to be flexibility regarding land use change in short time.
- Land availability is a big issue. Governance aspects should be taken into consideration. Land use plan needs to be prepared accordingly. For example, toxic waste facilities need to be

developed in Delhi. The neighbouring states may be requested to provide land to develop such facilities.

- Plan should be flexible enough. In this case, the 20 year plan would be reviewed after every 5 years.
- In Govt. of India many programmes are ongoing simultaneously. Hence, coordination between different sectorial programs need to be taken into consideration while preparing the plan.
- Another issue is the huge quantum or numbers or the data. The problems is being faced currently in efforts on Plastic Waste Management. Estimates indicate that Plastic waste per day is around 25-26 thousand tonnes per day. It was based on the study on 60 cities of CPCB but we are not sure about kind of waste generated in rural areas and urban areas. This issue also needs to be addressed by municipal corporations
- Accurate data on amount of Green waste, C&D waste and specially even plastic waste can help plan in a more efficient manner
- Grey water can easily be managed at the source level as is being done in the new Moti Bagh. The local authorities need to play a vital role in this regard. Grey water should be used not only for flushing but also for agriculture/ horticulture use.
- Compost cannot be absorbed in parks only. And other aspects are also to be looked into.
- Under Hon'ble Prime Minister's mission to make the country Open Defecation Free (ODF), Urban areas are expected to be declared ODF by 2020. About 70-75 departments have the provision of solid waste management even in their own budget. Significant capital of Rs.18-19,000 crores has been allocated amongst departments for the purpose. It became a Jan Andolan. In rural areas task became easy as we have homogenous community with people acquainted to each other and toilet usage is 90%. Behaviour change is very important. The programs of Centre are to be run in States on a mission mode to see changes. Same should be the approach for NCR Plan to be implemented by NCR States.
- Policies indicating need for Govt. coming forward to take care of surplus (Compost, C&D Waste etc.) may be require to encourage others and public in general to follow. Partnerships may be done by the Govt. so that the surplus amount may be taken care off.
- A mechanism may be devised for handling and managing surplus waste at district/sub-regional /regional level.
- The aspect of Extended Producer Responsibility (EPR) could also be referred in the Plan and suggestions like EPR cess going into escrow account of ULBs to cater to budgetary requirements for waste management and sanitation could be thought of. EPR needs to be formalized.

4.2 **SESSION-II** was chaired by Shri V.K. Jindal, Joint Secretary, Swachh Bharat Mission, M/o. HUA.

4.2.1 **Ms. Manisha Saxena, Secretary, Urban Development, GNCT Delhi** while sharing her views regarding Delhi is managing its waste brought out the following key points:

- Delhi's daily waste generation is about 10,500 MT from population of more than 2 crores. Delhi has 280 wards including 8 wards of NDMC.
- Another challenge for Delhi is multiplicity of agencies. However, Delhi is already making strategies for different kind of waste under NGT directions.
- Delhi has Bhalswa, Okhla and Gazipur landfills. Delhi also has a C&D waste plan. Bio mining of these waste mountains has been started in Delhi and it has emerged that almost 50% of it is inert or C&D Waste.
- Delhi has construction and demolition plants also. Production of these C&D plants to be off taken by the construction agencies. It has been made mandatory for all the Delhi. Govt. construction agencies to use the products of C&D plants. The building of Hon. Supreme Court has been made out of C&D Waste itself. However, for private agencies and contracts, it

is difficult to execute because the GST on C&D Waste management Plan is 18%. It has been requested to GOI to reduce the GST so that it becomes easier for people to buy it.

- Regarding solid waste, while almost 100% is collected at household level, the segregation is a matter of concern. Almost 55% of this waste is treated. There are 3 Waste to Energy Plants which are under construction/under expansion. Once this is in place by next year, it is expected that all of the waste will be treated.
- The entire system of interceptor sewage in Delhi, which tracks the flow of sewage into the drains and treats it, will take care of almost 800 MLD (approx.) of sewage per day.Sewerage is flowing in the Najafgarh drain from the other States and all of this water is flowing into Yamuna. Hence separate Strategies need to be evolved at NCR level. NCRPB may take it up at the inter state level and accordingly a strategy may be made to make sure that the water that is eventually flowing into the Yamuna, is with requisite BOD so that the flow can be sustained and the pollution can be reduced.
- To tackle waste effectively unfortunately Delhi has no more land to spare. Further, the land has many owners. NCRPB can tell us where we can install waste treatment plants etc. in NCR. Further, There is need to have separate strategies for Industrial areas, gated complexes, regular colonies, unauthorized colonies, anaz mandis, dairy colonies. Presently the department is working on it to create few pockets of excellence so that other areas may take up and implement it accordingly.
- Another very important factor NIMBY (not in my backyard) Syndrome.
- However, Delhi plans to be much cleaner and greener in the coming years.

4.2.2 **Shri Sanjeev Goel, Principal Scientist, NEERI** while conveying his thoughts on Liquid And Solid Waste Management In Rural Areas, discussed the following important points:

- Planning should always consider the population density of the areas in focus. Population density of NCT Delhi is 12,500 per sq. km. Density of NCR grossly comes down (about 452 from 788 persons/sqkm) if Delhi is excluded and this density requires different planning
- Need to understand the resource requirements vis-à-vis waste management in terms of waste water, solid waste and so on for each district
- Plans should be in place at each district, and cover all sectors including sanitation and waste management of the district
- In 2019, 72% of India faces high to extremely high water stress. Further the share of water consumer was shared. 1.3% is used in Industries, 0.3% in energy, 6.6% in Domestic, 6.5 % in other uses and 85.3% for Irrigation purpose.
- Irrigation being the major user (85%), agriculture practices of different kind of crops at different kind of fertility level need to be reassessed in terms of water availability, and accordingly the needs to the districts could be managed.
- Waste water of STP in Urban / Rural can be Channelized and treated and further can be reused through suitable Natural Systems like Phytorid.
- Treated Wastewater Resource should be used for Irrigation purpose. Preparation of Irrigation Management Plan to be done for the region/ District by Agricultural Scientist/ Agricultural Dept. which shall ensure norms of treated water, suitability for irrigation. There should be continuous monitoring of treated water quality, soil quality and produce quality. The ground water quality also needs to be monitored.
- Accordingly emphasis will automatically be given to utilization of waste water at district level
- **Draining the water in any form should be the last option and not the first choice**
- Effluent treatment plants be planned as per the region requirements as effluent type may also vary as per the activities of the area
- However, before using waste water for irrigation directly, certain guidelines to be followed need to be ensured and action ensured

- Technology can be applied based on the region specific requirements.
- A provision of review of data and related polices should be kept to ensure upgradations from time to time
- Solid waste management in rural areas

  i. Solid Waste Management may be defined as the discipline associated with the control of generation, collection, storage, transfer and transport, processing and disposal of solid wastes. It is comparatively much easier to maintain solid wastes in rural areas than in urban areas. Number of waste prevention technique available known as 4R"s technique. REDUSE, RECYCLE, REUSE and RECOVER.

  ii. In rural areas most of the household contains organic wastes, with little quantity of inorganic wastes and it is completely free from toxic wastes

- Solid waste treatment options in rural area: The organic waste in the form of Vegetable Scrap may be used for compost, the food scrap may be used as fodder for animals. The dry waste can be Paper, Metal or Plastic. It may be sold for recycling purpose. The rejects may be handled by the Municipality.
- Treatment of solid waste in rural area (organic waste)

  i. Due to organic nature of wastes, composting is the most suitable, sustainable and environment friendly method of recycling and reuse of solid wastes in rural areas.

  ii. Options of composting of wastes may include NADEP Method, Bangalore method, Indore method, Vermi Composting, Biogas Technology, Rotary drum composting-

- It needs to be understood at District level for regional planning sustainability that 'Nothing is waste', the only point is we are still to identify ways to utilize it.
- Environment is the basis of our life, therefore there is a need to preserve it, protect it , serve it through technological interventions for a better present as well as for future. Hence, there is need for an Integrated Environmental Carrying Capacity based District Level/Regional Planning for Sustainability. And all should follow 8Rs-Rethink your choices, Reduce consumption, Refuse single use, Reuse everything, Refurbish old stuff, Repair before you replace, Repurpose be creative and reinvent and last option is Recycle.

4.2.3 **Shri R.K. Khandekar, NTPC** discussed about thermal power plant operations and ensuing waste management. He shared that ash generation from 23 coal based plants is enormous and accordingly, NTPC had taken multiple actions. Ash Produced : 61.03 million ton (MT), Ash Utilized : 38.88 MT (63.71%)

- Directives have been issued by Government or the power plants in this regard. Gazette notification in 1999 and amendment 2003, 2009 and 2016 on Ash Utilization:

  a. Every construction Agency - Compulsory use of fly ash brick/ blocks/ tiles within 300 km

  b. TPS: Issue of at least 20% dry fly ash at nominal charge i.e. @ Rs. 1 per tonne to brick/ blocks/ tile manufacturers

  The cost of transportation of ash:

  a. Up to radius of 100 km shall be borne by TPP

  b. Beyond 100 km and up to 300 km shall be shared equally between the user and TPP

c. In case of Govt. Asset Program, entire cost of transportation up to 300 km shall be borne by TPP

- Major Initiatives being taken by NTPC:
    - Issue to Cement/ RMC Industries
    - Ash Utilization in Brick / Block / Tile manufacturing
    - Issue of Pond Ash for NHAI Road Projects
    - Development of Ash Park(s) near demand Centres (Varanasi, Rewa, Bhubanshwar, Raipur, Pune)
    - Bulk transportation of fly ash through Rail including BTAP rakes
    - Ash back filling/ stowing for Mine reclamation and land development
- Key aspects and suggestions highlighted, include:
    - Target already set to achieve 100% ash utilisation by 2021. Major areas of ash utilisation are brick construction, land fill, agriculture and building product manufacture units, filling of low lying areas, and bulk transportation in the mining sector.
    - Vast low lying areas are being developed by filling the ash.
    - Necessary infrastructure is being set up at the power plant so that ash can be given as per their requirements. Incentives are also planned for encouraging ash usage.
- NTPC has tied up for bulk quantity can be transfers . As per the directive of MoEF&CC, GoI, flyash can be converted and used in agriculture. For this purpose, and to make it available to the users, Fly Ash Parks set up at Varanasi and are planning to set up at Pune. Same can be planned for NCR with cooperation of the States
- NTPC is also in close coordination with NHAI for ash usage in road construction. More than 50 lakh tons has already been provided.
- In the NCR ash has been used at Greater Noida Expressway & Eastern Peripheral Expressway road for which more than 40 lakh tons ash has been supplied.
- Ash is no more a waste now. We have 3 power plant in NCR at Dadri, Badarpur and Jhajjar. Badarpur has been closed and converted into eco-park area. At Dadri, we are generating ash and also ash is being uitlised by NHAI.

4.2.4 **Shri Abhey Yadav, Va Tech Wabag**, presented a Chennai Case study related to sewage treatment renewable energy recycle of treated sewage under a profitable model. It was indicated that such STPs have two fold benefits and about 50-60% of cost of operations is reduced with green returns. The raw sewage from cities passes through various screens through treatment and the energy is produced to make the plants self-sustained and eco-friendly. Traditional sources of power only used in case of fluctuations. Primarily, these STPs are running on self-generated power. Similar steps van be taken in a more exhaustive manner in NCR.

4.2.5 **Representative from Ramky** discussed about advantages of portable composters and Waste to energy generation process which can finally be passed on to the grid. In addition, the agreements with the municipal corporation as that for Delhi to collect waste from door to door and segregate it, were also discussed. It was informed that North Delhi Municipal Corporation has the unique distinction of having set up India‟s largest Waste to energy plant of 24 MW at Bawana with 4.8 lakh tons of combustion capacity and recovering 135 to 140 Million Units of energy annually to be delivered to Delhi Grid in the form of green energy

4.2.6 **Shri C. Srinivasan, from Vellore, a Resource Management Expert** made a presentation on ‘Garbage to Gold’ which involved an integrated and sustainable Solid & Liquid Waste Management initiative. He indicated that after initial hitches garbage is not the problem but income can be generated out of it since 2010. He explained that:

- Decentralized way of handling Garbage, where it is generated: 30% of the Garbage, which is generated in the campus, can be handled in the campus itself, where there is enough space, local existing sanitary & Garden workers, their own local funds for capital & recurring expenses, local management & monitoring team etc., (Only 10% of Non-Recyclables will be hand over to ULBs / RLBs).
- Resource management and waste management are different aspects. Resource management is two times waste collection. Huge land is not required for waste management if the resources are managed in time No garbage dumping site is required if garbage as resource is managed within 24 hours. He shared that under his project specially designed buckets of 15 litre capacity for organic and 20 litre for non-organic, were provided to households and each garbage generator point and people trained for 15 days about the difference. Workers go as a team. First one month is very important. Color coding of red and green given. Penalties for not following the rile of Rs. 500/- for commercial areas and Rs. 100/- for residential areas are enforced. After collecting garbage in segregated form, the rickshaw. cart vehicle goes to the centre for processing .
- The thought that garbage is money, needs to be understood and inculcated. The worker's mentality completely changes there. Organic wastes are sent to the Goshalla. After segregation citrus fruit waste used for making washing powder. All the flowers waste are dried openly converted into rangoli powder. All the tender coconuts go to the Plant nurseries. All the unorganic items of the plastic covers are segregated after washing and used appropriately.
- Decentralized way of collecting garbage is adopted and then handling of those specific itemsis done at municipal corporation sites. SLRM (Solid Liquid Resource Management) concept has 10 facilities at Vellore. End result is job opportunities, environmental protection, and economic growth. Similar initiatives should be taken up in NCR towns and cities.

4.2.7 **Ms. Almitra Patel, the Solid Waste Management Expert** also shared her views during the workshop. Her key points included the needs to :

- Plan for Collection of wastes strictly Unmixed:

a. Doorstep collection must be Regular, Punctual and Dependable! Plan spaces to park collection vehicles and for dry waste sorting and aggregation sheds.

b. Collect Wet (food) wastes daily and Dry wastes (plastics etc) on only one day a week.

c. Do not let any Dry wastes reach disposal points. Send them only to sorting centers or recyclers.

d. Plan and earmark Civic Amenity spaces for Decentralized Composting.

e. Incentivize home composting, on-site bulk waste composting, or bio methanation located to use biogas rather than produce power (only 24% efficient).

f. Four states in Philippines – achieved zero waste.

- Transport wastes Unmixed:

a. PLAN spaces and destinations for Dry waste sorting and aggregation for sending to recyclers.

b. PLAN secondary transport vehicle movement routes and parking areas.

c. AVOID COMPACTORS - They make Wet Waste airless and Dry Waste unsortable.

d. PLAN use of vacant spaces to prevent black spots. Ensure high fencing of all Vacant Sites through high taxes for unfenced plots or legalize their temporary community use as unbuilt playgrounds, even for litigated sites.

- Keep C & D wastes Unmixed:

a. Strictly enforce the keeping of C & D waste separately and also more and more consumption of C&D waste in all projects. It should be commercialised. **Need land to plan for C&D wastes**.

b. Strictly enforce Construction & Demolition Waste Management Rules 2016.

c. All bulk waste generators must keep wastes unmixed on-site and send only concrete waste (columns, beams, slabs, blocks, plaster, ready-mix concrete cleanout) for production of aggregate and M-sand at planned recycle yards.

d. Ensure minimum use of such recycled products.

e. Plan spaces for deposit and onward pickup of small quantities of C&D from minor repairs.

f. All contracts for demolitions of infrastructure, encroachments or house collapses must have specified destinations with verifiable delivery.

g. Indiscriminate debris dumping in low-lying areas promotes flooding. Regulate this practice.

h. Master plan and building byelaws should require planned provision of Retention Basins (with a little water) or Detention Basins (dry depressions) to act as surge tanks for abnormal rainfall and prevent flooding in a rapidly changing climate.

- Arrange for investments in the sector. The simplest way suggested was that if dry waste is collected seven day a week, the segregation percentage improves dramatically.
- Understand that decentralized composting is a civic amenity
- Manage Garden and Orphan wastes:

  a. Compost all fallen leaves, garden and park waste in a specified percentage of existing park areas.

  b. Pass byelaws to legitimize this so as to prevent NIMBY objections by a few selfish residents.

  c. Water hyacinth etc. in surface waters are a constant and voluminous Orphan Waste, an unregulated burden on ULBs to clear them.

  d. Allow max 2.2% Phosphorus in all detergents sold in NCR, as done in US, Canada, EU since 1973. Phosphorus actively promotes aquatic growth.
- Understand that putting biogas unit in the dump site involves planning for transporting to such spaces and need for spaces at destination for drying waste.
- Focus on enforcements of laws
- Save the soils at Yamuna embankment.
- Ensure more and more consumption of C&D in all projects, by setting examples in government sector itself before enforcing commercially.
- land to plan for C&D, for dry waste collection centre, (C&D waste collection centre)
- try and get experienced firms doing it. One should let experienced people come to the GEM territory.
- Ensure that Garden waste and fallen leaves can also generate fuel for fire and accordingly necessary legislations be passed. (10-15% park area will be for garden waste. Bylaws are necessary to prevent objections)
- Understand that the main problem with our waste water treatment in India is BOD and COD. We also need legislation that acts as deterrent in NCR and allow maximum 2.2% phosphorus. US, Canada and EU are following it since 1973. We reach ODFs. What we not addressing is we promote microbe-killers. So we have to put high talks on these microbe-killers. We need herbal cleansers.

- Manage the wider drains/ Nalas with drain flow in the middle portion and use the banks for gardening.
- Insist on more use of thin fill plastic in multi-layer packaging. It is not being done. No new hotmix plant be sold without plastic shredder.
- Use Multi Layer Packaging (MLP) in all asphalt roads for win-win disposal:

  a. Plastic Roads‟ last 2-3 times longer than bitumen roads without use of plastic.

  b. Finely-shredded (2-6mm) thin-film plastics are sprinkled onto stone aggregate on conveyor belt in Hot-Mix Plants. They soften and give stones a baked-on polymer coat for better binding with bitumen (tar). Plastic is safely trapped below tar forever.

  c. 1 km tar road (cost ~ Rs 40 lakhs) consumes 1 ton shredded plastic (=Rs 25,000/t) and saves hugely in road maintenance costs to contractors.

  d. Use EPR by packaging producers to fund collection, shredders and their operations at all Hot-Mix Plants
- Steady dependable funding for good waste management is key:

  a. Ensure that ULBs get population-based pro-rata funds from State/UT, Promptly and Regularly from Central devolution of funds.

  b. EPR funding (Extended Producer Responsibility) is hugely absent even after 3 years. Use big data available with GST Commissioners to add a packaging-quantity-based cess to GST on packaged goods and pass this on to an SWM escrow account of the ULB or District or State

4.2.8 **Dr. Ajay Pradhan, from National Solid Waste Association of India** suggested that the aspect of sanitation and sold waste should not be looked at in isolation. A plant for 10,000MLD capacity would also result in large amount of sludge generation which also needs to be managed. In Delhi, itself the problem of 2,000 tones of sludge is to be tackled. From the planning perspective, there is a need to create a business model – such as agro-forestry etc. His other suggestions included:

- Through Environment Technology Verification (ETV) under NMCG new technologies are brought in. For new technologies in order to manage Solid, Liquid and Agriculture Residue Waste, NMCG may be approached.
- CPCB guidelines for legacy waste may be looked at.
- Privatization of landfill site may be looked at and tax on the waste being dumped may be considered as a long term measure.

4.2.9 **Shri V.K. Jindal, Joint Secretary, Swatchh Bharat Mission, M/o. HUA,** while sharing his thoughts informed that India is already declared as an ODF. Urban area is ODF. Apart from certain areas in West Bengal, all is ODF. He suggested that:

- NCRPB may consider no financial assistance to areas not continuing and maintaining the ODF status. Such initiatives have been taken under 14th Finance Commission.
- He also suggested that if despite ODF, the untreated waste is discharged in river, then ODF has no meaning to it. Hence Board should look into ODF++ that is treatment before discharge. The objective of ODF cannot be meaningful, as long as the faecal gets discharged in Open spaces, Drains or Rivers. To tackle this, the department came up with ODF ++ concept. ODF ++ is about treating the faecal before discharging it to the water bodies. This also includes treatment of grey water. NCRPB may make it mandatory in this case also that unless a city is ODF ++, funds will be not be released for implementation of projects.
- 1 MLD plant may cater to treatment of sewage water 10,000 people.
- All STPs with installed and operational capacity should be mapped as most problems are due to inadequate knowledge of capacity, mapping and governance.

- Solid Waste – The approach of ULB is presently cleaning the city and dumping the waste in the land fill site. This attitude needs to be changed. Segregation of waste at source should be made mandatory.
- Segregation is very different aspect but city like Ahmedabad, Rajkot & Indore had it in one day. So, it can be done in Delhi and NCR towns too and only willingness and governance is required. Again, NCRPB may make it mandatory unless a city has a garbage star rating of 3, projects will not be sanctioned under NCRPB funding. In Delhi around 10,500 tons of waste is generated daily, out of that around 5,500 tons of waste can be treated. 50% of waste can be used for composting or bio methanation, 20-30% is recyclable, 20-30% are having energy but cannot be recycled. Presently out of total waste, around 50% is either burnt or sent to landfill. This needs to be restricted.
- Last option is waste to energy.
- NCRPB should ensure that no funding is done if waste segregation is not ensured.
- Option of Biomethanation which could be a better solution than compost for organic waste should be explored as CNG produced from such plants is much cheaper than petroleum based plants. This could for cases where more than 100Ton organic waste is produced. Through this CNG can be produced and compost will also be available. In case of Indore, no CPEX or OPEX is incurred for the 200 ton capacity of CNG Plant. Instead, the Govt. receives around Rs. 1,00,00,000 per year. In case of towns with more than 2 lakh population, bio CNG may be preferred and in towns with less than 2 lakh population, decentralized compost pit may be the better option.
- In case of STPs, Eco Treatment may be preferred where organic waste and sludge, both can be treated simultaneously.
- Town with more than 10-20 lakh population, should have a C&D Waste Plant. In case the population is more than 2 Crores, around 3-4 C&D Waste Plant may be constructed. NCRPB may prepare the plan accordingly. For town with low population, C&D Waste plant may not be a viable option.
- Legacy Waste- The plan is that by the end of upcoming 3 years, all the legacy waste need to be cleared. This is mainly to be done through bio mining. Last year the cost was 1200/- per metric ton, presently it is 250 /- per metric ton. There has been a reduction in the cost also.
- EPR is the only way to reduce plastic particularly sachets. MoEF&CC is also working on this aspect and its activities may be referred while devising a policy on the same. If ULB can purchase this sachet at 1 rupee per kg. Citizens' behavior would change. Waste picker, rag picker and citizens, all need to be integrated and identity cards issue by ULBs, so that activities like timely medical checkups etc. are ensured. Board needs to intervene in this.
- Indore model for waste management be adopted by NCR towns. World Economic Forum has recommended Indore model to about 54 countries and we in India should benefit from it as well.

4.3 **SESSION-III** was dedicated to Perspectives by States and was chaired by **Ms. Thara, Joint Secretary, AMRUT, M/o. HUA**.

4.3.1 **Prof. (Retd.) Subir Paul**, while speaking brought out that:

- World population divided across the map clearly shows the 25% of world population is in Indian subcontinent. China has more population but also has 2.5 times more area than India. This explains the population pressure on our land and per capita availability of resources.
- India has least per capita land – which means very high population density coupled with high growth rate. India has least per capita water resource – making it one of the most water stressed region in the world. Indian has the least per capita forest - making the country environmentally hot spot – least resilience.

- He cited example of Namibia, the leader in waste water cycling followed by Singapore. Singapore, has moved from 100% water import dependency to 25%. This was possible with management of single used water
- However, it must be realized that situation in Namibia and Israel is not identical. We have to evolve our own solution.
- We must not develop surrendering to adversity. 72% of water source in NCR is surface water. Citing example of T-3 terminals of the Airport Authority, where water flooding problem was solved through 100 rain harvesting injection wells in the airport premises, importance of indigenous ways was highlighted.
- Individuals as well as departments and states need to look for solution which are under their control even if it may cost more but objectives are achieved
- Water pollution in the natural water can be tackled if we adopt right kind of approach. People should be involved right from commissioning to monitoring.
- Standards & Protocols

a. Existing national standards may not be adequate for shaping solutions for year 2041. BIS standards formulation and revision being National Standards is an exhaustive process taking time. Need to evolve PROTOCOLS suited for various works relevant for NCR Plan for 2041. Today, entire developed world are following Protocols with justifications when deviating from National Standards. This can facilitate much faster working.

b. For example, Per Capita water allocation @ 150 lpcd is contrary to the emerging water crisis and need for higher water efficiency in sub-sectors. Discharge norms from STPs, ETPs & CETPs needs to be made more stringent in order to protect the water sources – CPCB/ MoEF prescribed stipulations (35 parameters) are maximum permissible limits and reduced limits in PROTOCOLS are in no way counter to the above stipulations.

c. Bio-processing and Bio-Technology based waste and waste water treatment produce better results at substantial lower energy input and also provides more scope for production of energy (renewable). Bio-processing fully recognises interdependence among water resource, drainage, waste water treatment and SWM and highly suited in Tropical zone. The agencies need to engage more expertise (with work culture) to deliver this benefit.

- Drainage : **All natural drains shall have a `Right of Way" width which shall be depicted in all documents. All lakes & ponds of 2 acres and above shall have catch area delineated which shall be depicted in all documents.** Except plantation, water body, water harvesting components, compost making and paved walk ways not exceeding 10% of gross area only shall be permitted within ROW of drains & catchment area of lakes. It may form part of green corridor.
- Water distribution network : Cities in India follow the practice of guarantee of water quality at their water works, but not at the consumer end. This is due to the reason that, underground water distribution network of the supply agency suffers from leakages which require time for location and identification of leakages. Such leakages in pipe line or valves etc. results in loss of water coming in contact with soil during pressurized state in pipe but allows back flow of contaminated water around the pipe during reduced water pressure in the pipe line. Thus, for guarantee of water quality at consumer end it is **essential to ensure that water distribution network must be maintained as leakage free network**; which also helps in reducing water losses in the distribution network.
- Waste water treatment & safe Disposal

  a. Key issue is to ensure substantial improvement (consistent) in quality of treated effluent for discharge from any/all Sewage Treatment and Industrial Effluent Treatment facility/ CEPT so that such discharged water can be safely reused or when discharged on to natural water body,

natural purification is achieved with lesser dilution. This may require retrofitting of further treatment to an existing facility and even 0.5 km stretch of open drain with DEWAD treatment can achieve it.

b. Self-purification potential in a river/ rivulate/ surface water body receiving pollution load, depends on 2 factors i) quantity of pollution load discharged and ii) dilution available in receiving water body. Therefore, available options for boosting self-purification potential in a natural body are - either find large quantity of fresh water to effect appropriate dilution or substantially improve quality of discharged treated effluent (by lowering multiple criteria BOD, COD, TSS, turbidity, total Coliform, SAR etc.). As large quantity of fresh water required for dilution may be available only from trans-boundary water projects which are entangled with consent of the neighbouring countries, and it may be prudent to improve the quality of discharged effluent.

c. Many developed countries in the world are choosing the later option of **ensuring quality of discharged waste water at substantially superior compared to maximum permitted level (in statutory discharge norms) with the sole purpose of protecting water quality of fresh water sources** – this is achieved by developing/ adopting appropriate protocols. Similarly, there is no statutory guideline for reuse of treated waste water – rather, it depends on specific application. For example, for cooling in boilers, demineralized/ softened water is to be used to protect the tubes from scaling. For farm applications presence of N, P, K is beneficial as plants easily absorb them as nutrient but presence of salt and other chemicals is harmful (salt is a common dosing material in several electro-mechanical treatment of waste water).

d. Size of STP/ ETP/ CETP is a very important factor as large treatment facility with deficient treatment discharge of very strong effluent on a natural water body creating point source of pollution. The same quantity of processed effluent after treatment in smaller treatment facility and discharged at multiple locations (spaced discharged become distributed pollution source) on the same water body results in better self-purification.

e. Delayed arrival of sewage to treatment facility due to increased travel length and multiple pumping (practice is to pump for 8 to 12 hours during day shift) as well as soil/ clay particles has a significant adverse impact on effectivity of sewage treatment as well as energy recovery. Concrete pipe line with its joints get corroded and bring in soil particles in the circuit.

f. Safe Reuse of treated waste water/ Sewage for toilet flushing In a building, more than 50% of treated water is consumed in toilet flushing, which is a total waste & misuse of potable grade water. When safe reuse of treated sewage/ waste water is made feasible it can result in 50% saving in potable water. Dual mode of flush discharging smaller quantity of water for flushing after urination is also helps in water conservation.

g. For safe use in flushing, the processed waste water needs to be completely odourless and free from suspended matters to leave no stain in WC pan. Also the quality of processed water needs to prevent no slime formation in flushing device. In smaller campus this is economically delivered by on site polishing of processed water through DEWAD system of sewage/ waste water treatment. The experience in Namibia, Israel & Singapore is help full as they have valuable experience.

- Solid Waste Management & safe Disposal:

a. In spite of introduction of Solid Waste Management Rule in 2000 and subsequent updates there is little ground level change in SWM by local municipal bodies. Need to understand implications of SWM Rule, which has clearly that rule does not permit garbage dumping under the garb of `Sanitary Landfill‟.

b. Earlier, entire capital expenditure in SWM was spent on procurement of heavy vehicles and compacting facility to improve outstretched transport infrastructure in cities and no allocation for bio-degradation of organic part of the Municipal Waste. Many large cities have purchased heavier vehicles to transport garbage and compactors. Without segregation/ sorting of garbage into degradable and non-degradable categories, mixed garbage is dumped at dump sites & **compaction of unsorted garbage wastes create more hindrance in it‟s biodegradation.**

c. Garbage Mountains‟ are increasingly common in all large cities in India. A small **garbage dump over a 100 acre site is responsible for causing air pollution over a large area of 7 to 10 km around it and also causes severe ground water pollution upto a distance 5 km around.** It is also second major local source of GHG emissions in a city (after vehicular pollution). Construction and operation of sanitary landfill is the financially most expensive option of Solid Waste Management. Unable to find land for garbage dumps the municipal bodies are making desperate attempt to locate such facilities in the flood plain of rivers which is even more dangerous or 10 km from forests. The Green Tribunals have repeatedly rejected the plea from urban local bodies. For every other uses we are concerned with high value of urban land, but we are giving undue consideration to a highly polluting activity of garbage dumping that should be debarred from any financial allocation. There is an urgent necessity for imposing punitive actions for making any proposal for garbage dumping under the garb of `Sanitary Landfill‟.

- Organic Farming & Peri-urban Agriculture

a. The Peri-urban zone around cities supply fresh fruits, vegetables, milk, fish, egg & meat to the city. Diary farming has a very important socio-economic impact in India and Asia. **Fruit & vegetable production through organic farming in periurban areas has the potential of using non-competitive bio-wastes (& waste water) through recycling for production of fresh organic food at reduced cost; which is beneficial for farming community as well as consumers in urban settlement.** Animal farms and poultry are benefited from consumption of farm residues – and wastes from animal farms get recycled. Combining Pisciculture with Peri-urban Agriculture further adds the benefit in 2 ways – first, substantial income is generated from fish cultivation; second, soil retains moisture (reducing irrigation cost) and finally, irrigation using water (with fish) boosts fruiting in vegetables and fruit plants.

b. As the water requirement shall be met by processed waste water, there shall be no irrigation water from either canal or tube wells; while discharge of waste water in river shall be minimized.

c. At working and detailing level this means Significant Operational Changes which shall require Hand Holding Support by academicians & experts, for which interactive Incubation Models need to be formed at appropriate operational level.

- Way forward to mitigate the above challenges:

a. Create INCUBATION MODULES in each of 3 states within National Capital Region.

b. To identify and initiate appropriate Incubation Centre for dealing with the following in an integrated manner:

i. Rain Water Harvesting projects (at community scale – as it accentuates gains) in an urban settlement to recharge rain water to aquifer – good potential for both runoff in excess of drainage capacity as well as reduced natural percolation – significant protection from water logging/ minor flooding.

ii. Watershed Management project in rural area to meet rural (in agriculture, cattle & pisciculture) water requirement & reduce demand for irrigation water from canal or deep tube wells – significantly improves water efficiency in agriculture - reduced power for tube well irrigation. A part of saved in water (whether from surface or tube well) can be allocated for domestic, industrial, and environment/ recreational needs – but only after substantially reducing withdrawal

of water from aquifers and helping aquifers come under safe zone through aquifer recharge by experts only.

iii. Revitalization of degraded surface water bodies (ponds, lakes, canals) and wetlands – a step complementary to watershed management – serve as detention or holding tanks for protection against water logging/ minor flood.

iv. Small Waste Water Treatment (DEWAD based) for a small urban settlement or sub-city for safe reuse in farming, fodder production, animal farms & pisciculture – safe reuse of sludge in farming – reduces fertilizer input.

v. Retrofit existing deficient STP for safe reuse in farming, fodder production, animal farms & pisciculture – canal based solution (small pockets of adjoining land) is possible.

vi. Environment friendly mode of Solid Waste Management for production of compost from bio-degradable wastes from smaller collection zones served by smaller CNG driven vehicles – no garbage dumping.

vii. Organic/ Natural Farming ie. without chemical fertilisers and chemical pesticides – supported by watershed management/ safe waste water irrigation and organic manure from all forms of bio-wastes.

c. A productive development initiative driven by application of non-competitive resources of treated waste water and bio-degraded wastes from urban wastes. Any innovative approach needs to be supported by performance monitoring with the purpose of further improvements by the planning/ design team.

d. **Location of Incubation Modules need to be decided based on soil characteristics, precipitation rate, topography, cropping pattern, ground water data, decentralized and environment friendly mode of waste and waste water processing etc.** An expert team comprising of external experts, NCRPB nodal officer (for the state), BDO, state/ district level PHED engineer (who need extensive new exposure) etc. External experts shall devote an identified period in each month, conduct training, design various components as well as specifications. External experts engaged in design shall also supervise regularly, extend hand holding support, shall assist in testing, operationalisation and conduct post implementation performance evaluation. The detailed design shall conform to evolved Protocols, relevant BIS standards (with justifications for deviations) and CPCB/ MoEF stipulations.

e. The team shall report directly to the NCRPB; who will need to fund the Incubation Modules for a 3 year period which can be extended, as required. The team shall be led by one of the external experts/ advisors and duly supported by required number of whole time staff and support in administrative matters & accounts. NCRPB shall be empowered to share the expertise developed in appropriate manner, duly acknowledging credit to the expert team.

f. The whole venture needs to be viewed as A Golden Opportunity rather than problem and success shall depend on leadership by the team and dedication to international standards. It is a great challenge as here we can work simultaneously on urban development in large cities in tandem with all interconnected issues of concerns of surrounding hinterland

- NCRPB is the only agency who is simultaneously engaged in addressing problem in the region and the city. It is a golden opportunity which we should not miss.

4.3.2 **Shri D.R. Bhaskar, from Municipal Corporation, Faridabad, Govt. of Haryana** mentioned that Haryana had Gurgaon and Faridabad as two metropolitan cities. A 200 ton waste management plant was established but was not successful. Hence, NCRPB planning should be technology based planning with successful technologies.

- Aravalli hills is located in the periphery of Delhi. Mining both legal and illegal, took place here. 200-300ft deep pits are available presently because of mining activities. A few

of those pits are having water, which are treated like lakes, which is believed to be used for the purpose of Rain Water Harvesting. However, there are many pits which are dry. They are considered under forest areas as on date. However, there are hardly any vegetation left in such places that may be defined as forest. Such sites can be developed as sanitary landfill sites or dumping of the waste until source segregation is in place, may be allowed and then develop forest over it. The park near Sarai Kalekhan may be cited as an example

- Bio-mining can be done. No use land can be utilized.
- Provisions may be such that, rain water harvesting technology may be integrated with the drainage sector.
- He indicated that in places like China, rural areas are being developed into cities. Hence all Planning initiatives should consider ground realities.

4.3.3 **Shri Upender Singh, Swatcha Bharat Mission, Govt. of Haryana presented Solid Waste Management** efforts made in rural Haryana. He informed that;

- Solid waste management has started in gram panchayat level.
- Target by March 2020 is to cover all 6205 gram panchayats. The work of Solid Waste Management has been allotted to the agencies in 12 districts. Faridabad has 116 gram panchayat. Door to door awareness and community contribution are key requirements for the mission to succeed. Accordingly, Door to door collection, segregation and management persons have been appointed. The Non-biodegradable wastes are being sold.
- SWM project also involved designing, packaging and branding and such efforts are helping in managing wastes at grass route level. Sustenance of such programs is important and NCRPB could look into the same in its plan.
- Informing about Liquid Waste Management: A campaign on Installation of soakage pit in all 116 Gram Panchayats of the district was done. Soakage pit was constructed near all the hand pumps. A single soakage pit soaks at an average of 200 lit water every day. A total amount of 6,96000 litres of waters may be soaked by these pits in a month through this process. Hence, around 8,35,02000 litres of water can be soaked in a single year. At an average of 15 taps per GP has been considered for this calculation. Further, this water can also be used for irrigation purpose as well.
- It was suggested during discussions that a baseline stay of the area (near the hand pumps) may be done. A survey may be conducted to understand the status of groundwater table as on date. Further, after a gap of 1 or 2 year the survey may be conducted once again in the same area and the process may be repeated at regular intervals to understand the change in the status of ground water table. This would perhaps give lot of stimulus to other areas.

4.3.4 **Shri Vijay Kumar Saroha, SBM, Sonipat, Govt. of Haryana** shared his views on activities being undertaken by them. He informed about their campaign 'Humara Prayavaran Humari Zimmedari' in 85 villages of Sonipat District under in Jan Jagran Mission. Rohtak, Jhajjar, Bhiwani and Sonipat have been identified for proper management system. He suggested that Jan Bhagidari should be made compulsory in such initiatives.

4.3.5 **Shri Parag Chauhan, SBM, Jaipur, Govt. of Rajasthan** informed that Rajasthan had more than 10,000 gram panchayat. The Rajasthan state was declared as ODFin March, 2018. He suggested that Twin Pit technology is the best technology. This helps in creation of manure, which is again to be used by the farmers.

- For ODF Sustainability, SLRM activities are started. Recommended works for Solid and Liquid Resource Management (SLRM) in GPs:

i) Provision for training of the scheme & popularizing to rural population, and to regular employees (IEC).
ii) Public Dustbin (1 for 10 to 15 families)
iii) Personal and family dustbin for every household at own expenses (2 per family)
iv) Labour deployment for collection, segregation and transportation of house waste to storage point from house to house
v) One Swachhta Sakhi at Gram Panchayat level for guidance, attendance, inspection, awareness and following the guidelines.
vi) Construction of Resource recovery center
vii) Box Try Cycle/ E-rickshaw for collection and transportation of solid waste
viii) Push Cart to collect garbage
ix) Security equipment such as masks, hand gloves, dress/jacket worth maximum of Rs. 500 per worker.
x) Cleaning equipment viz. broom, pickaxe, spade, tagari, axe etc.
xi) Plastic cutter machine
xii) Waste Collection pit 3 in number of 30' long and 6' broad at a public land
xiii) Establishment of Compost Pit Unit.
xiv) Kitchen garden
xv) Construction of Secondary Drain requirement for House holds
xvi) Construction of Main Drainage system with Chambers
xvii) Bio- Methanation plant with handing capacity up to 125 kg of organic waste.
xviii) Waste water treatment plant (Biological process)
xix) Sanitary Napkin pad/Diapers Disposal machine (100 pads/day)
xx) Community Leachpit
xxi) Soak pit near handpump/tap
xxii) Drains and Channel system
xxiii) 3 pond/tank as per design at the last end of drainage as per the requirement of the Gram Panchayat for Solid Waste Management.

- Convergence of schemes may be promoted to develop the villages.

4.3.6 **Ms. Thara, Joint Secretary, AMRUT, M/o. HUA** also sahred important thoughts on the subject and suggested the following:

- The implementers at ground level should understand where to place the dustbins as the challenge is how do you collect waste.
- Timing of the waste collection vehicles is very important. If it is not on time, people may throw the garbage anywhere outside their house.
- Ways need to be devised to ensure material recovery after collection.
- **Locations /space be identified and specified for community toilets during planning for the area.** Hence, while planning, street infrastructures (toilet, water and sitting facilities) need to be provided and space should be allocated accordingly.
- **Swacch Bharat need not be reactive. In planning stage, it can be proactive.**
- Human psychology should be understood as nobody would like to dirty a clean area
- As everything cannot be regulated, some activities could be encouraged through incentives
- NIMBY syndrome needs to be addressed. Creation of Waste Clusters like Water Clusters may be thought of and attempts be made so that the waste collection centre, could become a picnic spot.
- Simple concepts of segregation such as different bins for God made and human made, could help in making the concepts easily understandable.

- While planning, efforts should be made to propose a road near a water body. Through this process, the water body gets separated from the habitation.
- Safai Karamchari should be dignified and honoured.
- Defend approaches are required for residential, commercial, industrial areas etc.In case of commercial clusters, waste recovery facilities need to be provided in the same location itself. Example – Nepra company in Ahmedabad used to do this task.
- In case of liquid waste management, instead of treating grey water and black water separately, both of them may be treated simultaneously
- Swachata is not cleaning Garbage but more of minimizing it. Mandatory policies should accordingly be included in the plan. In the building bylaws itself, provisions for vermin composting may be included

4.3.7 **Smt. Alka Arya, from DDA, representing Delhi**, while sharing her views informed that while 20 years back Delhi had almost 10,000 ha. of land (06.74% of total area) for dumping sites with horizon year of 2051, it now seems to be a decision worth revisiting. In case of Delhi, 40% is unplanned development and 60% population live in these unplanned areas (40% of area). She suggested that:

- options like triple pipeline system could be looked into in new developments RWAs.
- Reducing the LPCD norms could be thought of. Instead of 135 lpcd , it may be reduced to atleast 90 lpcd. A 24 hour water supply may be preferred upon intermittent water supply.
- The concerned states in the NCR region may be requested to map through GIS technology, Remote Sensing or through aerial images or through drone surveys to tap all the resources and identify hot spots where mitigation could be done.
- Tap resources through GIS through drone
- The Green Blue Network: It is better to concentrate on water services vis a vis its green network. Connecting surrounding green areas with water bodies always helps in rejuvenating the green areas and vice versa. The concept of Naala Gardens may be looked at. All the drains in the region should be looked as a recreational area utilizing the water in it and the surrounding areas as well. States should also come forward to share the burden city of Delhi some sort of metro yard, dumping yards, C&D Waste Plants be created.

4.3.8 **Shri Pradeep Khandelwal, Chief Engineer, EDMC** informed that in Delhi, all the five bodies are maintaining solid waste separately. Waste is being processed at Narela, Bawana, Okhla, Ghazipur.

- Total waste generation in Delhi is around 10,000 MT. 5.500 MT are being processed. There are 4 active landfill sites presently. 95 decentralized waste management facilities are being developed.
- Narela Bawana site in 2018 started generating 20 MW of power, compost plant at Okhla for 200 TPD, W to E plant at Okhla of 2000 TPD generating around 20 MW of Power, W to E plant at Ghazibur which treats 1300 MT of Garbage by generating 20 MW power.
- The three landfill sites at Ghazipur, Okhla and Balswa are working beyond capacity. EDMC has signed a MoU with NHAI to use the material for Delhi-Meerut Expressway.
- Delhi generates around 5000 MT of C & D Waste per day. To deal with this, 3 C&D waste processing plants at Burari, Rani Khera and Shastri Park has been developed. Value added products such as Concrete Aggregate, Sand etc. are being made from C&D waste.
- Vertical gardens are being put at different locations to reduce air pollution.
- However, am integrated approach is required.
- NIMBY is the major challenge.
- By June, 2020 EDMC targets to achieve complete segregation of the waste at source.

4.3.9 **Smt. Archana Sharma, from NCR Cell, Uttar Pradesh** suggested that finding an alternative of the waste management like having land fill site is important for all towns in NCR, as NIMBY approach creates problems in even designated areas planned for the purpose. The objective in RP 2041 should be to have a **Zero waste land fill site** so that situation can be reviewed in 2031. If cities like Allepy, Mysore, Panaji can have zero landfill site, this can be achieved in this region also She stressed that along with space, the behavioral changes are necessary Ghaziabad has seen entire transformation but process needs to be continuous. Night cleaning was done on the roads. The dumping yards were removed. Most of the districts in NCR are struggling for the land fill sites.

4.3.10 **Shri Saket Kumar & Sameer Jain from KPMG** while discussing on Decentralized liquid waste management suggested/ brought out the following key points:

- Around 81% of India's human excreta and overall 65% of the wastewater remains untreated. Diarrheal deaths cause an estimated 365,000to 500,000 deaths per year among children under 5 years of age
- Lack of proper sanitation causes an estimated loss of USD 53.8 billion in India
- At least one STP could be thought of for every four cities. (60% of the entire sewerage capacity spread across country while 40% is limited to 4-7 cities only.)
- There are only around 920 Sewage treatment plants (STPs) across the country located in around 500 cities . There are more than 3,500 towns which do not have any wastewater treatment facility
- 90% of 70 lakh household toilets constructed under Swatch Bharat Mission in Urban areas are not connected with sewer networks. Around 80 million liters of untreated sewage a days, chokes Gurugram‟s drains.
- Unsafe disposal practices- One truck of faecal sludge and Septage carelessly dumped = 3,000 people defecating in the open.
- Need to think of decentralized Integrated Systems for fecal sludge and wastewater treatment through Decentralized wastewater systems (DEWATS).
- Sewer networks have not increased in proportion to expanding habitats. So reliance is on septic tank and often waste is withdrawn and dumped in open environment, which needs to be stopped
- In 2018, Down to Earth, Center for Science and Environment states that in Haryana the sewage generated is 1413 MLD and the treatment capacity available is 82.7 MLD, in Delhi the sewage generated is 4155 MLD and the treatment capacity available is 2693.7 MLD, in Uttar Pradesh the sewage generated is 7124 MLD and the treatment capacity available is 2646.84 MLD.
- Overall if we see in the last, since independence, we have build/ constructed 1000 STPs.
- As per a World Bank 2016 report, India will still have septic tanks and we should plan to for the waste from such septic tanks. Septage management could help here.
- In terms of capex: FSSM involves approximately 20 times less per capita than centralized sewerage systems
- Few Best Practices in Fecal Sludge Treatment Plants:

  i. Faecal Sludge Treatment Plant Odisha of capacity 75KLD

  ii. Faecal Sludge Treatment Plant Dhenkanal of capacity 27 KLD with Solar Pasteurization Unit ,UV disinfection ,Solar panels used for running pumps, Easy operations and completely closed system ,Gravity based system

  iii. Faecal Sludge Treatment Plant Leh, Jammu and Kashmir of capacity 12 KLD with Planted Drying Bed technology implemented for the first time in India.It has DEWATS module which is used for treating the water which in turn keeps O&M costs low.

4.3.11 **Dr. J.K. Bassin, Ex-Head, NEERI, Delhi** in his closing remarks , emphasized on following points:

- Focus to be on planning for Regional Plan 2041.
- Should be cautious that the model we adopt for development should not be waste prone.
- NIMBY as well as SIMBY(somebody else's backyard) both are the syndromes which are dangerous during implementation
- Water and sewerage cannot be separated. If we plan for water we should have sewerage system as well. We should bind the two DPRs of water and sewerage, and work in tandem
- Jal Jeevan Mission projects, Functional Household Tap Connection (FHTC) in every house, as much water is supplied so much so much sewage will be generated.
- Lessons learned from 2021 Plan implementation status should be the backbone of 2041.
- Sewerage is 99% water and 1% is solid. Much of treated water is going down the drain and needs to addressed. We need to have total paradigm shift. Models where waste water gets treated and then goes to the wet lands and then to the rivers should be preferred instead of releasing the treated water from STPs directly into the rivers.
- NCRPB should not be treated only as agency which finances the projects of the States. NCRPB aims to develop. The function of NCRPB is to coordinate the work among all the participating states.
- STPs get constructed and do not run because money is required to run them. Hybrid annuity model may be looked at. In this, O&M cost for 15 years is built into the capital cost, and payment is made annually on the basis of performance evaluation.
- In NCR inventorization of sewage generation need to be done. Law of average should not be followed. District wise planning should be done. The water pollution caused by railways also needs to be looked at. The kind of waste water they produce, and how it gets treated needs to be looked at.
- NCR should play its role for quantum of sewerage generated. Selection of technology very important.
- It be seen that are we having varying standards or single standards all over the country.
- In National Water Mission Document waste water has been taken as resources. **Waste is a misplaced resource**.
- There is nothing like fresh water. What we are using is second fresh water.
- Solid waste management rules apply to all uniformly. There could be a section in NCRPB 2041 plan document on Design of Sanitary Landfill, which could be borrowed from CPCB.
- Solid Waste has been divided into 6 rules: Plastic Waste, E waste, Bio Medical Waste, C& D Waste, Hazardous Waste and SWM rules. Hazardous waste has not been included in planning. Treatment, Storage, and Disposal Facility (TSDF) needs to be prepared for hazardous waste.
- Hazardous waste is also to be considered while planning for waste. Evaluation is required for hazardous waste and e-waste.
- It is essential we should carry a gap analysis. Gap analysis for 2021. We need to think of centralized system and decentralized system. Cleanliness is next to godliness should be taken care of in the plan.

5.0 Conclusion

Hence, it could be concluded that the NCR needs to move towards Zero waste scenario the concept of waste being material of value for some other sector, needs to be understood and worked upon. As

about 80% of the amount of water supplied returns after first use, its reuse can help in dependency on fresh water every time. Hence both water and sanitation needs to be work on simultaneously. Simultaneously, NCR should attempt to set an example in steps to Reduce, reuse, recycle and even recover to tackle the waste problem. Water polluting activities and zones need to be strictly monitored and such activities should device methods to survive on allotted quotas through reuse and recycle. The plan for 2041 need to carefully address all such aspects that were highlighted during Regional Plan 2021 review as well as the subsequent workshop and deliberations thereafter, considering views of maximum stakeholders as possible. CPCB norms and guidelines that could help only 10% of total waste generated, to reach the land fill site should be looked at and adopted seriously

List of participants "Sanitation and Comprehensive Waste Management" held on 11.12.2019

S. No.	Name, Designation and Organisation
1.	Shri Manoj Kumar, Scientist, Sulabh International
2.	Shri Govind Ram, DPM, ADC, Nuh
3.	Reshu, Asstt. Engineer, Municipal Councel, Alwar
4.	Shri Sunil Bahuguna, AGM, Ramky Enviro Engineers Ltd.
5.	Shri Pankaj Malik, Asstt. Manager, Ramky Enviro Engineers Ltd.
6.	Shri Madan Gopal Gupta, NPP Gulaothi, SBM Prabhaki
7.	Shri Abhishek Raj, Engineer (Civil Branch), Sulabh International, Social Service Organisation
8.	Shri Omveersingh Nagar
9.	Shri Mohit Jain, Accounts Officer, AMDA
10.	Shri Tarun S. Arya, Asstt. Engineer, EDMC
11.	Shri Upendra Singh, DPM-SBM-G, Faridabad
12.	Ms. Shery Pande, Jorics Link
13.	Shri Yavar Abbas, DPRO, Hapur
14.	Shri Dilbag Singh, DPM, DRDA, Sonepat
15.	Shri Vijay Kumar Saroha, Project Coordinator, SWFT, Sonepat
16.	Shri Ishita J. Kumar, DTP, Alwar (Raj.)
17.	Shri Suresh Rohilla, Sr. Director, CSE
18.	Shri R K Ojha, Mgr. GNIDA
19.	Shri Satish Kumar, District Program Manager, Bhiwani, Haryana
20.	Shri Sudhir Ransiwal, Executive Engineer, Public Health Engineering Deptt., Haryana
21.	Ms. Neelanjali, Dy. Director
22.	Dr. Shyni, Siriesha, DDWS, GOI
23.	Shri Vinay Kumar, BC, ADC Office, Rohtak
24.	Shri Faisal Ibrahim, XEN, PHED, NUH, Haryana
25.	Shri P. Selvadurai, Director, AMDA
26.	Shri Raj Kumar Yadav, DGO

S. No.	Name, Designation and Organisation
27.	Shri Ranjit Singh, Bluk Coordinator
28.	Dr. Ajay Pradhan, NSWAI, Chairman
29.	Shri Mayank Kumar, Plant Manager, Vatech Wabag Ltd.
30.	Ms. Vishakha Jha, NIUA, Research Associate
31.	Shri Deepak Kumar, Sanitary & Food, Nagar Palika Pilkhuwa
32.	Shri J K Kapoor, Associate TCP, TCPO, Ministry of Housing & Urban Affairs
33.	Shri K M Srivastava, AEE, UP Pollution Control Board, NOIDA
34.	Shri Arun Baroka, AS, Jal Shakti
35.	Ms. Almitra Patel
36.	Shri Praveen Kumar, EE, UPPCB
37.	Shri Gurmeet Singh, EE-2, PHED, Jind
38.	Ms. Archana Sharma, Associate Planner, NCR Cell, Gzb.
39.	Nishi Singh, Planning Assistant, DDA
40.	Ms. Vinita, Professor, SPA
41.	Shri Rai Pal Chaudhary, DTP, DLB Jaipur
42.	Shri C. Srinivasan, Vellore
43.	Dr. J K Bassin
44.	Shri Amit Choudhary, BDPO, Palwal
45.	Dr. Bhanu Prakash V, IIT Roorkee
46.	Shri Navin Kumar, Project Officer, ADC Office, Palwal
47.	Ms. Punam Saini, BPM, ADC Office Jhajjar
48.	Shri Deepak Kr. Singhal, AEN, OLB, Rajasthan
49.	Shri Totak Acharya, Asstt. Director (Planning), AMDA
50.	Shri Pramendra Singh, BD&PO, Dvt. & Panchayat, Distt. Faridabad
51.	Shri Vinod Kr. Chauhan, Executive Engineer, Nagar Nigam, Bharatpur
52.	Shri Rajiv Tyagi, Asstt. Engineer, MDA, MZN
53.	Shri Vikas Singnoha, Executive Engineer, PHED-2, Panipat
54.	Shri Bhanu Parkash, Executive Engineer, PHED-2, Rohtak
55.	Shri Mahesh, SE DLB, Jaipur

S. No.	Name, Designation and Organisation
56.	Shri Gautam Kumar, Executive Engineer, PHED, Mahendergarh, Haryana
57.	Shri Prem Singh Singhal, XEN, Public Health, Palwal
58.	Shri Ajay Mathur, DG, TERI
59.	Shri Dharambir, Khanb, BDPO, Julana, Jind
60.	Shri Warish, Consultant, SWM, ADC Office, Panipat
61.	Shri Kailash Chander, SEPO, Meham
62.	UPMA, BDPA, Punhana, Distt. Nuh
63.	Shri Rameshwar Dayal, AD CD UPJN, Muzaffar Nagar
64.	Shri Rupesh Chander, Executive Engineer, PHED No.2, Bhiwani, Haryana
65.	Shri Dipendra Raj Singh, Executive Engineer, PHED No.1, Faridabad
66.	Dr. Gurdev Singh, Delhi Board
67.	Shri Pawan Kumar Agarwal, Executive Engineer, Construction Division, UP Jal Nigam, Muzaffar Nagar
68.	Shri S M Jawad, Asstt. Engineer, UP Jal Nigam, Hapur
69.	Shri Birender Yadav, BDPO, Baraut, Distt. ….. Haryana
70.	Ms. Nisha Tanwar, BDPO Pataudi, Distt. Gurugram, Haryana
71.	Shri Alok Sharma, District Panchayat, Raj Office, Shamli
72.	Ms. Poonam, BDPO Ganaur, Dev Panchayat, Delhi
73.	Ms. Priti Sharma, Block Coordinator, Rewari
74.	Shri Sanjay Kumar, Block Coordinator, SBM-G, Ch.Dadri
75.	Ms. Gurpreet Kaur, AMDA, Asstt. Director (CBQT)
76.	Shri Arun Kumar, BDPO Ateli (Mahendergarh)
77.	Shri Ashay Yadav, VA Tech Wabag Ltd. Delhi
78.	Shri Chandra Prakash, VA Tech Wabag Ltd. Delhi
79.	Shri Sushil BL SBN, Distt. Gurugram, Farukh Nagar
80.	Shri Anil, NCR Cell, UP, Ghaziabad
81.	Shri Narinder Saini, Secretary, Municipal Committee, Jhajjar
82.	Shri Mukesh Kumar, Secretary, Municipal Committee, Bahadurgarh
83.	Shri I P Agrawal, SBM Jaipur, Rajasthan

S. No.	Name, Designation and Organisation
84.	Shri Barun Kumar, Rauky Eruor Exp.
85.	Shri Zeeshan Ibrar, PHD Scholar, SPA, Delhi
86.	Shri V K Jindal, JS, Ministry of Housing & Urban Affairs
87.	Shri Parmanand, BDPO, Pataudi
88.	Shri Parag Choudhary, Add. o/c SBMG Jaipur, Rajasthan
89.	Shri Angrej Singh, BDPO, Indri
90.	Shri Mahendra Meena, DTP, Bharatpur
91.	Shri Ram Krishna Khandekar, AGM (AM), NTPC, NOIDA
92.	Shri Raj Kumar Sandhu, DPM, SBM, ADC Office, Karnal
93.	Shri Raj Pal Chahal, BDPO, Dadri BERI
94.	Shri Karandeep, Asstt. Dir. (Plg.), DDA
95.	Shri Sumit Bakshi, BDPO, Panipat
96.	Shri D R Bhaskar, Chief Engineer, NCF
97.	Shri Suresh Dhanda, Instructor, ADC Office, Jind, Haryana
98.	Shri S K Goyal, NEERI, Delhi
99.	Shri Kumar Amrendra, Distt. Panchayat Raj Officer, Baghpat
100.	Shri Ravi Kant, APE, Urban Works Unit, UP Jal Nigam, Muzaffar Nagar
101.	Ms. Alka Arya, Dir (Plg), MPMR, DDA
102.	Shri Suresh K Bhandari, Spl. Secretary (Urban Development) GNCTD
103.	Shri Chandra Shekhar Jangid, IEC Consultant SBMG (Jaipur) Rajasthan
104.	Shri G S Rawat
105.	Shri Rajesh Mehta, Secy. MC Bhiwani
106.	Neelu Arora Panchayat RWA Sec13
107.	Shri Padam Singh, SDM, Bulandshahar
108.	Prof Subir Paul, IIT, Kharagpur
109.	Shri Mahesh Kumar Ass.Program Officer SRM(..) Rajasthan
110.	Ar. Lovvesy Sharma, MPD-2041, NIUA
111.	Shri Sanjay Kumar Si MC Bhiwani
112.	Ms. Megha Sharma, BR Management Pvt. Ltd.

S. No.	Name, Designation and Organisation
113.	Sureet Kaur
114.	Shri Kumar Saket
115.	Shri Pradeep Khandelwal, CE, EDMC
116.	Ms. D. Thara, JS AMRUT, Ministry of Housing & Urban Affairs

Annexure-I

SANITATION AND COMPREHENSIVE WASTE MANAGEMENT
Date: 11.12.2019
Venue: Scope Convention Centre, New Delhi

S. No.	Topics	Speakers
Session I: Inaugural Session		
Chair: Shri Arun Baroka, Additional Secretary, Ministry of Jal Shakti		
1.	Welcome Address	Shri Satish Prashar, Chief Regional Planner, National Capital Region Planning Board
2.	Sanitation and Comprehensive Waste Management	Shri Ajay Mathur, Director General, The Energy and Resources Institute
3.	Sanitation and Comprehensive Waste Management	Shri Arun Baroka, Additional Secretary, Ministry of Jal Shakti
Tea Break		
Session II: Comprehensive Waste Management- Way Forward 2041		
Chair: Shri. V K Jindal, Joint Secretary, Swachh Bharat Mission, Ministry of Housing and Urban Affairs		
4.	Sanitation and Comprehensive Waste Management	Ms. Manisha Saxena, Secretary, Urban Development, GNCT Delhi
5.	Liquid and Solid Waste Management in Rural Areas	Shri Sanjeev Goel, Sr. Principal Scientist and Head, CSIR NEERI Delhi
6.	Creating Financial Sustainable Liquid Waste Management Infrastructure	Shri R.K. Khandekar, GM (Ash Management), National Thermal Power Corporation Limited
7.	Sewage Treatment - Renewable Energy – Recycle of Treated Sewage under a Profitable Model	Shri Abhey Pandey, Va Tech, Delawas STP, Jaipur
8.	Integrated MSW Management – Delhi	Shri Barun Kumar, RAMKY

S. No.	Topics	Speakers
9.	Rurban Solid and Liquid Resources Management – Challenges and Opportunities	Shri C. Srinivasan, Vellore, Resource Management Expert
10.	Solid Waste Management for NCR-2041	Ms. Almitra Patel, Solid Waste Management Expert
11.	Solid waste management	Dr. Ajay Pradhan, National Solid Waste Association of India
12.	Waste Management	Shri. V K Jindal, Joint Secretary, Swachh Bharat Mission, Ministry of Housing and Urban Affairs
Lunch		
Session III: Perspectives by States		
Chair: Smt. D Thara, JS, AMRUT, Ministry of Housing and Urban Affairs		
13.	Reduction, Reuse and Recycle of Waste & Decentralized Waste Management	Prof. Subir Paul, IIT, Kharagpur
14.	Solid Waste Management in Haryana with focus on Faridabad	**Govt. of Haryana**: Shri D.R. Bhaskar, Municipal Corporation f Faridabad, Govt. of Haryana
15.	Solid Waste Management in rural Haryana	**Govt. of Haryana**: Shri Upender Singh, Swach Bharat Mission, Govt. of Haryana
16.	Solid Waste Management	**Govt. of Haryana** : Shri Vijay Kumar Saroha, Sustainability Vision Foundation, Sonipat
17.		**Govt. of Rajasthan** : Shri Parag Chauhan, SBM, Jaipur, Govt. of Rajasthan
18.		**Govt. of Delhi**: Smt. Alka Arya, Director (Planning) Delhi Development Authority, Govt. of Delhi
19.		**Govt. of Delhi**: Shri Pradeep Khandelwal, Chief Engineer, East Delhi Municipal Corporation. Govt. of Delhi
20.		**Govt. of Uttar Pradesh:** Smt. Archana Sharma, NCR Cell, Govt. of Uttar Pradesh
21.	Decentralised Liquid Waste Management	Mr. Saket Kumar, KPMG

S. No.	Topics	Speakers
22.	Comprehensive Waste Management	Smt. D Thara, JS, AMRUT, Ministry of Housing and Urban Affairs
23.	Closing Remarks	Dr. J.K. Bassin, Ex-Head, NEERI, Delhi
24.	Vote of Thanks	Shri Jagdish Parwani, Director (A&F), National Capital Region Planning Board

Workshop Title: **Environment and Disaster Management**

Date: **13.12.19 (Friday)**

Venue: **Gulmohar Hall, IHC, New Delhi**

Brief Minutes of the Stakeholders Workshop on 'Environment & Disaster Management' held on 13.12.19 at India Habitat Centre, for preparation of RP-2041 for NCR

1) Workshop on "Environment & Disaster Management" was held on 13th December, 2019 for Preparation of Regional Plan-2041 for NCR at Gulmohar Hall, IHC, New Delhi. The workshop was divided into various sessions to cover the major topics under 'Environment & Disaster Management'. The list of participants is enclosed.
2) The major topics of discussion included Strategies to reduce various types of Pollutions & way forward for 2041 ; Winter Air Pollution in NCR : Options Crop Residue Management : Environment Vulnerability Analysis – Strategy for Regional Plan 2041; Options for Policy Approaches to Environment Protection; Environment Conservation & Convergence for Local Prosperity; Green Spaces NCR – Way forward under the Environment sector. While the Disaster Management topics included, Seismic Risk Mitigation; Flooding Risk Mitigation and Fire Hazard Prevention.
3) The key contributors to the discussions and invitees included Mr. Vinod Babu, Addl. Director, CPCB; Dr. Y.V. Singh, Principal Scientist, IARI; Shri A K Mohanty, Joint Secretary, MoEF&CC; Mrs. Bharati, JS, MoEF&CC; Shri Kamal Kishore, Member, NDMA; Shri Mahendra Meena, Expert, NDMA; Shri Sharad Chandra, Director, CWC, Shri Anuj Tiwari, Expert, NDMA & Shri D.K. Shami, Chief Fire Advisor, MHA, amongst others. The list of Speakers is at **Annexure-I.**
4) Session wise proceedings/ record of decisions are as under:

4.1 **SESSION-I** was the Inaugural Session chaired by Shri S.P. Singh Parihar, Chairman, CPCB.

4.1.1 **Mr. Vinod Babu, Addl. Director, CPCB** sharing his views/ strategies to reduce various types of Pollutions & way forward for 2041. As per him, the overall Environmental Objectives for NCR 2041 could include:

- Achieve Acceptable Air Quality
- Achieve Designated Quality in NCR Water Bodies (Including Rivers Yamuna & Hindon)
- Establish water drainage and sewerage network in all NCR Cities and Towns and augment infrastructure to achieve 100% collection and treatment of sewage
- Stringent norms and robust mechanism be put in place to ensure compliance by industry
- Look into Waste Management Infrastructure & Practices to achieve near to Zero Waste
- Sustainable consumption of materials including water
- Coordination among agencies of different States in NCR and Sharing of common resources for Environmental Management
- Intensive & Sustained IEC Campaign – for scientific understanding and practicing Sustainable Life Styles Environmental challenge –
- Strategy for Air Quality Management for NCR 2041 could include:
    - Achieve 30% reduction in Ambient Air Quality levels by 2024
    - Increase number of moderate, satisfactory and good air quality days
    - Targeted approach for mitigation of air polluting sources based on source apportionment studies

- Greening and paving of roads and Open areas (no un-paved road in NCR)
- Establish efficient and affordable MRTS among the NCT Cities / Towns with last mile connectivity
- Identify Hotspots of Air Pollution in NCR and formulate action plan for elimination of polluting sources.
- Carrying capacity based approach for implementing projects
- Augment existing ambient air quality monitoring network – use data analysis to evolve science based decisions.
- Augment existing Air Quality Prediction system
- Implement Standard Operating Procedure for Air Quality Management for winter days.
- Maximise Mechanical sweeping in all NCR towns
- Implement Robust compliance mechanism for industrial emission – use reliable CEMS based data for self-monitoring and reporting by Industry
- IEC Campaign – To impart scientific understanding on air pollution
- Promote cleaner technologies and use of clean fuels in NCR towns and Cities

- Regarding Environmental Challenge especially on Surface Water Quality in NCR 2019, issues of :
  - Deteriorated Water Quality in Yamuna, Hindon, Najagarh drain and West Kali due to Direct discharge of un-treated sewage (eg. Delhi – 1901MLD (45% gap); Ghaziabad – 417MLD (84% gap); Noida – 64 MLD (29% gap) leading to almost Stagnant river need to be addressed
  - Drainage & Sewerage System issues like Sewerage network in Delhi covering only 45 % population and inadequate sewerage system in other NCR towns, inadequate infrastructure for treatment of Sewage and wastewater (eg. Treatment capacity exists for only 3200MLD in Delhi, Noida and Ghaziabad) need to be looked into
- Key Strategies suggested for mitigation of Water Pollution for NCR 2041:
  - To achieve Designated Best Use water quality for Bathing in Yamuna, Hindon & East Kali rivers
  - Strengthen Monitoring Network - Establish Real-time Water Quality monitoring network
  - Zero discharge of un-treated sewage& industrial discharge into Rivers (Yamuna, Hindon, East Kali)
  - Robust surveillance to ensure compliance of discharge norms by STPs, CETPs and Industrial ETPs
  - Integrate with Action Plan for polluted stretches of Yamuna, Hindon and East Kali Rivers being monitored by River Rejuvenation Committee
  - Maintain Ecological Flow in Yamuna and Hindon rivers
  - Impose Environmental Compensation charges for non-compliance
- Discussing the Environmental Challenges in Waste Management – 2019, specifically for NCR of Delhi, following was brought out as well:

1. Solid Waste Management: Only about 50% of Solid Waste is Treated / Processed. Further, most landfills are Un-scientific landfills with Limited capacities. The SWM

Rules, 2016 not yet implemented comprehensively. Source segregation and centralized material recovery not yet achieved. Delhi specific information on solid waste is as follows:

i. Total Waste Generation: 10817 TPD

ii. Waste Collected: 10614 TPD (98.1%)

iii. Waste Treated: 5714 TPD (52.8%)

iv. Waste landfilled: 5225 TPD (48.3%)

2. E-Waste : Informal Collection and dismantling still exists; Implementation of EPR (Extended Producers Responsibility) by Producers needs to be undertaken; Informal channelization of E-Waste persists and needs to be curbed

3. Hazardous Waste : About 5500 MT of HW generated per Annum in NCT . Still, there is no common treatment, storage, and disposal facility (TSDF) in NCT and NCR States are not sharing any common TSDF .

4. Biomedical Waste: Authorization of non-bedded Hospitals is yet to complete and hence the biomedical waste from such points is yet to be accounted for. Only the accounted waste of 24.6 MT/day in NCT is collected and disposed. Implementation of appropriate treatment of this waste is still an issue

5. Plastic Waste Management: Observed to be major ingredient of Littering. There is improper Management of SWM Rules, 2016 on this aspect and requires Implementation of EPR by Producers

6. Besides above, the proper assessment of contaminated sites is yet to be completed.

- The Key Strategies suggested for waste management included:

1) Solid Waste Management: Implement 100% door to door collection of segregated Waste in all NC Cities and Towns
2) Establish Adequate Infrastructure for:
    - Transfer points, Transport
    - Establish Waste deposition centres
    - Material Recovery Facilities for (secondary segregation)
    - Bio-methanation units / Composting unit
    - RDF plant
    - Waste to Energy Plant
    - Sanitary landfill
    - Strive to achieve Zero Landfill of wastes
    - Complete remediation of legacy dumpsites sites (including GW Remediation)
3) Plastic Waste
    - Phase-out singe use plastics by 2022
    - Minimization of PW generation
    - Divert the plastic waste to Resource/energy recovery
    - Networking of Waste Recyclers in NCR towns
    - Linkage with Producers or PROs under EPR to facilitate the system of collecting & Recycling PW
4) Hazardous Waste
    - Establish Common TSDF in Delhi NCT (On priority)

- Track waste through National Hazardous Waste Tracking System
- Authorise Hazardous Waste collection Centres with linkage with TSDF

5) Bio-Medical Waste Management
   - Fully implement Barcode based Tracking of Biomedical Waste
   - Training to healthcare staff to further Improve segregation
   - Promote new technologies for Disposal of BMW

6) E-Waste
   - Establish E-Waste Deposition points and create linkage with Producers/PROs and Recycling Facilities
   - Identifying areas for establishing Integrated Dismantling and Recycling Hub in NCR

7) C&D Waste Management
   - Establish common C&D Facility for NCR Cities
   - Promote use of recycled building material (aggregate, manufactured sand and building blocks, etc)

8) Implement project for remediation of contaminated sites
   - Assessment of all probable contaminated sites
   - Implement project for Remediation of Contaminated soils and groundwater

9) Establish Common Waste depositions centres for different wastes
   - 2041 objective should be no sewer flow in the drain.
   - People should be educated for the resource conservation and recycling and reuse.

4.1.2 **Dr. Y.V. Singh, Principal Scientist, IARI** presented Crop Residue Management for better environment and soil health, especially with regards to winter air pollution in NCR. He stated that in late September to early November each year, farmers mainly in Punjab, Haryana and west UP burn an estimated 35 million tons of crop residue from their fields after rice harvesting, as a low-cost straw-disposal practice to reduce the turnaround time between harvesting and sowing for the second (winter) crop. Even NITI Aayog in 2018 stated burning of agricultural biomass residue, or Crop Residue Burning (CRB) in the neighbouring states of NCR is one of the major sources of air quality deterioration in Delhi in the months of October and November. It was also noted that UP, Punjab and Haryana had got highest Crop residues burnt (Mt/yr) in the country. It was shared that as per a study conducted by the Ministry of New and Renewable Energy, it is estimated that about 600 million tons of crop residues are generated annually. It also emerged that India wastes 67 million tons of food every year, which needs to taken care off

- Impacts of Crop Residue Burning constituted
  1. Smoke & soot particles in air causing Air Pollution(Affecting Human health)& GH gases emission
  2. Loss of Nutrients e.g. N, P, K & S
  3. Mortality of active beneficial Soil Bacteria
  4. Soil hardening & erosion due to no cover
  5. Emission of greenhouse gases (GHGs) such as carbon dioxide, methane and nitrous oxide causing global warming.
  6. Wastage of valuable energy rich residues.

- Main reasons cited for Crop residues being burnt, included :
  1. There is very little turn-around time between rice harvesting and wheat sowing
  2. Lack of proper technology for recycling.
  3. Other management options costlier and labour intensive.
  4. Labour availability constraints
  5. Rice straw is considered poor feed for animals.
- Suggested Alternatives for Crop Residue Management:
  1. Bio Char / gasification
  2. Incorporation in soil and Mulching/composting
  3. Baling/ Binder for domestic/industrial as fuel
  4. Direct seeding by zero-till or Happy Seeder/ super seeder
  5. Fodder / mushroom, Other purposes
- Implements that could be used in residue management:
  1. Combine harvester
  2. Super Straw Management System (Super SMS)
  3. Baler: to compress raked residues of rice, wheat, fodders, sugarcane, legumes etc into compact bales that are easy to handle, transport, and store. Bales can be used for animal feeding as well as bio fuels. They also creates alternative business for farmers to sell bales to power plants besides saving the environment from air pollution.
  4. Paddy Straw Chopper/ mulcher
  5. Zero-till sowing/ farming, which is a way of growing wheat / other crops without tillage or disturbing the soil in paddy/other crop harvested fields.
  6. Happy Seeder-Happy Seeder is one of the unique techniques which is used for sowing seed without any burning of Crop residue.
- Suggested Methods of Composting of crop residues, included:
  - In situ Decomposition : In fields (Incorporation as mulch)
  - Ex-situ Decomposition : In pits (Pusa rapid Decomposer liquid; Pusa rapid Decomposer capsules ; Preparation of N-enriched phosphor compost from agro waste/ crop residue; Minimal Alternate usage of paddy usage- Livestock fodder, Livestock bedding, in field incorporation, composting, electricity generation, mushroom cultivation, roof thatching, bio-gas ; Paddy straw be used as fodder after mixing with other sources or through value addition. ; Use of Paddy Straw for Mushroom Production ; Biochar production – High carbon material as a fertilizer, Stabilize and reduce emissions of harmful gases, increases the fertility, water retention and increases nutrient mineralization; Briquetting (Briquette is compressed bio-mass in nearly 6:1 ratio.
  - Other methods: Liquid fuels from biomass, Bio-ethanol from Paddy-straw, Bio-power from paddy-straw, Rice bio-park, Compressed Bio Methane (Bio CNG)
- Broad Recommendations for promotion of residue management included:
  1. Create value of crop residue and make farmers aware about its uses

2. Coordinated efforts by Centre & State Governments and more assistance for promotion through awareness by way of demonstration, training and capacity building
3. Revisiting the subsidy system for procurement of machinery by farmers
4. More Custom hiring centres may be promoted for easy reach of costly equipment for small and marginal farmers at village level
5. Incentivize farmers for adoption of various residue management operations
6. Support for funding R&D/technological up-gradation
7. Promotion of short duration varieties of rice
8. Better coordination between Research-Extension-Engineering-Policy makers
9. Farm mechanization components in different schemes like NFSM, NMOOP, MIDH etc. be brought under single umbrella for effective implementation and uniformity of assistance
10. Revisiting MGNREGA- linking with agriculture

4.1.3 **Mr. Ashish Agnihotri, PHDCCI** presented his views on Air Emission and Control from the Industry Perspective. He suggested that there is a necessity for paradigm shift in:

1. Statutory Compliance
2. Proactive approach - Pollution Control to Cleaner Production
3. Conservation of Resources for long term sustainability of Business
4. Continual Improvement in Environmental performance using latest technologies
5. Actively promote awareness and training

- Regarding the Environment Monitoring Practices he suggested need of :
  1. Well-equipped laboratory for Air and Water Analysis
  2. On line monitoring system (RTMS) for monitoring air emission (CEMS)
  3. Continuous Monitoring Weather Station
  4. Qualified and competent personnel are engaged
  5. Others have Outsourced monitoring to recognized laboratories at regular intervals
- He proposed a Control Philosophy which included:-

1. Pollution Prevention approach:

- To reduce, eliminate, or prevent pollution at its source
- Use less toxic raw materials or fuels,
- Use a less-polluting industrial process, and
- Improve the efficiency of the process.

2. Adopting Clean Technology:
   - Mechanical collectors, wet scrubbers, fabric filters (baghouses), electrostatic combustion systems (thermal oxidizers), condensers, absorbers, adsorbers etc.
   - Fuel switch over – to cleaner fuels
   - Emissions from transportations
     i. Closed vehicles / covered trucks (not fully compliant)
     ii. PUC checks at entry of the vehicles in plants
     iii. Bulk material handling in rakes to reduce road transportation (Big industries)

iv. Awareness among drivers (Transporters) on vehicle maintenance, safe & fuel efficient driving

- Regarding Air Emission in Industries, it was suggested that all Emission Sources such as Process Emissions; emissions from Power Plants; Fugitive Emissions and Vehicular Emissions – Onsite & offsite, need to be looked into.
- Some suggestions included:
  a) Options of transportation of Raw materials through pipeline to the nearby consumers (In Industrial Area / Estates only) – with elimination of road transportation
  b) Use of Multi-field ESPs to control PM in Boilers
  c) Need for Controls Applied Regionally or Nationally in Addition to Locally as Air pollution does not recognize geographic boundaries & Pollutants can travel great distances affecting air quality and public health locally and regionally in areas downwind
  d) Ensuring Availability of low cost CEMS – Reliable with ease of calibration
  e) Incentivize use of RTMS to promote self-regulation for necessary preventive and corrective actions, if required
  f) SMEs to be supported for monitoring through low cost monitoring models to improve their performance
  g) Incentives for certification of ISO14001/Responsible Care/GREENCO to drive self-regulation among industries
  h) Promote Industrial green clusters to reduce emission and encourage circular economy.
  i) Communication of efforts / initiatives taken by the concerned department to tackle the issues are communicated to the common people properly. A chapter on how to include the stakeholders in the planning process with special focus on environment and disaster management may be included. The strategy for involving different stakeholders may be different.
  j) The industries should device a mechanism such that they recycle their own products and again the same may be used by the consumers.
  k) Efforts may be made to link the products invented by the research organizations reach to the end users.

4.1.4 **Shri S.P. Singh Parihar, Chairman, CPCB** also chairing the session shared the following views:

- necessity of reaching out to people and such that people at large start participating in the environment management
- Departments should continue reaching out to schools and colleges/ RWAs to make them aware about the issues with involvement of social scientists.
- The strategy being adopted by CPCB to reduce PM levels by 2024 included :
  i. To improve on the monitoring network itself. 2-3 years ago, NCR had 53 ground based measuring stations, presently is 130 stations. This provides ground based measurements on air quality.
  ii. CPCB through IIT Delhi, has tried to look at the satellite based measurements. Aerosol Optical Depth (AOD) based measurements are also being looked at, specially for PM 2.5. The idea is to map the entire region, and look at the hotspots that need to be monitored closely as against others.

iii. Identification of sources: studies regarding source apportionment were conducted in 2015, 2016. An update on emission inventory for entire NCR has been done. The sources of emission, their contribution, and if there are any new source that has come up over time are looked at. This is completed in 2019 itself.

iv. Real time source apportionment is being undertaken. It is a dynamic source apportionment which is on, for which stations has already been set up and the measurements are on. Pre monsoon monitoring is done already, post monsoon monitoring is on. The results are expected in 2020. The idea is not only get annual picture, but also monthly pictures and what happens in the daily scenario (morning, afternoon and evening)

v. Coordination and Collaboration – The state Governments engaged in this exercise have to be educated and involved in the entire exercise. Efforts are being made in this direction. This also includes collaboration with the scientific institutions like NEERI, IRI. The department is also engaged with IIT Delhi, IIT Kanpur

vi. In Delhi, the air quality is not too bad in 8-9 months of a year, as compared to the winter season. The possibility of limiting the emissions also needs to be looked at. On this, IIT Delhi has been engaged. They are providing bi weekly feedback in advance. This lets the department know the likely scenario for next 15 days. They also inform in order to reduce the emission in the next 15 days, what are the steps that need to be taken by the department. They suggest about specific interventions in specific areas. This information is being shared with the responsible implementing agencies. However, the impact assessment is yet to be done.

vii. Pollution mitigation technologies like smog towers, smog guns may be looked at. The ionization technique is under stage of experimentation. Such techniques are good for micro climate management. This would help in dispersing the pollutants and reduce the concentration.

viii. The air filter technology has been looked at. The idea is to bring in those air filters for micro climate based interventions. It may be installed at major traffic intersections in order to bring down the PM levels.

ix. Under National Green Air program there is a corpus available regarding the concept of non-attainment cities. There are 122 non-attainment cities. If the cities does not meet any of the parameters that are being measured for air quality continuously for 5 years are considered as non attainment cities. Focusing on city specific solutions as against regional based solutions, is also a part of the strategy.

x. Further, Central Board has come up with guidelines for managing end of life vehicles. It has been made available to manufacturers and recyclers. It is important to set up infrastructure for recycling end of life vehicles in a manner as expected in line with the guidelines.

xi. Central board has come up with a methodology on Carrying Capacity. NCRPB may look at it and come up with a study for NCR as a whole and bring it to the policy makers that how much is the carrying capacity, and what can be done to make sure that the environment is managed.

- He suggested that the concerned states need to be involved during the planning stage itself. Capacity building of agencies also needs attention. Increased MRTS network shall also help in reducing vehicular pollution.

4.2 **SESSION-II** was chaired by Shri A K Mohanty, Joint Secretary, MoEF&CC.

4.2.1 **Shri V.K. Goyal, CCP, NCR Cell, Govt. of Haryana** gave presentation on Provision of NCZ in Regional Plan 2021. Major points and suggestions which were part of his presentation, included:

- Provisions for NCZ in Regional Plan 2021 AD:
- Natural Conservation Zone (NCZ):
- Highlighting various issues being faced by the Stae relating to Natural Conservation Zone, he suggested the following for Regional Plan-2041AD:
  i. The NCZ should be identified strictly as per respective Acts/Rules/Notifications of the concerned Ministry.
  ii. The NCZ areas should only be earmarked after Ground truthing/verification of the site & should be based on revenue records in consultation with participating States.
  iii. The mapping of NCZ should be done on GIS with proper coordinates of identified site.

4.2.2 **Shri Amit Singh, UP Pollution Control Board, Govt. of U.P.** shared the following:

- In the eight districts in UP, falling in NCR, there are four major rivers (Hindon, Kaali West & East and Ganga). Action plan for all these rivers have been prepared which majorly focuses on Industrial Pollution, Domestic Sewage Pollution, supply of portable water in villages by remediation, Demarcation of flood plain zones etc.
- The action plans are time specific, and concerned departments have been given the duties to initiate the points and take up actions as per action plan.
- For areas/ locations where STPs are not available, UP govt. has introduced Fecal and Septic technologies.
- For conservation, large scale and massive tree plantation is being carried out each year. Each district is given a target, and all the districts are working on it.
- There are gaps in terms of C&D waste plants. The department is coming up with policies regarding C&D waste processing plants. Few plants have started to come up in Ghaziabad.
- Solid Waste Management has to be streamlined in UP. New Solid Waste Processing Plants and Waste to Energy Plants need to come up in Uttar Pradesh.
- During the preparation of Regional Plan 2041, Municipal Solid Waste Plans and C&D waste plans should be added.

4.2.3 **Ms. Meenakshi Dhote, SPA, Delhi** shared her views on environment vulnerability and disaster management strategies for the NCR. She highlighted that:

- Necessity to understand the setting of NCR as its situated in the semi-arid bio geographic zone. The natural features that exist here are the Aravalli Range as well as the rivers. This region also happens to be the part of the Ganga Plain.
- To address the vulnerability and disaster issue, two aspects need to be addressed:
  i. Proneness of the region to natural disasters and vulnerability there off
  ii. Proneness of the region to manmade disasters.

And the plan needs to address both the type of disasters

- With climate change, there is unpredicted high intensity rainfall resulting into floods. This needs to be addressed.
- The canal system that was developed during the British period, was mainly to tame the notorious river.
- Unprecedented temperature levels being reached.
- These above points are climate induced, but they take the nature of a disaster.
    - The plan should address how are we addressing the flood plains, what are the land uses do's and don't's in the flood plain. Hot Spots of heat islands need to be identified.
    - This zone is under Zone IV seismic zone. A micro zonation study has been carried out for Delhi which indicates the 'No go areas', depending on the faults that are there. The plan need to take care of this.
    - Regarding the manmade disasters, there are certain spatial areas which lead to proliferation of diseases and these need to be identified. Areas that are affected by toxic ground water need to be identified and planned for, accordingly. At such areas, rain water harvesting or artificial water recharging techniques may be implemented at a much higher pace, so that stronger pollutants are diluted.
    - Areas having industrial hazards need to be planned properly for risk of Fires. Hazardous waste management in places where small scale industries are there, need to be done. Environment Management Plan for the entire cluster may be prepared.
    - Updated classification of land (example – Degraded Land) need to be mentioned in the plan.
    - URDPFI guidelines which also talk about this, and factor in some of the methodologies, may be referred.

4.2.4 **Mr. Nakul Kumar Karun, Disaster Management Cell, Noida District Administration** presented on perspective of Utter Pradesh government. He stated that:

i. According to the Seismic Hazard Map of India, UP part of NCR region is in High damage risk zone-IV of the Seismic Zoning map of the country

ii. Expected MSK intensity VIII regarding earthquake. ii) Very high damage risk zone B (Vb = 50m/s) with regards to wind and cyclone hazard and iii) Areas liable to floods

iii. Some of district having plethora of multi-story buildings and also highly populated urban villages making it more vulnerable from earthquake and fire disasters. Chances of a high intensity earthquake in near future cannot be ignored as per recent research of Indian and western world seismologists.

iv. Accordingly, Disaster Management Cell, Noida has initiated the School Safety programmes/ evacuation drills in Gautam Budha Nagar District; wherein about 80,000 students and 8000 teachers participated and sensitized in these programs till date.

v. Learnings from the efforts in UP brought out that Response time of Emergency Support Function deviated from standard ; ESF couldn't manage due to traffic congestion; Expansion of ESF is not in sync of peri-urban growth; Capacity of ESF not improved in sync with Risk of this region

- His suggestions for Mitigation included:
  i. Sustainable ecosystem management or sound environmental management can offer cost-effective solutions to reducing community vulnerability to disasters.
  ii. Stop over-exploitation of resources than can be sustained, such as land use and land cover changes, or changes to habitats due to conversion to croplands and urbanization; - climate change impacts are affecting ecosystems and exacerbating environmental degradation;
  iii. Pollution, from chemical waste and agricultural inputs, has severely degraded many ecosystem services, and continues to act as a major driver of change. This needs to be checked
  iv. Developing risk assessment models with the help of geospatial technologies to understand the existing ground conditions for quantification of risk and assessing related needs &gaps with regard to residential, commercial and industrial buildings in terms of micro identification of exposure to hazards, data development, vulnerability and Risk analyses, capacity assessments and identification of risk mitigation measures;
  v. Conducting vulnerability assessment of Physical, Social and Environmental spheres regarding the NCR –UP part area for minimization of risks, planning and implementation of Disaster Risk Reduction strategies in an integrated manner as a component of socio-economic development process
  vi. In UP, at least four times in a year in every school disaster management mock drills should take place. This may be included in the plan and the same may be replicated across NCR region.
  vii. Response time for Ambulance, Fire Fighting machines are increasing day by day. This is mainly because of congestion taking place due to traffic. Hence, there need to be transportation policy for the entire zone.
  viii. The peri urban areas also need to be into consideration while planning.
  ix. A separate chapter on disaster management may be done.
  x. Given the amount of sugarcane produced, to manage the waste, ethanol production factories may be promoted in Uttar Pradesh. GoUP. has already made a policy regarding ethanol production. Few industries producing ethanol are there at Hapur and Meerut. In case of C&D Waste, transportation cost is higher. To tackle this problem initiatives are being taken to develop C&D Waste plants at every commissionaire.

4.2.5 **Member Secretary, NCRPB** also added that C&D plant should be distributed one per mandal. There may be a policy proposal wherein government can give some subsidy for constructing such plants. This could be made financially viable. Bodies which are passing the maps take some kind of cess. This amount may be transferred to the escrow account to be used specifically for the development of C&D Plants.

4.2.6 **Shri A K Mohanty, Joint Secretary, MoEF&CC** shared the following points:

- Development is necessary but at the same time NCZ also is important in order to develop the whole landscape.
- Vulnerability is not only about hazards, but also about preparedness. How much an individual is prepared to counter the vulnerability of the hazard, the adaptability or the resilience aspect also plays an important role. For example, Japan used to be affected by earthquakes, but now they have come up technologies such that they are less effected. Odisha has done a wonderful task in

Disaster Management, specially in case of Cyclone. These aspects need to be reflected in RP Plan.

- Eco system services – They play a role in mitigating the disasters. The forest fire is often termed as a crisis not a disaster because of its impact level. To tackle such crisis/disaster there need to be a futuristic plan. Understanding of the ecosystem services, their values and how we can protect them, need to be there.
- Enhancing the capacity of resilience through awareness, research- For this, constant dialogues amongst the policy makers, operational managers who implement etc should take place.
- The environment parameters that results in crisis/disasters should be listed in the planning documents.
- Coverage of green areas should be promoted.

4.3 **SESSION-III** was Chaired by Mrs. Bharati, JS, MoEF&CC. Ms. Ambika Sharma, World Wild Life Fund shared her views out which following points were the key takeaways:

- As both Conservation and Development are important, it should be preferred to extract those sources in a logical manner so that the economy continues.
- Follow the suggestion of "Measure what we treasure" based on which an initiative to look "beyond GDP", was started when presented at Valuation of Ecosystem Services for Growing economy, 2012, Rio conference
- In order to achieve the SDGs and go beyond that it is essential to protect and restore the planets natural spaces.
- Municipalities and states to do budgeting to show how ecosystem services have a certain value vis a vis the development initiative.
- Bio diversity be considered as a natural capital providing four kinds of services- Provisioning, Regulatory, Cultural and supporting services. Its provisioning services are the products that we receive from ecosystem. Example, Energy, Food. (Example of Kunigal Wetlands of Tumkar in Karnataka – A classification of services provided by the wetlands were identified. Only the potential in terms of tourism that occurs in the place is in millions if economic evaluation is done. Tarai Arc Landscape (TAL) of Uttarakhand, part of UP and Bihar, a long stretch of protected areas in the foothills of Himalaya. The services when evaluated is around 227 billion in 2005-06. The same value turned out to be 390 billion in 2015-16.)
- As in general, Planning has been city centric, need to look into District level planning as is also being done in Uttarakhand
- Efforts be made such that Ecosystem is less disturbed.
- Policies and plans at the regional scale need to take place to evaluate the value of the ecosystem services. Urban bio diversity is something that gives value back.
- The green spaces need to be rejuvenated.

4.3.1 **Mr. OP Gupta, Sr. Environmental Engineer, Rajasthan State Pollution Control Board, Alwar, Rajasthan** presented on Environmental Status in NCR Rajasthan:

- Important Environmental Acts/Rules included:
  i. Water (Prevention & Control of Pollution) Act, 1974.
  ii. Air (Prevention & Control of Pollution) Act, 1981.

iii. Environment (Protection) Act, 1986.
iv. Environmental Impact Assessment Notification, 2006
v. Bio Medical Waste Management Rules, 2016.
vi. Solid Waste Management Rules, 2016.
vii. Hazardous & Other Waste (Management and Trans boundary Movement) Rules, 2016.
viii. Plastic Waste Management Rules, 2016.
ix. E-Waste Management Rules, 2016.
x. Construction & Demolition Waste Management Rules, 2016

- He talked about efforts made in the state regarding Increased Transparency, Accountability & Ease of doing Business
- Regarding Air Pollution Control in Alwar district, he shared the list of various industrial clusters and industry types in the subregion.
  i. Major industrial cluster consist of industrial areas namely (i) MIA, Alwar (ii) RIA, Neemrana (iii) Bhiwadi –Phase I to V (ii) Kehrani (iii) Chopanki (iv) Pathredi (v) Sare Khurd (vi) Khushkhera(vii) Tapukara (viii) Karoli. Rajasthan State Industrial Development and Investment Corporation (RIICO) is instrumental in developing these industrial areas since 1975.
  ii. There are about 3000 nos. units in Alwar district. Prominent of these are automobile manufacturing (Hero Motocorps, Honda Motorcycle & Scooters, Honda Cars), glass manufacturing (Saint Gobain), cement manufacturing (Shree Cement), soft drink (pepsi), breweries (Sab Miller India, United breweries, Carlsberg Ltd., winsome, Mahaou India) wires and cable manufacturing, stainless steel sheet manufacturing (Patta- Patti), Pharmaceuticals, Automobile parts, Iron melting industries (induction furnaces), Pesticides, laminate sheet manufacturing, chemicals, Mineral grinding units etc .
- Monitoring of Ambient Air Quality (Manual & Continuous)
  i. 3 manual monitoring stations in Alwar, 3 stations at Bhiwadi and 3 stations at Bharatpur have been established in residential, commercial and industrial areas to know ambient air quality parameters PM 10, SO2 and NO2.
- He also shared information about Status of Common Effluent Treatment Plant (CETP) at Bhiwadi
  i. CETP of capacity 09 MLD (90 Lac liters/ day) is operational at Bhiwadi. The industries established at RIICO industrial area, Bhiwadi (Phase-I to V) are connected to the CETP. The CETP is based on Primary (Physico-Chemical) secondary (Biological) and Tertiary (Activated carbon and pressure sand filter) Treatments. The waste water from industries is discharged in open drains leading to the CETP.
  ii. To avoid mixing of rain water and domestic water with the industrial waste water, it is planned to lay down closed conveyance system (Pipeline) in the Industrial Area Bhiwadi from individual industries to the CETP. To utilize the CETP treated water by the industries themselves reverse pipeline (i.e. from CETP to the individual industry) to be provided. Also, it is planned to upgrade the existing treatment facility at the CETP by providing Reverse Osmosis (RO) System for 06 MLD, so that the treated water can be used in the process itself by the member industries. The RIICO Ltd had prepared DPR of the above project. The Central

Govt. has sanctioned required fund for the project, approx 145 crores recently. The RIICO Ltd is the State Implementing Agency (SIA) for the Project. This project is likely to be implemented in next 02 years.

- He stated that in Compliance of Bio Medical Waste Management Rules 2016, as per which Health care facilities (HCF) are required to dispose of bio medical waste as per the provisions of Bio Medical Waste Management Rules, 2016 and HCFs are required to obtain authorization under the provisions of above said Rules, in Alwar a Common Bio Medical Waste Treatment and Disposal Facility (CBWTDF) namely M/s Hoswin Incinerator is functional near MIA, Alwar. Shredder, Incinerator and Autoclave has been provided at CBWTDF for treatment and disposal of Bio Medical Waste generated from Alwar and Bharatpur district. Bio medical waste generated from Alwar and Bharatpur district is being treated and disposed of through CBWTDF at MIA, Alwar.
- Further, in Compliance of Hazardous Waste Management Rules 2016as per which Hazardous waste generated from industrial units/projects is required to be dispose off under the provisions of Hazardous and Other Wastes (Management, Handling and Trans-boundary Movement) Rules, 2016, all industrial units/projects which generate hazardous waste are required to obtain authorization from the State Board under these Rules. Common Hazardous Waste Treatment and Disposal Facility (CTDF) is functional at Udaipur and Balotra in Rajasthan State. Hazardous waste generated from Alwar district is sent to CTDF, Udaipur. Besides incinerable hazardous waste is sent to common incinerator at Behror, district Alwar.
- In Compliance of Plastic Waste Management Rules 2016, Go Rajasthan, vide notification dated 21.07.2010 issued by Department of Environment, has imposed complete ban on manufacturing, storage, sale and use of plastic carry bags in Rajasthan State. Under Plastic Waste (Management & Handling) Rules, 2016, every producer, brand owner and plastic waste processors are required to obtain registration from competent authority.
- Alwar City has been identified as Non-Attainment City (Cities are considered as Non-attainment cities, if they were consistently showing poorer air quality than the National Ambient Air Quality Standards.) Action Plan for Alwar City has been approved by CPCB, Delhi in Feb 2019 to control air pollution so as to bring the air pollutants within prescribed norms. The Stakeholder Departments are Transport, LSG, RPCB, RIICO, PWD, Agriculture, UIT etc. As per Department of Environment, Govt. of Rajasthan vide order dated 03.06.2019 "District Environment Committee" shall monitor the compliance of Action Points of Action Plan.

4.3.2 **Ms. Nilima Soni, Deputy Director (Landscape), Delhi Development Authority** presented on the subject of Landscape -A Way towards Saving the Environment, with Delhi as example.

a) The master plan has provisions of various Category of master plan greens which include Habitat Protection- Regional Park/Ridge, City Park, District Park; Carbon Sinks- Community Park, Neighbourhood Park and Recreation, Aesthetics, Quality of Life- Tot lots, Biodiversity Parks, Yamuna riverfront.

b) It emerged that against a permissible level of 50-60 dB (A), the sound level in Indian cities often exceeds 80 dB (A). Faulty and leaking silencers, over-use of horns and vehicles plying on roads accentuate noise level, besides the noise from other sources are causes of concern.

c) It was shared that Natural features in Delhi included River Yamuna , Regional park : the master plan of Delhi – 2001 identified the regional park into four parts i.e Northern ridge 87 ha. , Central ridge 864 ha. , South central ridge (mehrauli) 626 ha. , Southern ridge 6200 ha. Subject to verification, the area of regional park is 7777 ha.

d) It was shared that two Bio-diversity parks are under development by the DDA. In the Urban Extension areas DDA proposes to provide the green cover at the rate of 15% of the total land, excluding the Ridge/ Regional Park. Out of this, some area shall be developed in the form of formal parks for the community and the rest shall be developed as woodlands and incidental greens for balancing the environment.

e) The Ecological Landscapes of Delhi also covered Revival of Waterbodies; Yamuna Biodiversity Park, Wazirabad; Aravalli Biodiversity Park, Vasant Vihar; Northern Ridge, North Campus; Tilpath Valley Biodiversity Park; Neela hauz, South Central Ridge; Tughlaqabad Biodiversity Park, Maa Anandmai Marg; Green Area at Adrangnath, Vasant Kunj; Revival Of Water Body At Hauz Khas (In a bid to rejuvenate the lake, initiative has been taken up to clean up the waterbody by floating artificial wetlands.)

f) DDA has now created a chain of 7 Bio-diversity parks all over Delhi. Biodiversity Initiatives by DDA: DDA, has played a significant role in building the city, also taken a lead in restoring, maintaining and preserving the natural heritage of Delhi.Keeping this as a major goal, DDA has been actively promoting the development of green belts, theme parks, urban woodlands etc and, this makes Delhi the greenest metropolis of India. Nevertheless, much of the indigenous flora and fauna have vanished and what is left is also threatened due to urbanization. The need for Biodiversity Parks – making investments for posterity

g) It was informed that a regulatory body by the name of Unified Center for Rejuvenation of River Yamuna- Restoration and Beautification (UCRRY) was notified under the Chairmanship of Hon'ble LG. The Final report of Principal Committee, constituted by Hon'ble NGT titled 'Floodplain Development Yamuna River, NCT of Delhi ' dated October 2015 , was forwarded to DDA in December, 2016.In Compliance , a Comprehensive Plan of Zone-O and Concept Plans of four areas were approved in 346th Screening Committee Meeting. Works for Area -1 of the project from Old Railway Bridge to ITO Barrage started.(90% of the works for Area 1 on the land available completed)

h) Key issues of Yamuna River in Delhi as per Hon'ble NGT guidelines: Reclamation, restoration and rejuvenation of riverbed and floodplains, Encroachment on floodplains, Pollution in river and large scale dumping of solid waste

4.3.3 **Mrs. Bharati, Joint Secretary, MoEF&CC** presented on topic "Environment Conservation and Convergence for local prosperity in National Capital Region". Key takeaways from her presentation area as follows:

- All planning and development efforts should be in the direction of :
  - Shared economic prosperity
  - Safety
  - Good infrastructure
  - Affordable housing

- Healthcare
- Education
- Natural environmental factors, adequate green space
- Other amenities such as cultural/entertainment services

- 5 Ps – People, Planet, Prosperity, Partnership and Peace important for sustainable development, need emphasis
- Example of "Indira Paryavaran Building" as a green building using its own energy was cited and need for similar efforts in NCR emphasized.
- Major Challenges include Integrated urban-rural development ; Climate change (Urban heat island effect is unique to cities; Cities occupying 2% of the world's land resource, but contribute 80% of GHG emissions as per UN-Habitat and hence Urban poor are worst affected; and Increasing urban population due to natural growth and increase in migration (leading to issues of Inadequate green spaces, Traffic congestion, Air pollution, Resource scarcity e.g water)
- Sharing efforts made worldwide following was informed:
  - China's urbanization: lifted more than 500 million people out of poverty, in rural and urban areas alike; Promoted shared prosperity through smart urbanization ; Concentrated on rising inequality, urban pollution and productivity and sustainable growth.
  - Toronto : urban revitalization done by an education centre and small business workspace in Toronto's downtown; Regenerated an old industrial site for community use ; engaged citizens in matters of environmental sustainability; Supported a local community of producers and innovators related to sustainability and cities.
  - Dar es Salaam, Tanzania ; efforts on mainstreaming of urban agriculture included Government favoring urban farming allowing households to be self-sufficient, helping in mitigating effects of droughts in rural food producing areas. 90% of Dar es Salaam's vegetables are grown in open spaces and home gardens, even generating income ; All stakeholders, government and civil society recognized the relevance of urban agriculture and officially included it in the Strategic Urban Development Plan 1992; Training and support for vegetable and horticultural groups carrying out farming activities in open spaces and road reserves to facilitate income-generation opportunities and temporarily protect such areas from invasion and dumping of waste
- Considerations for environment conservation and convergence for local prosperity
  - Prioritizing the challenges in the specific local context for improving peoples' livelihood
  - Establishing urban-rural partnerships for interdependencies and foster synergies
  - Development of a strategic action plan based on the definition of priority areas
  - Identify and implement short-term demonstration projects in order to make improvement tangible for the population.
  - Interactive integration of local communities in defining and implementing those projects and for cross-cutting issues
  - Building up of local capacity, not only in planning aspects, but integrating financial, governance and socio environmental aspects, as well as management and communication skills for successful implementation processes

- Challenges for Green Spaces in NCR include

i. Segregated land use/small areas for development
ii. Unorganized dump yards for household/industry waste leading to more wasteland
iii. Dried wetlands
iv. Loss of private urban green space
v. Loss of urban wildlife

- However steps such as High density development, incentive programs, Innovative designs, Smart work centres - reducing the need to travel, improving productivity, and enhancing work-life balance, Efficient catchment of rainwater and recycling of sewage, Making alternative energy a national priority, Renewable energy sources and rainwater harvesting have also become standard on all buildings, could help increase green space share as in cities of Singapore, Hong Kong, Oslo, Helsinki, Stockholm, Sydney, Vienna, Zürich etc.
- Naya Raipur's plan to green wherein the 25-year development plan envisions a 500 m wide green belt of an area of 15.09 sq. km surrounding the core area spanning 80.13 sq. km., Earmarks open spaces in its residential areas, with 30% land reserved as green in each residential sector, proposes banks of all water bodies to be developed in a manner that they are lined with trees, was also shared for consideration in NCR as applicable
- Example of Restoring Otteri lake in Chennai wherein 18 acre dried lake was revived by cleaning natural drainage channels and desilting followed by plantation of right type of species leading to nearly 300 migratory birds have already nested around the revived lake, was also shared for consideration in NCR as applicable

4.4 **SESSION-IV** focused on **'DISASTER MANAGEMENT'** and was chaired by Shri Kamal Kishore, Member, NDMA. Major points shared by him included:

a) Earlier, disaster were primarily seen as rural phenomenon and hence nodal ministry for disaster management used to be Ministry of Agriculture. However, it was acknowledged that Disaster is just not just about droughts.
b) Disaster is more complex and it is now becoming very urban owing to number of fatalities in urban areas. Thus, disaster management should not be seen as a business of experts only but it is everybody's business.
c) Mismanagement of wetlands will lead to increase in the risk of urban floods. Even in the dry year Delhi gets flood incidents.
d) Excessive extraction of ground water has its impact on built environment.
e) Delhi is a city in zone-I and thus in a highly seismic active area.
f) Incidents of heat wave are increasing; numbers of hot days are increasing. Studies indicate difference in the heat signature across cities depending on the built environment.
g) NDA guidelines may be referred too, while preparing the plan.

4.4.1 **Shri D.K. Shami, Chief Fire Advisor, MHA** while sharing his views, highlighted the following points:

a) There should be a separate chapter on fire although Fire is a State subject. & each state has their own rules. Board may need to penetrate in the legal framework of the concerned states.

b) There are standards mentioned in the National Building Code. But implementing the recommendations in industrialization and urbanization process as well as in unorganized sector is to be looked into.

c) Authorities need to get a socio economic study of an area, before giving any recommendations related to fire.

d) Regarding availability of Fire station and manpower, it was informed that there is shortage of firemen and fire equipment's. In 2012 a risk and hazard analysis in the country was conducted and according to that there is shortage of 97% as far as fireman or equipment are concerned. According to the study, there is a shortage of 65% of number of fire stations.

e) He suggested to have a Centralized command and control center room for monitoring purpose, in all States as in Uttar Pradesh. The information related to the hazardous buildings should be linked directly to the control room

f) Regional Plan should be linked with the smart city plans.

g) National Building Code are in place for hotels, hospitals etc. but are not being followed and hence Specific ward wise plan should be in place and monitored regularly.

h) At local level, a limit to the total number of footfalls in Malls, Hotels could be looked into.

4.4.2 **Dr. Mahapatra, Director General, IMD** shared the following points:

a) Urban identity is completely different from the rural identity in terms of hazards, vulnerability and risks, which are the three deciding parameters for whether a hazard will be converted into a disaster or not.

b) Ministry of Earth Sciences deals with atmospheric components, ocean components and land also. IMD is a nodal agency for weather related hazards which includes heavy rainfall, thunder storm, hailstorms, lightening, heat waves, cool waves etc.

c) For Air Quality Monitoring and Forecasting, Ministry of Earth Sciences has a systemic procedure and also there are dynamic models to forecast the same. For Health Sector and Sanitation which are related to heat stress/cold stress, assistance is also being provided in the form of action plans. There are heat action plans for various cities after taking into consideration most of the concerned stakeholders. The Institutional mechanism under the Ministry of Earth Sciences to support the other agencies be benefitted from by concerned departments in NCR

d) NDMA also has guidelines with respect to various types of Natural Hazards, the most recent being Urban Flood Warning Systems guidelines.

e) It was informed that Effects of urban heat island is not only limited to increase in heat. It can also lead to a higher rainfall. Studies indicate that the temperature is increasing in the region, apart from the heat island effect, in fact because of the global warming. The impact of climate change is found to be more in Urban Area than it is in Rural Area. The occurrence of heavy rainfall frequency is increasing more in urban areas compared to rural areas.

f) Hence while planning for 2041, not only the business-as-usual scenario need to be considered, but also the projections related to expected rise in temperature or

increase in rainfall frequency need to be taken into consideration. The impact on various sectors may be projected accordingly.

g) A Center for Climate Change Research and a Climate Research Service Centerof IMD are established in Pune, who work out the past climate changes and estimate future climate changes. Their services can be taken by States

h) As per study in the South Asian region, the easiest way to counter the impact of disaster is to improve the early warning system.

i) It was shared that Delhi had 2 radars in the city (at Airport and at Lodhi Road which compliment to each other and cover entire city.) These provide information every 10 minutes and have capacity to detect hail storms, internal structure of the clouds etc.

j) IMD is aiming for an Upgraded Observational Systems and forecasting modeling platform in the next 5 years. From April 2019, IMD has also started predicting lightening, 48 hours in advance for different districts and 3 hours in advance for specific locations.

k) IMD also assists in developing heat action plans for cities. NDMA has been requested to come up with Cold Wave action plan which could be referred by States.

l) The 10 air quality monitoring stations of Delhi and 14 locations of Display systems are planned to be extended. States may also look into this aspect for having an overall NCR level monitoring and forecast.

4.4.3 **Shri Sharad Chandra, Director (FFM), Central Water Commission (CWC)** presented the Flooding risk mitigation aspects.

- Flood risk is a hazard, exposure and vulnerability. Risk management have different phases. First is risk avoidance, risk exploitation, risk transfer, risk monitoring.
- Need to move from crisis management to risk management.
- Multi-level involvement (State, Local Bodies, Individuals) is needed for flood risk assessment and thereafter its reduction.
    - First is flood plain area zoning or food prone area analysis. There is a necessity to link flood plain area to planning and designing of Development in area.
    - Flood plain zoning involves Restricting human activity in flood plains of river; Regulation of land use & Protecting right of river
    - Key input in Flood Plain Zoning (FPZ)
        - Flood Level Marking
        - Generation of Static & Dynamic Inundation Maps
        - Past Satellite Imageries Analysis (30 years)
        - Return Period inundation Maps based long term
        - Hydrological data & 2D modeling
        - Real Time inundation forecast for strategically important locations
    - Benefits of flood plain zoning
        - Damage of Life & property reduced

- Providing habitat for aquatic, riparian & terrestrial plants, invertebrates, birds & animals
- Improved groundwater recharge & base flow
- Spread of fertile silt in flood plain - reduction of dependence on chemical fertilisers & irrigation

- Global Experiences shared included
  - Japan
  - Emergency Management is Preparedness, Response, Recovery and Mitigation.
  - Whole country is covered by 26 radar rain gauge. The information of 1-km mesh resolution is updated every half an hour and available on the internet. The radar data is calibrated on line using the ground data.
  - Have prepared Hazardous Map.
  - USA, has made the flood hazardous map for whole of the US.
  - Predominant Strategies in Europe include Flood Defense ; Flood Prevention & Food Recovery – Reconstruction and Rebuilding Activity
- Strategy in country is now Shifting towards Flood Mitigation and Flood Preparation and preparation and adoption of Integrated Flood Management (IFM) approach covering both Structural and non-structural measures
- FPZ should be pursued for un-protected reaches of river & in case of protected reaches, river side area of embankment/ bund may be marked as flood plain zone
- Rural areas may have 2 Zones
  i. 2-5 year return period flood – Prohibitive
  ii. 25 year return period flood- Restricted
- Urban areas may have 3 zones
  i. 2-5 year return period flood- Prohibitive
  ii. 25 year return period flood- Restricted
  iii. 100 year return period flood- Warning
- GIS mapping of the flood prone areas for different flood frequency levels
- Demarcation of flood plain zones by ground survey
- Cases where flood plains have been encroached upon, suitable package of incentives to move away from flood plains & disincentive for further intrusion should be introduced
- Key Takeaways:
  - Essential to manage various vulnerabilities viz flood plain encroachment, faulty reservoir operation etc, effectively
  - IFM- combination of structural & non-structural measures
  - Reservoirs for flood moderation- if their flood cushion is used effectively. Rule curve for all reservoirs should be prepared & updated timely. Rule curves of major reservoirs, where flood cushion is not in-built, need to be reviewed to have some dynamic flood cushion for major part of the season.

While planning new water resource projects- storage may be decided with provisions for flood moderation.

- Inflow forecasting- an important tool for real time reservoir operations
- Emergency Action Plan (EAP) for dam break/extreme flood situations- Dam break flood inundation, Flood waves & time analysis
- Better co-ordination for data flow with different agencies- need of hour
- Revision of Danger & Warning Level, Threshold value
- Need for more impact based warning at micro level

4.4.4 **Shri Anuj Tiwari, Sr. Consultant (Policy, Plan and Mainstreaming) National Disaster Management Authority (NDMA)** discussed about the Flooding Risk Mitigation aspects. His key points included:

- Efforts be made to reduce, minimise and mitigate the causes and reasons leading to Floods i.e.
  - Inadequate capacity of rivers to contain within their banks the high flows brought down from the upper catchment areas following heavy rainfall
  - Tendency to occupy flood plains
  - Varying rainfall distribution leads to flooding of non-traditional areas
  - Areas with poor drainage facilities
  - Excess irrigation water applied to command areas
  - Increased ground water level
  - silting of the riverbeds,
  - reduction in the carrying capacity of river channels,
  - erosion of beds and banks leading to changes in river courses,
  - obstructions to flow due to landslides,
  - Synchronization of floods in the main and tributary rivers and retardation due to tidal effects. Etc.
  - lack of effective reservoir management.
- Flood Management in Country:
  - At present, CWC is entrusted with monitoring of flood situation in the country during designated and issuing flood forecasts to the local administration/ project authorities/ State Governments and other Central Ministries such as Home Ministry, NDMA/ NDRF etc.
  - Flood Forecasting Network covers 325 stations covering 197 low lying area/ cities and towns besides 128 reservoirs all over the country.
  - The network is spread on twenty river systems and also covers NCR areas of NCT of Delhi, Haryana , UP and Rajasthan .
- Following NDMA Initiatives need to be benefitted from:
  - National Guidelines on Management of Floods and Management of Urban Flooding released in 2008 and 2010 respectively.
  - Frameworks for management of floods and urban flooding.
  - Roadmap for mitigation of urban flooding to States/UTs in July 2017, with short, medium and long term measures.
- Following Action Points were suggested by NDMA to States / UTs –
  a) All reservoirs should have inflow forecasting system

b) Need for better coordination between CWC and IMD
c) Existing mechanism to review the safety of dams to be strengthened
d) Integrated reservoir operation between upstream and downstream dams may be explored
e) Project Authorities to revisit the rule curves of large reservoirs in the country
f) Reservoirs having live storage of more than 200 MCM should have some margin as flood cushion
g) Possibilities to create further storage reservoirs in the country should be explored.

- NDMA Guidelines on Management of Floods also addresses legal issues such as
  i. Flood Plain Zoning
  ii. Incentives and Disincentives to States for Enacting and Enforcement of Flood Plain Zoning Regulation
  iii. Encroachment into the Waterways and Natural Drainage Lines
  iv. Bye-laws for Buildings in Flood Prone Areas
  v. Legal Framework for Making Infrastructure Flood Resilient
  vi. Survey of Flood Prone Areas
  vii. Wetlands: Conservation and Restoration
  viii. Watershed Management Including Catchment Area Treatment and Afforestation
  ix. Coordination and Enforcement
- As per NDMA Guidelines - an appropriate legal framework to be developed by the state governments/SDMAs so as to make it mandatory for obtaining clearance for the plans for construction of the infrastructure in flood prone areas from states' irrigation/flood control/water resources departments with respect to their safety against floods and effects thereof on the vulnerability of the area to floods and drainage congestion, who will process the cases in a fixed time frame.
- **Issues and Gaps to be addressed**
- The factors which need to be addressed in management of floods –
  a) Improved forecasting and timely dissemination of early warning by IMD
  b) Better planning
  c) Coordination between CWC, IMD and States
  d) Inter-state coordination
  e) Prompt actions at all levels by concerned stakeholders
  f) Dissemination of information and actions to be taken by CWC to its offices in States and to other counterparts in the State.
  g) Coordination with the district administration for timely and accurate information to ensure timely evacuation from catchment areas.
- Issues with respect to Delhi/NCR
  a) Most Important Region in the Country – National Capital – National and International Attention
  b) Prominent Centre for Socio-economic, political and international activities
  c) States Vs NCR Approach
  d) Inter-State and Inter-District Coordination
  e) Inter-Agency Coordination

f) Balancing between conflicting interests

4.4.5 **Mr. Javed Iqbal, Expert, NMDC** discussed about the aspect of "Earthquake Risk Mitigation". Key points from his presentation included:

- India is prone to various hazards with 85 % of Indian landmass affected by one or more Disasters (12% with Floods; 15% Landslides; 59% Earthquakes and so on)
- In terms of risk of losses, earthquake has the highest fatality and damage potential
- Vulnerability Profile of India:

- India is prone to multiple hazards both frequently occurring hazards such as floods, cyclones as well as infrequent hazards such as earthquakes
- More than 300 districts are in the multi-hazard-prone category
- Eighty percent of buildings are vulnerable to varying degree of disasters
- Past earthquakes have caused damage to all building types: lack of enforcement of building codes

- Housing Density on India map

- Density of housing is higher near urban areas which vary from 1500/Km2 to 7000/Km2
- Many of these high density areas also lie in moderate-high seismic zones.

- Challenges for Earthquake Risk Mitigation

- Huge stock of vulnerable structures
- Lack of awareness among various stakeholders about the seismic risk
- Inadequate monitoring and enforcement of earthquake-resistant building codes and town planning bye-laws
- Absence of systems of licensing of engineers and masons
- Lack of formal training among professionals in earthquake-resistant construction practices

- Earthquake Risk Mitigation Efforts/Initiatives by NDMA:

o Guidelines on Management of Earthquakes

- Focuses on six Pillars for safe Built Environment
  i. Earthquake Resistant Construction of New Structures
  ii. Selective Seismic Strengthening & Retrofitting of existing Priority Structures and Lifeline Structures
  iii. Regulation & Enforcement: Techno-Legal and Techno-Financial Regimes
  iv. Awareness & Preparedness
  v. Capacity Development
  vi. Emergency Response

o Guidelines on Seismic Retrofitting

- Emphasis on the Need of Retrofitting
  i. Safety: prevent loss of lives and property owing to collapse of buildings;
  ii. Governance Continuity: avoid handicap due to loss of critical and lifeline structures required in the aftermath of earthquakes; and
  iii. Economic Loss Reduction: make chosen structures including industrial structures meet certain stringent earthquake performance requirements towards maintaining business continuity and national productivity.

iv. Retrofitting is not just an option, but a national urgency.

- NDMA Prepared Earthquake Hazard Maps and Atlases for the country upto district level with sub-district boundary & shared them with all the stakeholders including States and Districts
- Ongoing Efforts of NDMA include: Earthquake Resistant Built Environment
    - Partnership with BIS to develop simplified guidelines based upon BIS codes and NBC-2016 explaining the basic requirement of earthquake resistant constructions in the interest of common man and public as a whole
    - Pilot project to improve earthquake resiliency of masonry Lifeline structures:
    - National Earthquake Risk Mitigation Project is under Conceptualization, and this shall include Enhancing Emergency Response Capacity, Multi-hazard Risk Mitigation of Govt. Infrastructure, Technical Assistance to Improve Disaster Risk Management
- For Risk Reduction in New construction it suggests Construction of Earthquake Resistance Building as per Codes and Proper Land use Planning (Micro zonation)
    - For Risk Reduction Existing Building, NDMA suggests, Periodic Structural Safety Audit, Retrofitting of Seismic Deficient Buildings, Demolition of Highly Vulnerable buildings
- Measures/ Suggestions for Delhi included

o Standardized Building Permit System

i. Voluntary Licensing of Engineers

ii. Scrutinizing Structural Design Basis Report (SDBR)

iii. Recording of progress and checking at various construction stages of a building

o Structural Safety Assessment of Critical infrastructure and selective retrofitting thereon.

o Training of Engineers, Masons, bar-benders etc.

- Conclusion:

o Earthquake cannot be stopped, but efforts to avert fatalities and property damage by taking proper action, can be done

o Proper land use planning

o Regulation and Enforcement of building codes through Robust Building Permit System.

4.4.6 **Member, NDMA** in his closing remarks shared the following:

- need to keep some parameters in mind while planning for landuse or doing city planning
- Increase in the understanding of hazard context is necessary.
- Local population need to be involved because they can give practical problem and practical solutions that can be implementable. This will also strengthen the participation of population at risk.
- The physical infrastructure of Urban area should include disaster resilient features.

- Retrofitting of the existing buildings, should be made a part of this plan and has to be implemented by force, if required.
- There is a need to come up with diverse and various sources of knowledge and have a common perspective.
- Plan should have Flexibility and responsiveness. Review of the plan may be done at regular intervals and improvements if any, may be done accordingly.
- Make sure there should not be any harm to the environment. Climate change is deciding the future course of action and hence Environment has to be protected

5 Conclusion

It could be concluded that the NCR needs to adequately take into consideration the issues related to Environment as well as Disaster, be it earthquake, floods or fore etc. For managing Air & water pollution issues, cooperative and collaborative approach is to be adopted by NCR States. Extensive data collection, analysis, sharing and continuous monitoring & evaluation can help in these matters. Available guidelines from Central Ministries and its departments need to be benefitted from.

The plan for 2041 need to carefully address all such aspects that were highlighted during Regional Plan 2021 review as well as the subsequent workshop and deliberations thereafter, considering views of maximum stakeholders as possible.

List of participants "Environment & Disaster Management" held on 13.12.19

S. No.	Name, Designation and Organisation
1.	Shri Y V Singh, Principal Scientist, Indian Agriculture Research Institute, New Delhi
2.	Shri Atul Singh, ADM (F&R), Pilibhit, UP
3.	Shri Kuldeep Singh, AEE, Haryana State Pollution Control Board
4.	Shri Sanjeev Kumar, Divisional Forest Officer, Shamli, UP
5.	Shri M K Balodi, Forest Range Officer, Jansath Renge, M.Nagar
6.	Shri D R Chaudhary, Second in Command, NDRF HQ
7.	Shri P. Selvadurai, Director, AMDA
8.	Shri Mohit Jain, Accounts Officer, AMDA
9.	Shri Umesh Kumar, AEE, RSPCB
10.	Shri Totak Acharya, Asstt. Director (Planning), AMDA
11.	Shri Bbhijit Datey, Asstt. Professor, TERI School of Advanced Studies
12.	Dr. Gurdev Singh, CMO, Delhi Cantonment Board
13.	Ms. Gurpreet Kaur, AMDA, Asstt. Director (CBQT)
14.	Ms. Archana Sharma, Associate Planner, NCR Cell, Gzb.
15.	Ms. Ishita J. Kumar, DTP, BIDA, Bhiwadi, Alwar
16.	Shri O P Gupta, RO, RPCB, Alwar, Rajasthan
17.	Ms. Neelanjali, Dy. Director, AMDA
18.	Ms. Aradhana Singh, Program Officer, Wildlife Trust of India
19.	Dr. Sandeep Kumar Rawat, Associate TCP, TCPO, New Delhi
20.	Shri S P Singh Parihar, Chairman, CPCB
21.	Dr. Sarita Jain, R. Director, ICFRE
22.	Shri Manish Kumar, Asstt. Div. Officer, Delhi Fire Service
23.	Ms. Vishakha Jha, Research Ass., NIUA
24.	Shri Deepak Sharma, CFO, Shamli
25.	Shri D K Singh, Sr. Env. Engr., Delhi Pollution Control Committee
26.	Dr. Jagvir Singh, Director/ Scientist, MOES

S. No.	Name, Designation and Organisation
27.	Dr. Sanjukta Bhaduri, Dean (Research), SPA, Delhi
28.	Shri Rakesh Kumar Gupta, SE, MDA, Muzaffar Nagar
29.	Shri Tushar Kant Jain, HPDA, Hapur
30.	Ms. Meenakshi Pawar, Delhi Development Authority, ITO
31.	Shri Ankit Srivastava, Aen, Municipal Council, Bhiwadi, Rajasthan
32.	Ms. Kruttika, PHD Chamber of Commerce
33.	Ms. Pankhuri, PHD Chamber of Commerce
34.	Shri Sanchit, PHD Chamber of Commerce
35.	Shri Sushil Kumar, Project Coordinator, DDMA (South East)
36.	Dr. Areendran, Director, WWF India
37.	Ms. Neha Tyagi, Advocate
38.	Dr. M K Singh, Nagar Swasth Adhikari, Nagar Nigam, Gzb.
39.	Ms. Sharvari Deshmukh, Research Associate, NIUA
40.	Dr. P N Vasanti, CMS, DG
41.	Dr. Ambika Sharma, Associate Prog. Dir., WWF India
42.	Shri Sharat Kumar, SE (Env.), DSIIDC
43.	Ms. Deepa Arora, ASO, UPPCB, M.Nagar
44.	Shri Deepak Nanda, GM, HFDC, Gurugram
45.	Shri Sunil Kumar Singh, CFO, Gbd
46.	Shri Aman Sharma, Dy. Director, Meerut Zone, UP Fire Services, DG Fire Service
47.	Shri Zeeshan Ibrar, PhD Scholar, SPA, Delhi
48.	Shri Paresh Kumar Duria, Town & Country Planner, TCPO, Ministry of Housing & Urban Affairs
49.	Shri Rishi Dangi, DDPO, Ch.Dadri (HR)
50.	Shri V K Goyal, CCP NCR Panchkula
51.	Ms. Jaya Srivastava, Almondz Global Security Ltd.
52.	Shri S M Jawad, Asstt. Engineer, UP Jal Nigam, Hapur
53.	Shri Vinay Kumar, PC/ DDMA/ North for ADM North
54.	Shri K K Joadder, Ex Chief Planner, TCPO

S. No.	Name, Designation and Organisation
55.	Prof. Meenakshi Dhote, Head, Dept. of Environmental Planning SPA, New Delhi
56.	Shri Suresh Thakur (Range Officer), Forest Department, Delhi
57.	Ms. Usha, Programme Instructor, Disaster Management, Outer North
58.	Prof. Raghavendra Rao, SRM University
59.	Shri Vijay Meena, DTP, NCR Cell, Jaipur, Rajasthan
60.	Dr. Chetna Anand, Scientist, Deptt. of Env. GNCTD
61.	Shri A K Mohanti, JS, MoEF&CC
62.	Dr. Surya Parkash, Head-GMRMD, NIDM, New Delhi
63.	Shri Amit Kr.Singh, Tehsildar, Bulandshahr, (SKD)
64.	Shri Sanjay Gupta, Financial Consultant, NCRPB
65.	Shri Sharad Chandra, Director, CWC
66.	Ms. Bharati, IG (Forest), MoEF&CC
67.	Shri N V K Ashraj, Sr. Director, Wildlife Trust of India
68.	Shri Ajay Kumar Sharma, CFO Fire, Meerut
69.	Shri Arvind Gupta, AE (Plg.), MPMR & NCR/DDA
70.	Shri Sanjeev Nagar, Tehsildar, Distt. Nuh
71.	Shri Nakul Kr., DM, NOIDA
72.	Shri Vikrant Tonga, (S.A.F.E.)
73.	Shri Ayushman Sharma, Planning Assistant DDA (MPMR & NCR unit)
74.	Shri Ankit Sngh (A.E.E.), UPPCB
75.	Shri Anuj Tiwari, Sr. Consultant, NDMA
76.	Ms. Neelima Soni, Dy.Director (Landscape), DDA
77.	Dr. Ambika Sharma, Associate Director, WWF-India
78.	Shri Javed Iqbal, Jr. Consultant, Earthquake
79.	Shri Papiya B. Raut, Associate Prof., SPA, Delhi
80.	Dr. M. Mohapatra, Director General of Meterology, India Meterological Deptt.
81.	Maj. Gen. Manoj Kr. Bindal, Executive Director, NIDM
82.	Shri Pankaj Kumar, MTS, NIDM

Annexure-I

ENVIRONMENT AND DISASTER MANAGEMENT
Date: 13.12.2019
Venue: Gulmohar Hall, IHC, Lodhi Road, Delhi

S. No.	Topics	Speakers
Session I: Inaugural Session		
Chair: Shri S.P. Singh Parihar, Chairman, Central Pollution Control Board (CPCB)		
1.	Welcome Address	Shri Satish Prashar, Chief Regional Planner, NCR Planning Board
2.	Strategies to reduce various types of Pollutions & way forward for 2041	Mr. Vinod Babu, Addl. Director, Central Pollution Control Board (CPCB)
3.	Winter Air Pollution in NCR : Options for Crop Residue Management	Dr. Y.V. Singh, Principal Scientist, The Indian Agricultural Research Institute (IARI)
4.	Winter Air Pollution in NCR : Options	Shri Ashish Agnihotri, PHD Chamber of Commerce and Industry (PHDCCI)
5.	Strategies to reduce various types of Pollutions	Shri S.P. Singh Parihar, Chairman, Central Pollution Control Board (CPCB)
Tea Break		
Session II: Environment Vulnerability Analysis		
Chair: Shri A K Mohanty, Joint Secretary, The Ministry of Environment, Forest and Climate Change (MoEFCC)		
6.	Environment Vulnerability Analysis – Strategy for Regional Plan 2041 : Perspectives by Govt. of Haryana	Shri V K Goyal, Chief Coordinator Planner, NCR Cell Haryana
7.	Options for Policy Approaches to Environment Protection: Views of Govt. of U.P.	Shri Amit Singh from Uttar Pradesh Pollution Control Board
8.	Options for Policy Approaches to Environment Protection: Views of Govt. of U.P.	Shri Nakul Tanwar, Advisor Disaster Management from Noida Authority
9.	Environment Vulnerability Analysis –	Professor Meenakshi Dhote, School of Planning and Architecture, Delhi

S. No.	Topics	Speakers
	Strategy for Regional Plan 2041	
10.	Environment Vulnerability Analysis	Shri A K Mohanty, Joint Secretary, The Ministry of Environment, Forest and Climate Change (MoEFCC)
Lunch		
Session III:		
Chair: Mrs. Bharati, Joint Secretary, Ministry of Environment Forest & Climate Change		
11.	Environment Conservation & Convergence for Local Prosperity: World Wild Life Fund	Smt Ambika Sharma from World Wild Life Fund
12.	Environment Conservation & Convergence for Local Prosperity: Rajasthan	Shri O P Gupta, Regional Officer, Rajasthan State Pollution Control Board
13.	Green Spaces NCR – Way forward: Govt. of Delhi	Smt Neelima Soni, Deputy Director(Landscape), Delhi Development Authority
14.	Environment Conservation	Chair- Mrs. Bharati, Joint Secretary, Ministry of Environment Forest & Climate Change
Session IV: Disaster Management		
Chair: Shri Kamal Kishore, Member, National Disaster Management Authority (NDMA)		
Co Chair: Shri Major General S K Jindal, ED, National Institute of Disaster Management		
15.	Disaster Management	Shri Kamal Kishore, Member, National Disaster Management Authority (NDMA)
16.	Fire Hazard Prevention	Shri D.K. Shami Chief Fire Advisor, Ministry of Home Affairs
17.	Hazards, vulnerability and risks	Dr. M Mahapatra, Director General, India Meteorological Department (IMD)
18.	Seismic Risk Mitigation	Shri Mahendra Meena, Expert, National Disaster Management Authority (NDMA)
19.	Flooding Risk Mitigation	Shri Sharad Chandra, Director (FFM), Central Water Commission

S. No.	Topics	Speakers
20.	Flooding Risk Mitigation	Shri Anuj Tiwari, Sr. Consultant (Policy, Plan and Mainstreaming) National Disaster Management Authority (NDMA)
21.	Earthquake Risk Mitigation	Shri Javed Iqbal, Expert, National Disaster Management Authority (NDMA)
22.	Closing Remarks	Co-Chair-Shri Major General S K Jindal, ED, National Institute of Disaster Management
23.	Vote of Thanks	Shri Jagdish Parwani, Director (A&F), National Capital Region Planning Board

Workshop Title: Agriculture

Date: 16.12.19 (Monday)

Venue: Scope Convention Centre, CGO Complex, New Delhi

Brief Minutes of the Stakeholders Workshop on 'Agriculture' held on 16.12.19 at Scope Convention Centre, for preparation of RP-2041 for NCR

1) Workshop on "Agriculture" was held on 16th December, 2019 for Preparation of Regional Plan-2041-for NCR at IHC, New Delhi The workshop was divided into various sessions to cover the major topics under the subject of Agriculture. The list of participants is enclosed**.**
2) The major topics of discussion included sessions on Agriculture for NCR 2041: Challenges of Food Security & Increasing Farm Incomes covering Strategies for Productivity Increase in Conventional Crops; & Potential for Horticulture Farm Incomes in NCR; Facilitating Environment for Farm Incomes covering Value Addition Strategies & Infrastructure Needs**,** Future of Sugar cultivation in NCR 2041, Pradhan Mantri Krishi Sinchai Yojana, Sustainable Agriculture Practices & Innovations for future, Risk Mitigation – Pradhan Mantri Fasal Beema Yojana and Market Access – Preparing for 2041 and Market Access – Preparing for 2041; Livestock Incomes: Potential Game Changer for Rural NCR and Requirement from Agricultural output & Strategies for Agricultural Land Use- 2041
3) The key contributors to the discussions and invitees included Smt.Vasudha Mishra, Special Secretary, Agriculture ; Dr. S.K. Malhotra, Commissioner, Agriculture; Shri Pawanesh Kohli, Chief Advisor and CEO, National Centre for Cold-chain Development (NCCD); Shri Avinash Verma, DG, Indian Sugar Mill Association (ISMA; Ms. Namita, JS, M/o. Agriculture; Ms. Neelam Patel, Indian Agricultural Research Institute (IARI); Shri Ritesh Pandey, Head, TSU; Shri P.K. Swain, JS (Marketing), M/o. Agriculture **;** Shri R.P. Singh, ED, Procurement, Food Corporation of India (FCI); Shri Sanjiv Chadha, Chairman, National Agricultural Cooperative Marketing Federation of India Ltd (NAFED); Shri Paban K. Borthakur, CMD, Agricultural and Processed Food Products Export Development Authority (APEDA) **; Shri Atul Chaturvedi, Secretary**, Animal Husbandry & Dairying (GoI); and representatives from SAFAL,Amul Dairy Cooperative Federations, Poultry & Meat Processing Industries etc., amongst others. The list of Speakers is at **Annexure-I**.
4) Session wise proceedings/ record of decisions are as under:

4.1 **SESSION-I** was the Inaugural Session chaired by **Dr. S.K. Malhotra, Ministry of Agriculture,** who shared his very thoughtful points on **"Strategies for productivity increase in conventional crop".** Major highlights are as follows:

a) India today, boasts for reaching to the record level of food grain production as well as the horticulture production. Year 2018 witnessed the record production of 285 million tons. Still, while the population during the time of green revolution was 68 Cr to 78 Cr., now it is 130 Cr. and hence the **population required to be fed has increased but the land mass remained the same**. In 1980, the landmass available for cultivation was 140 million hectare, till today almost the same area is available.

b) Population of NCR region in 1980, was around 8 to 10 million and now it has grown to 25 million and could be more with increasing NCR size. **Peri-Urban agriculture** and horticulture has a very prominent role to play in NCR. The Peri-Urban areas provide a lot of support to the food security.

c) While, past emphasis was upon increasing production, it's now more on nutrition, due to awareness, where people are demanding for nutritious food.

d) From **farmer point of view, the focus is more towards Income Security**, i.e how to enhance the income of the farmer.

e) **Produce dispersals are related to marketing** and hence marketing should be looked into.

f) Conversion of land from agriculture use to non-agriculture use, is a point to be addressed.

g) Delhi has huge demand for fruits and vegetables, so **Productions Zones could be created** to meet the requirement, as assessed by the NCR States.

h) Cluster Approach, where clusters could be identified in Haryana, UP, Rajasthan, may be adopted. **Cluster based farming may be done** and then the produced crops may be taken up by SAFAL Outlets.

i) Crops grown in Delhi include mustard, paddy and wheat. Pulses are grown only in some areas. Haryana, Western UP and Alwar have large areas under food grains including wheat and Paddy.

j) **High Value Crops are needed to be identified as they are linked with the income of the farmers**, however, food grains, despite not being high value crops, are necessary for food security.

k) **Water Use Efficiency in agriculture** also needs to be looked at. Paddy, Sugarcane etc. consumes much of water, hence, several pockets have gone in the dark zone in this region due to excessive depletion of water. The Pradhan Mantri Krishi Sinchae Yojana came up with "per drop more crop". Best efficiency of water usage through micro irrigation system should be promoted.

l) **Waste lands as well as the green belt areas available in NCR could be utilized for Solar Farming.** And such recommendations could be included in the Region Plan for 2041. Where the soil quality is not good, Protected Cultivation could be practiced.

m) Due to high demand for local consumption, Export production is less in this region. Still, **export production can be done through cultivation of high value crops like spices. Medicinal plants.**

n) NCR **States need to assess its available resources** which could include waste lands, lands with poor quality of soil, salinity aspects, barren and rocky lands etc., water availability and then efforts may be made to utilize such areas through Micro Planning.

o) Treated recycled water Waste Water/Sewage water utilization may be looked into. It may be used after treatment.

p) **Restriction of large conversion of agricultural land to non-agricultural land** needs to be looked at.

q) Intensive cultivation is required. Maximum production from the same landmass is required. For example, **introduction of hybrid varieties** of paddy, specific variety of mustard which produces around 40-42% of oil, hybrid variety of mustard. Area led growth should not happen. Rather, productivity led growth should be promoted.

r) National Food Security Mission Program supports for cluster based farming. Haryana, UP and Rajasthan are doing it. However, Delhi is not prominent in this program. Delhi needs to submit their plan under Rashtriya Krishi Vikas Yojana, it can make use of the program.

s) Implementation of **cropping system centric interventions** in mission mode approach should be there.

t) **Agro climatic zone wise planning** may be done. This area has been divided into smaller agro climatic zones. Hence zone wise planning is needed to have a set of

crops. The potential of the area may be studies, and accordingly production may be started.

u) E NAM (National Agriculture Market) is available. Farmers's Produce Organisation (FPO) concept need to be followed. There are many FPOs around Delhi region.

v) There is a plan for 24000 **Grameen Haats**. Areas from Delhi has also been identified in this. Hence, aspect related to market support need to be identified.

w) The ongoing Govt. schemes need to be utilized**. Pradhan Mantri Krishi Sinchae Yojana, National Horticulture Mission, Param Paragat Krishi Vikas Yojana, Pradhan Mantri Fasal Bima Yojana etc. need to be integrated with the plan.**

4.1.1 **Shri B. N. Srinivasa Murthy, Agriculture Commissioner, Ministry of Agriculture**, shared the following key views on the aspect:

a) Need to feed the people with diversified interest.

b) While, earlier, food security was in question, now nutrition security is in picture. For the aspect of Nutritional capacity, horticulture is one of the ways to look into. In 55,000 sq. km., of NCR, only about 10-12 % is for this purpose.

c) Farmers need to be convinced to go for horticulture instead of agriculture, in this precious land.

d) Rural development has not been given much importance. Providing Urban Resources in Rural Areas (PURA) though conceived, but not implemented. As a result, the pressure on Urban Land has increased.

e) Peri Urban Horticulture may be thought off. **Protected cultivation can be practiced, through which the productivity area per unit may be increased**. With protected cultivation, unseasoned crops/ vegetables and fruits for the population of this region may be produced. This may help the region to be self-sustainable which would further lead to a decrease in carbon footprint because it would further lead to a decrease in transportation activities required to carry vegetables or fruits from other areas. **Production of crops with high carbon sequestration may be promoted in the peri urban areas**. This would also help the country to earn carbon credits also.

f) Regarding Burning of Parali in winter season – Many of these crops which are water guzzling, horticulture is the best way to diversify some of the crops. **Change in crop geometry, crop budgeting, moving from production centric to market centric approach may be looked at**. Change in production of some of these crops, i.e from cereals to horticulture crops would increase the income of the farmers. The horticulture crops may include, fruits, vegetables, floriculture, medicine aromatic plants etc.

g) **Effects of Urbanization in horticulture area** – In Hyderabad, grapes were grown in large quantity. This area had the potential to growing higher yield per unit area. However, because of urbanization, the vineyards had to be moved out. Presently, much of the area is used for residential purpose. Such aspects need to be thought off. In Baghpat area also, the **Farmer Producing Organization (FPO) that produces Ratul mangoes are not convinced about continuing the same business** because they could earn more from that particular land if it is converted to residential plots**. Such aspects need to be addressed.** Land should be utilized and exploited but also sustained and not destroyed.

h) **Mushroom cultivation be encouraged**, as it will help in increasing the income of the farmers.

i) **Production of crops with short shelf life** like flowers, strawberry or jamun etc may be concentrated upon. Production of such crops **in peri urban areas** would help in providing the clients of urban areas, the fresh products.

j) **Terrace Gardening or kitchen gardening or vertical farming** should be focused upon.

k) **Judicious usage of pesticides and fertilizers** should be done. The products being consumed by the customers should be pesticide free.

l) Scope for **bee keeping to be promoted. In parks or balconies** it may be promoted. Nursery development may be looked at.

m) Getting soil for terrace cultivation has been an issue in urban areas. Hence, **alternate media for crop growth like coco peat may be looked** at.

n) Water availability – **70% of water fit for human consumption is going for agriculture. Treated waste water may be used for cultivation purpose**.

o) Techniques like high density planting in Horticulture may be promoted. Increase in productivity instead of area to be promoted in case of limited land availability.

p) **Horticulture tourism & Horticulture therapy** may be promoted.

4.1.2 **Shri Pawanesh Kohli, Chief Advisor and CEO, National Centre for Cold-chain Development (NCCD)** shared the following views:

- Cold Chain is modern scientific agro logistics which may or may not use refrigeration all throughout the chain. NCR is the source of multiple farm incomes. It is an industrialized region. The region cannot exist without linkage with agriculture.
- Every day, Delhi consumes 1300 tons of Potato, 860 tons of onion, 682 tons of tomato and about 170 tons of meat. The quantity may be doubled for the region as a whole. Overall, bulk of consumption is 5800 tons every day. Hence, for a truck with 5 ton capacity, a total of around 1000 trucks dedicated for the service every day. Delhi has to plan for the last mile hub and spoke model. **Planning for distribution of vegetables etc. from a hub to the nearby areas, has to be done accordingly**. Trucks cannot move within Delhi. Hence planning should be such that there is a hub and spoke around regions within central population of Delhi. Hubs may be created in such places. Further it be ensured that CNG based trucks/ vehicles are used for movement of goods.
- **4-5 hubs may be created in and around Delhi**. One such hub is coming up in Ganaur for all fruits and vegetables.
- Sonipat, Panipat and Karnal area has one of the largest density of protected cultivation in the country supported through central Govt. programs.
- Avoid unnecessary Planning for Cold chain. **Anything grown in the peri-urban unless it's a frozen good, should not be blindly focusing on cold chain**. If a fruit/vegetable is harvested and its selling cycle is within 48 hours, faster movement of the good so that it reaches to the consumers should be focused upon. **Cold chain may be preferred upon only if harvesting and selling cycle is beyond 48 hours**, as in cases where fruits/vegetable are brought in from other regions.
- **5000 tons of organic waste is generated everyday in Delhi which should be used for Waste to energy as well to make manure that can be used again by the farmers**.
- An average Indian's household spend on food is 35% of domestic income. In Delhi, it is around 20-22%, in America it is 7%.

- Leveraging of the existing schemes should be looked at. Example, **street vending modernization scheme may be taken into consideration while planning for the entire value chain.**
- Mission for **Integrated Development of Horticulture**, Models like Safal may be looked at.
- Location of **Cold storages** in NCR may be distributed across the region and accordingly the transportation plan also needs to be planned.
- The ministry should think of **reframing the Seed Policy and Seed Act**, so that farmers can use certified seeds for better yield.

4.1.3 **Ms. Vasudha Mishra, Special Secretary, Agriculture**, while sharing her views highlighted the following:

- **Identification and mapping of areas which are going to be urbanized in the next 5 years, 10 years, 15 years and 20 years (till 2041).**
- **States in coordination with districts may use the maps (mentioned above) and then prepare agriculture, horticulture and infrastructure plans**
- **Departments need to work in close coordination with agricultural universities/ universities working in related fields.**
- Efforts may be made not only to double but triple the income of farmers, since the demand for vegetables/horticulture is high in the NCR region
- **Districts of NCR may compete with one another in terms of connecting the value chains** so that they are able to increase the income of farmers at the same time providing the produced goods at reasonable and affordable prices.
- The analysis and **proposals of this NCR plan may further be used in developing the upcoming schemes.**
- The **new act on Seeds and Pesticides is in the offing**.
- Efforts may be made to form more and more FPOs and to include entrepreneurs and traders in the planning process.
- **Fodder related aspects** also need to be addressed.
- Integrated Farming should be promoted.

4.2 **SESSION II** pertained to '**Facilitating Environment for Farm Incomes'**. Shri S.K. Verma, Deputy Secretary, Ministry of Food Processing Industries (MoFPI), Govt. of India presented on the subject of **Opportunities in Food Processing Sector in India.** It included the following main points:

- In Food Processing Sector, India Ranks 1st in Milk Production, Livestock population and Millet Production and 2nd on Fish, Rice, Wheat, Cereals, Fruits & Vegetables and Total Food Production
    - It has 127 Agro Climatic Zones, 200.9 Mn Ha Gross Cropped Area and 40 Mega parks.
    - Ready Infrastructure - 17 operational Mega Food Parks, 8,038 cold storage facilities, 180 operational cold chain projects
- Opportunities: India has Strong domestic demand due to Changing lifestyle leading to Rising disposable income. Its Supply side advantages:

i. High level of agricultural production (with 200.9 mn hectares of gross cropped area (cropping intensity of 142%))
ii. Large livestock base, wide variety of crops etc.
iii. Inland water bodies and long coastline

Its Export opportunities include:

i. Strategic geographic location and proximity to food-importing nations
ii. Target to export goods worth USD 60 billion
iii. Major export destinations: UAE, Vietnam, Saudi Arabia, USA, Malaysia, Iran etc.

Other Ancillary Opportunity cover the Technology and equipment, R&D Skill development, Infrastructure Development and Packaging Material Machinery

- Focus of the Ministry
  a. Reduce post-harvest losses of perishables
  b. Value addition to increase farmers' income
  c. Generation of off-farm jobs
  d. Enhance processing and preservation capacities
  e. Encourage Agro-processing clusters
  f. Promotion of incubation centers to encourage entrepreneurship
  g. Promote export of processed food in line with Agriculture Export Policy-2018
- Initiatives & Support
  a. 100% FDI permitted through automatic route for food processing
  b. 100% FDI under government approval route for trading, including through e-commerce, in respect of food products manufactured and / or produced in India
  c. Nivesh Bandhu Portal to disseminate information government policies and incentives, market scenario etc.
  d. Incentives offered include
     i. USD 280 Mn fund under NABARD for food parks and units therein
     ii. Income tax deduction on capex and food processing units
     iii. Pradhan Mantri Kisan Sampada Yojna (PMKSY)
- Objectives of Pradhan Mantri Kisan Sampada Yojna PMKSY:
  a. Creation of modern infrastructure for food processing- Mega food parks/ clusters and individual units
  b. To create effective backward and forward linkages - linking farmers, processors and markets
  c. To create robust supply chain infrastructure for perishables
- PMKSY's Ongoing Schemes:
  i. Mega Food Parks (MFP)
  a. To provide modern infrastructure for food processing units based on a cluster approach, hub and spoke model;
  b. Capital grant @ 50% of eligible project cost in general areas and @ 75% in NE / difficult / ITDP areas; max. Rs.50 crore per project for creating core processing

facilities, basic enabling & noncore infrastructure, SDF sheds, Primary Processing / Collection Centres etc.

c. Implemented through Special Purpose Vehicle (SPV) and State PSUs; Farmers can also form SPV

d. Minimum 50 acres land is required for MFP either by purchase or on lease of atleast 75 years

ii. Integrated Cold Chain and Value Addition Infrastructure (Cold Chain)

a. To provide integrated cold chain and preservation infrastructure from farm gate to consumers

b. To enhance value addition of agricultural produce

c. Financial assistance:

i) Storage infra (cold storage etc.) - @35% / 50% in general/ difficult areas

ii) Value addition / processing infra (pack house, frozen processing units, dairy etc.) - @ 50% / 75%

iii) Irradiation facilities - @ 50%/ 75%

d. Max. grant Rs. 10 crore per project

e. Eligible organizations: FPOs / FPCs / SHGs / Govt. & private sector

iii. Food Safety and Quality Assurance Infrastructure

iv. Human Resources and Institutions

- PMKSY's New Schemes:

i. Creation/ Expansion of Food Processing & Preservation Capacities (Unit Scheme)

a. To promote food processing/ preservation units in Mega Food Parks, Agro Processing Clusters and designated Food Parks

b. Grant @ 35% / 50% in general / difficult areas; max. Rs. 5 crore of eligible project cost (technical civil works and plant & machinery)

c. Eligible organizations: FPOs / FPCs / SHGs / Govt. & private sector

ii. Creation of infrastructure for Agro-processing Clusters

a. Assistance for creating common facilities & enabling infrastructure closer to production areas

b. Envisages a cluster of minimum 5 processing units with an investment of Rs 25 Cr

c. Grant @ 35% / 50% in general/difficult areas; max. Rs. 10 Cr. for creation of core processing and basic enabling infrastructure for food processing

d. Minimum 10 acres land is required either by purchase or on lease of 50 years

e. Eligible organizations: FPOs / FPCs / SHGs / Govt. & private sector

iii. Creation of Backward and Forward Linkages

a. To plug gaps in the supply chain of perishables agri-horti produce.

b. To connect farmers directly with processing and market

c. Support facilities like:

i) Primary processing centers/collection centers at farm gate,

ii) Distribution hub and retail outlets at the front ends,

iii) Reefer transport etc.

d. Projects cost: No minimum cost

e. Eligible organizations: FPOs / FPCs / SHGs / Govt. & private sector
f. Grant @ 35%/50% in general/ difficult areas; Maximum Grant Rs 5.00 cr

iv. Operation Greens for Tomato, Onion and Potato (TOP) crops

a. Budget announcement of 2018-19
b. Scheme approved in October 2018 and guidelines approved in November 2018
c. A scheme for integrated development of Tomato, Onion and Potato (TOP) value chain
d. Short-term Price Stabilisation Measures – Subsidy @ 50% of cost of transportation and hiring of storage during glut period
e. Long term Integrated Value Chain Development project – consist of components namely Capacity Building of FPOs, Quality production, Post-harvest processing facilities, Agri-Logistics, Marketing/Consumption points;
f. Grant-in-aid: @ 50% of the eligible project cost (70% where PIA is FPOs and SC/ST's), subject to maximum of Rs. 50 crore per project

- Quality Assurance Infrastructure

a. Facilitate industry to comply with domestic/ international standards
b. Make available modern commercial testing facilities for industry.
c. Grant @50% / 70% of equipment in general / difficult areas for private projects and 100% for public sector

- Human Resources and Institutions

a. Promotes R&D, Skill Development in FP and conducts promotional Activities
b. Achievements of HRI Scheme
   i. 246 R&D projects sanctioned ― 190 projects completed
   ii. 6 Skill centres proposals approved

- Technical Institutions under MoFPI

a. Two Food Technology Institutes under the Ministry
   i. Indian Institute of Food Processing Technology (IIFPT), Thanjavur, Tamil Nadu
   ii. National Institute of Food Technology, Entrepreneurship and Management (NIFTEM), Kundli, Haryana
b. Offer academic courses in B.Tech, M.Tech., MBA (NIFTEM only) and Ph.D programmes
c. Impart training on skill development & entrepreneurship
d. Conduct R&D in food processing

4.2.1 **Dr. Vibha Dhawan, Distinguished Fellow and Senior Director, The Energy & Resources Institute (TERI**) presented views on aspect of Testing**, Labeling & Certification**, in food and agriculture. Important points of presentation included:

- Have Food safety and Standards Authority of India's

a. Food Safety and Standards Act, 2006
   i. Section 92 (1) of Food Safety and Standards Act, 2006 empowers the Food Authority to make regulations/standards in consistent with this Act and Rules made there under.
b. Food Safety and Standards Act, 2011

i. Following FSS Act 2006, FSSAI has drafted regulations that have been notified in the Gazette of India as Food Safety and Standard Rules 2011

- One Nation, One Food Law

a. Globally benchmarked food standards and practices
b. Ensure consistency in enforcement
c. Manage food testing with standardized testing methods and protocols.

- These regulations/standards are further reviewed and several new regulations are notified taking into account the latest developments in food science, food consumption pattern, new products and additives, advancement in the processing technology and food analytical methods and also with a view to bridge the gap between national and international standards for food products.
- New regulations that have been notified (in addition to 2011 notification):
  a. Food Safety and Standards (Food or Health Supplements, Nutraceuticals, Foods for Special Dietary Uses, Foods for Special Medical Purpose, Functional Foods and Novel Food) Regulations, 2016
  b. Food Safety and Standards (Food Recall Procedure) Regulation, 2017
  c. Food Safety and Standards (Import) Regulation, 2017
  d. Food Safety and Standards (Approval for Non-Specified Food and Food Ingredients) Regulations, 2017.
  e. Food Safety and Standards (Organic Food) Regulation, 2017.

- Regarding Labelling / Certification, it was emphasized that consumers concerns included Purity & Safety from Pesticide residue & certain ingredients
- Consumer awareness was increasing regarding Vegetarian / Non-Vegetarian mark, GM vs non-GM, Country of Origin, Nutritional content and Allergens if present etc.

4.2.2 Shri Avinash Verma Director General, Indian Sugar Mills Association (ISMA) while sharing his views highlighted the following:

- In NCR, sugarcane is being produced in Meerut, Bulandshahr, Baghpat, Hapur, Shamli, Muzaffarnagar. These are important sugarcane growing belts. In Haryana, sugarcane is being produced at Rohtak, Sonipat, Panipat. Traditionally ethanol from sugarcane was used for making alchohol, and some is used for industrial purposes. But, for past 12-13 years, sugarcane molasses are being converted to ethanol and is being blended with petrol. After 2015, there has been a strong push towards increasing ethanol blending in the country.
- Ethanol contains around 30-35 % of oxygen and when blended with petrol and burnt in vehicles, the extra oxygen of ethanol helps it to burn much better, thus helping in lowering the pollution through vehicular emission substantially.
- During the recent years, the government has promoted the movement of ethanol and also reduced the taxes on it. However, Delhi State government is yet to take such steps in this direction. Delhi is still levying Rs. 2 per liter as tax on ethanol.
- In order to plan for 2041, one should look to **produce not only ethanol from Sugarcane but also from coarse grains or maize.**
- Maize consumes almost 30% of water that paddy uses. The stubble burning, rice husk burning, straw burning etc. are also issues related to paddy cultivation. Hence Punjab is looking to **shift a lot of areas from paddy cultivation to maize cultivation**. Already 60,000 hectares of land has been shifted from Paddy to rice cultivation in

Punjab. Around 100000 hectares shifted from Paddy to cotton. In order to increase the income of farmers, ethanol is the product that will help them

- In case of sugarcane, 100% of MSP is being received by farmers.
- In case of Paddy, issues are being faced to find space for storage of it. Efforts may be made to use those surplus food grains for production of ethanol.

4.2.3 **Shri. M. R. Singh, Head, Division of Crop Protection ICAR-Indian Institute of Sugarcane Research, Lucknow**-brought forward the following key aspects related to Sugarcane:

- India is the Second largest sugarcane producing country in the world (350 million tonnes) and Sugarcane contributes to around 0.69 % in GDP and around 5.11% in the agricultural GDP.
- It provides direct employment to around 6 million cane growers (around 30 million population of cane growers and their families).
- The sector provides direct employment to over 5 lakh skilled and semi-skilled workers in sugar mills and allied industries.
- India has 12 important states which has got higher sugarcane production and Uttar Pradesh being the highest with 137146 Thousand tons
- Sugarcane variety:
  a. Sugarcane variety (CoLk 94184) produced in area of 2.65 lakh ha gave additional benefits of Rs 403 crore to farmers and Rs 126 crore to millers
  b. Sugarcane CoLk 8001 produced in area of 0.35 lakh ha in MP and 0.30 lakh in Gujarat at present
- Sugar and Molasses Production in India in FY 2017-18 are 32479 thousand tons and 14063 thousand tons respectively.
- **Sugarcane in UP is cultivated in 44 districts more intensively**. Size of sugar industry in some districts is comparable to size of sugar industry of Gujarat, Punjab, Haryana, Uttarakhand and Bihar.
- Sugarcane Cultivation : Major Challenges
  a. Low cane productivity (~70 t/ha)
  b. Low/stagnant sugar recovery (~10 %)
  c. High production cost
- What ails sugarcane cultivation in India?
  a. Recurring sugar cycle : 2-3 yrs surplus followed by 2-3 yrs deficit
  b. Low productivity and sugar recovery, esp., in sub-tropics
  c. Predominantly small holdings of farmers.
  d. High cost of cultivation
  e. Abiotic and biotic stresses.
  f. Deteriorating soil health.
  g. Climate change/climatic vagaries during growth and ripening
  h. Labour intensive operations/lack of mechanization.
- **Sugarcane cultivation : Emerging needs**
  a. Improved/high yielding varieties
    i. Availability of quality seed material

ii. Timely seed replacement

b. Improved agronomic practices (for plant and ratoon crop)

i. Water use efficient technologies.

ii. Soil health improvement- Biofertilizers, Bio-manures etc. and Integrated Pest and Disease Management including Biocontrol

c. Post-harvest logistics.

d. Mechanization of sugarcane cultivation.

e. Crop/product diversification.

- Quality seed production and seed replacement:
  a. Incredible seed program at IISR in collaboration with sugar mills at Bihar
     i. At Harinagar and Hasanpur sugar mills
     ii. Assured availability of quality seed.
     iii. Timely seed replacement.
     iv. Buy-back arrangement with mills/farmers.
     v. Identified fields for quality seed production.
     vi. Approximately 42,500 q of seed produced annually
  b. Three-tier seed production with MHAT/HWT combined with in vitro strategies and disease indexing needs to be taken up.
- **Cane node technology**
  a. Stem cutting with a bud and root band
  b. Priming for 15-20 min with organic slurry (cattle dung: cattle urine: water 1:2:5)
  c. Incubate in nursery with decomposed FYM :soil 1:1 to 1:5 (moisture ~70%)
  d. Seal with thick soil layer
  e. Germination within 4-5 days
  f. Advantages :
     i. Early sprouting of buds
     ii. High initial shoot population and
     iii. Number of millable canes.
     iv. Ease of transport of planting material.
     v. Saving in seed rate ~80%
     vi. Cost saving ~75%.
- **Bud Chip Technique**
  a. Sett Priming For Early And Higher Germination Percent
     i. Overnight sett soaking in 100 ppm Ethephon
     ii. Improves seed quality
     iii. Early (20 days) and higher rate of bud germination (46 %)
- **Trench method**
  a. Planting in trenches
     i. 30cm width and depth
     ii. 120cm distance (centre-to centre)
  b. Suitable for drought- prone and waterlogged areas (prevents lodging)

c. Saving in irrigation water

- **Furrow Irrigated Raised Bed (FIRB) System**
  a. Sowing of wheat on ridges (2-3 lines) in November
  b. Manual planting of sugarcane in irrigation furrows in February - March
  c. 20% saving in irrigation water and 30% enhanced yield
  d. Increasing water use Efficiency
     i. After germination of sugarcane (35-40 days after planting), 45 cm wide and 15 cm deep furrows are made in alternate rows.
     ii. Irrigation in these furrows saves irrigation water.
     iii. Improves water use efficiency (WUE).
- **Sugarcane-based intercropping**
  a. Long duration of the crop
  b. Wide spacing
  c. Slow growing nature
  d. Advantages of intercropping
     i. Better land use
     ii. Economic security
     iii. Nutritional security
     iv. Improves ratoon productivity
     v. Promotes autumn planting
- Sustaining sugarcane yield under multiple ratooning through drip irrigation
  a. The highest irrigation water use efficiency (850.11 kg/ha-cm) was recorded in drip irrigated ring-pit planting system and the lowest (276.61 kg/ha-cm) was recorded in surface irrigated crop planted at 75 cm spacing. Irrigation treatments and varieties both influenced sugarcane yield and irrigation water use efficiency (IWUE).
- **Irrigation water management in sugarcane through water conservation practices**
  a. Trash mulching saved 25% irrigation water (13.5 lakh l/ha), trench planting 31% (15.1 lakh l/ha), laser land levelling saved 22% (14.5 lakh l/ha) and press mud application saved only 4% irrigation water (2.6 lakh l/ha).
- **Integrated Nutrient Management**
  a. An integrated approach using Inorganic fertilizers, Bio-fertilizers, Green manuring and Trash mulching. Effectively incorporated in sugarcane agriculture system, with a centralized arrangement to procure / produce bio-fertilizer for improving the soil health, to enhance cane productivity and sugar recovery.
- Information Technology in sugarcane agriculture: CaneDES- An interactive expert system for disorder diagnosis in sugarcane crop.
- Biocontrol against insect pests/diseases:
  a. Use of Trichocards and release of the larval parasitoid of Cotesia against borer complex
  b. Release of an egg parasitoid Trichogramma chilonis @50,000/ha at 10 days interval from July to October

c. 46-90 % reduction in internode borer infestation 42-44% reduction in root borers infestation.
d. Bio-control of Pyrilla through conservation and redistribution of Epiricania melanoleca @ 4000-5000 cocoons/ha.
e. Release of Dipha aphidivora @ 1000 larvae/ha or Micromus igorotus @ 2000 larvae/ha at 15 days interval (August to October) for control against Woolly aphid.

- PCR-based diagnostic kit against red rot and smut diseases- PCR based method for early detection of incipient diseases for red rot and smut. Useful for selecting healthy seed material for planting
- Nutrient Use Efficiency Enhancement in Ratoons: Rhizospheric Engineering- Application of potassium (80 Kg K2O ha-1) with irrigation water in standing plant cane one month prior to harvesting improves bud sprouting, millable cane and yield of subsequent ratoon crop.
- Post-harvest management of sugarcane for better sugar recovery- Post-harvest cane treated with sodium meta silicate (0.1%) and benzalkonium chloride (0.2%) (SMS+BKC) formulation exhibited reduced inversion of sucrose to reducing sugar, also varietal variation was observed. Leuconostoc lactis identified responsible of inversion of sucrose
- Plant Physiology and Biochemistry Based Interventions:

a. Minimizing post-harvest sucrose deterioration by application of sodium meta silicate (0.5 %) + benzalkonium chloride (0.2%) leads to Gain in Sugar yield (5000 TCD) - 0.3-0.5 Units which further leads to Rs 3,00, 000 /- per day.

- Mechanization in sugarcane cultivation

a. Sugarcane: a labour-intensive crop (250-400 man days /ha).
b. Labour scarcity and high cost of labour
c. Necessitates mechanization of Sugarcane cultivation.
d. Timely and precise application of inputs
e. Improved productivity.
f. Ridger Type Cutter Panter, multipurpose equipment for planting, two row pit digger for mechanizing ring pit planting, Raised Bed Seeder were discussed.

- Deep Furrow Sugarcane Planter

a. Opens deep furrow (20-25 cm) and maintains loose soil beneath the setts.
b. Performs simultaneously all the unit operations viz., furrow opening, sett cutting, sett placement in furrows, fertilizer and insecticide, application with shallow soil, cover over the setts and its tamping, in a single pass of the planter.
c. The effective field capacity of the equipment is 0.2 ha/hour.

- Ratoon Management Device and IISR tractor operated front mounted sugarcane harvester was discussed.
- Ratoon Management for Improved productivity was discussed.
- Sugarcane mechanization at IISR was discussed.
- Impacts of Sugarcane Mechanization was discussed.
- Percentage of Utilization of Sugarcane in production of white sugar, seed, chewing etc., Gur and Khandsari from 1970-71 to 2017-18 was shared.

- **How to double the income of farmers:**
  a. Cane Based interventions: Ratoon Management, Seed Program, Trench Planting, Drip Irrigation + fertigation, Balanced Nutrition, Land Leveling
  b. Allied Enterprises: Dairy Farming, Poultry Farming, Apiculture, Micro Entrepreneurship, Inter cropping
  i. To Involve in Allied Enterprises like dairy farming, Apiculture, Animal Farms, Micro Entrepreneurship and Intercropping
  ii. By adopting best practices in farming such as Ratoon Management, Seed Program, Trench Planting, Drip Irrigation and fertigation, Balanced Nutrition and Land Levelling
- Future Strategies in R&D of Sugarcane
  a. Developing high sugar, high biomass, disease resistant and pest tolerant, good ratooning, input responsive sugarcane varieties.
  b. Precision agriculture with improved planting methods, stress management modules and integrated nutrient supply system in plant and ratoon crops.
  c. Carbon sequestration to balance nutrient requirement.
  d. Quality seed production with timely seed replacement.
  e. Developing integrated pest and disease management modules, specifically for red rot disease and sugarcane borers.
  f. Increasing physiological efficiency of sugarcane varieties for biomass and sugar.
  g. Design and development of machinery sugarcane cultivation, esp. for small farmers.
  h. Minimising post-harvest sucrose losses.
  i. Quantifying and mitigating the effect of climate on yield and quality of sugarcane.
  j. Harnessing the power of emerging and frontier areas of science like biotechnology, bioinformatics, product diversification, etc., in sugarcane.
  k. Developing sugar beet agro-technologies.
  l. Outreach Programmes viz., training, consultancy and advisory services to farmers, industries and other stakeholders.

4.2.4 **Shri Pankaj Tyagi, Director, Ministry of Agriculture and Farmers Welfare** shared the following key information:

a) Need to clearly understand Status of water requirement across the region and Planning should be such that sustainable water availability is there.
b) Under Krishi Sinchae Yojana, a plan for next 5 years was prepared which included **District wise irrigation plan wherein crop wise and area wise water requirement was identified.** However, Delhi did not participate in this exercise.
c) Crop wise status and demand of those crops needs to be understood, and then **water budgeting may be planned** accordingly.
d) **Per Drop more Crop:** Dept. of Agriculture came up with a **scheme for micro irrigation**. In this drip and sprinkler irrigation facilities are being provided to the farmers. For NCR region, it is more important because here already the ground water is less. Number of rainy days are less in this region, hence availability of surface water is also less. The Yamuna water due to pollution factors, cannot be used directly for irrigation purpose.

e) Instead of Flood irrigation, Drip and Irrigation system should be used.

f) Drip and sprinkler irrigation system would enhance the efficiency of water usage. Usage of this system also would lead to an increased water productivity.

g) The cost of such systems range from Rs. 20,000 to Rs. 1,00,000. Govt. is providing a subsidy of upto 55%. **Planning board may think of coming with solutions where state govt. may provide more subsidy over and above 55%.**

h) In Baghpat and Meerut area there are lot of canals and hence source water is available, but flood irrigation is in practice. **Planning should be such that these canals are attached to the micro irrigation systems.** For additional funds, **Dept. of Agriculture may provide micro irrigation fund.**

4.2.5 **Ms. Neelam Patel, from Water Technology Centre, Indian Agricultural Research Institute, New Delhi** presented her views on "**Sustainable agricultural practices & innovations for future**", which included the following points:

- Agriculture scenario in India

i.	Net cultivable area	:	140 M ha
ii.	Net Irrigated area	:	47 % (66.1 Mha)
iii.	Rainfed area	:	53 %
iv.	Population	:	1.6 to 1.7 billion (2050)
v.	Food grain demand	:	494 million tons
vi.	Yield (avg.)	:	40-50 % world average
vii.	Efficiency	:	38-40 % canal 40-50 % tube well

- **Sugar's water footprint constitutes of water utilized in the field for irrigating sugarcane crop (2,930 litres/kg) and a comparatively minuscule quantity in processing sugar (0.17 litres)**
- Potatoes use approximately 166 litres of water/kg during growth 10 litres/kg during processing and 0.1 litres/kg during preparation by the final consumer product
- **Increase in 10 % water use efficiency will add 15 Mha additional area under irrigation**
- Application of Micro Irrigation(MI) system
  a. Widely spaced fruit crops
  b. Row crops (Vegetables)
  c. Close spaced row crops
  d. Closely spaced cereals, wheat
  e. Water guzzling crop, rice
  f. Widely spaced Orchards
- **Benefits of drip irrigation-water saving, less energy cost, reduced labour cost, marginals soils and water, improved crop quality, Higher yields, Higher profits, reduced soil loss.**
- Drip irrigation system for homestead
- Low Cost Drip Irrigation
- Economic analysis of kharif onion-wheat-mungbean cropping system under drip-fertigation technology

a. Irrigation water requirement for all three crops under drip was estimated as 1015 mm.
b. Kharif onion (August to October) - wheat (November to April)-mungbean (April to June) cropping system was found most appropriate from water productivity point of view.

- Balancing reservoirs / Farm ponds
  a. Solar pumps –Suitability in irrigation methods:
  i) Flood irrigation method -efficiency is 40%-50%. Its suitability to use with solar pumps depends on local conditions.
  ii) Sprinkle irrigation method -Efficiency is 70% to 80%. It can be used with Solar Pumps.
  iii) Drip irrigation method – efficiency is 90%. It can be used with Solar Pumps.
- Biogas slurry linked micro irrigation system example of Shri Avadhesh Pratap Singh:
  a. 12 ha of irrigated land having wheat, paddy, soybean, mung, gram & pulses
  b. Horticultural crops guava, mausambi, jamun, jackfruit, mango,
  c. 15 animals and selling milk and ghee.
  d. Maximum seed production in pulses like pea (i.e. 43 q/ha)
  e. Gobar gas slurry spray system with sprinkler
  f. Motivates other farmers to opt organic farming
- Biogas slurry application in wheat, being done in District Bulandsaher (UP)
- **Automation in agriculture water management**- It saves irrigation water in vegetables (bottle gourd and potato) in tune of 40% by applying water at appropriate scheduling. Realtime monitoring, Less human labor
- **Protected cultivation technology:**
  a. Require less land (500- 1000 m2 area)
  b. Increases 3 to 4 times crop productivity
  c. Employment opportunities at village level
  d. Improving economic situation (BC ratio more than 2)
  e. Maintaining controlled environment
  f. Round the year cultivation
- Plug-tray nursery raising technology:
  a. Production cost per seedling : Rs. 0.6 to 0.7 without seed cost
  b. 1.5 to 2.0 lakhs seedling in 500 m2 area under semi climate controlled poly house (10 to 16 lakhs in year, 6-8 batch per year)
  c. Benefits: Selling price Rs. 1.5 to 2.0 / seedlings,Income : 4-8 lakhs per year, Employment generation : 2-3 persons per structure
  d. Developing seedlings 15 days earlier with minimal mortality also helps in earning extra benefit of Rs 37,500-50,000 per ha
- **High quality vegetables production technology:**
  a. Cucumber :80-100 tons/acres; 3-4 crops cycle; BC ratio 3.8
  b. Tomato :60-70 tons/acre, 10-11 months crop duration; BC ratio 2.5
  c. Capsicum :30-40 tons/acre; 9-10 months crop duration; BC ratio 3
- **Crop diversification from low value crops to flowers :**

a. Rose :4-5 lakhs/ha; perennial crops 5-7 years; profit of ₹ 2.5 to 3.0 lakhs
b. per year from 1000 m2 area with BC ratio of 3.0
c. Chrysanthemum :5-7 lakhs/ha; crop duration 3-4 months; BC ratio of 4.0
d. Gerbera : 10-12 lakhs/ha; perennial crop 4-5 years; BC ratio of 3.5
e. Carnation: 6-9 lakhs per ha; perennial crops 3-4 years; BC ratio of 2.5)

- Comparison between open cultivation and protected cultivation indicates that production in protected cultivation is much higher than the open cultivation. It shows 336 % increase in cultivation of capsicum.
- Low Tunnels – off season crop production was related with benefit cost ratio for muskmelon, summer squash, bitter gourd and bottle gourd.
- Rain water harvesting and reuse of waste water.
- **Vertical farming**
  a. Soil is replaced with growing medium, a suitable mix of perlite, coco peat, vermiculite, rock wool and gravel etc.
  b. Plants grow by providing nutrient water into the plant roots.
  c. Water must be regularly monitored for the correct nutrient composition.
  d. Hydroponics is significantly more popular as crops can be cultivated depending on the plant habitat and dimensions.
  e. Structure wise vertical farming technology was discussed.
- Roof top vegetable production
- Artificial lights applications: Flower induction along with desired stem length (>65cm) can be achieved in 39-42 days through PAR @110-120 µmol $m^{-2}sec^{-1}$ from a combined 80% red 20% blue LEDs in Chrysanthemum.
- Success stories of many farmers including women farmers were shared that how adopting new technology in crop cultivation and micro drip irrigation helped these farmers increased their crop production.

4.2.6 **Shri P.K. Swain, Joint Secretary, Department of Agriculture,** Cooperation and Farmers' Welfare, Ministry of Agriculture and Farmers' Welfare presented on "**Empowering Farmers**". His views included the following:

- The vison is **Empowering of Farmers through better price realization**
- **Agriculture Marketing to act as Pillars to Empower Farmers**
  a. Empowering Farmers through fair remuneration of their Produce.
  i. Accessible, Competitive Markets (Market Reforms- Private Market, Direct Marketing, Contract Farming; e-NAM, GrAMs, FPOs)
  ii. Export - Clusters, Value Chain, Traceability, Storage/Transportation.
  iii. Market information and intelligence.
  iv. Fall back Mechanism- Procurement System and Price Deficiency Payment System
- Reforms as per Model APLM Act, 2017:
  a. Objective: **Improving Marketing infrastructure, Integration of supply chain, Reduction of post-harvest losses, Farmer's access to markets etc.**
  b. Model APLM Act, 2017 circulated for adoption by the States to promote development of alternative competitive marketing channels (private market, direct marketing, declaring warehouses/cold storage as market yards, etc .

- **Contract farming**
  a. Contract farming is an instrument –
     i. To mitigate farmers' market and price risk
     ii. To assure smooth supply of raw materials of desired quantity and quality to agro-industries
     iii. To reduce marketing cost and post-harvest losses
  b. Contract farming as part of State APMC Act – 19 States have made CF provisions in their APMC Acts
  c. Conflict of interest with APMC Act
     i. Registration of Sponsor, recording of Agreement and dispute settlement with APMC
     ii. Suffers from APMC regulation
  d. Hence, Separate Model Contract Farming and Services Act,2018 circulated to States for adoption
  e. Salient Features of Model Contract Farming Act,2018-
     i. Registration and recording of agreement is digital and at lowest level
     ii. It is outside the APMC Act regulation
     iii. It protects the interest of both farmer and agro-industries
     iv. FPO can participate on behalf of farmers as well as sponsor also
     v. Farmers' right and title of land is protected
     vi. Dispute settlement through mediation/negotiation and at lowest level easily accessible to farmers
- **Development of Rural Haats into GrAMs**
  a. Called by varied names like "Gramin Haats , Haats, etc."
  b. Located closer to farm gate
  c. Small & Marginal Farmers(SMFs), more so women, sell their small lots of farm produce in these haats and buy the articles of daily need including inputs
  d. About 90 per cent of the total marketable surpluses in the remote areas sold through these markets
  e. Operate at fixed intervals- weekly, bi-weekly, tri-weekly, fortnightly or sometimes assemble daily also
  f. 22,941 rural haats (as per State Governments/Marketing Board)
     i. Under local Bodies including Councils- 11811
     ii. Under Marketing Board/APMCs- 1274
     iii. Under Private sector (Trust, individuals, etc.)- 9856
  g. Progress-
     i. Physical infrastructure/facilities to be provided under MGNREGS of MoRD
     ii. Marketing and farm level value addition infrastructure to be provided under AMIF
     iii. Model guidelines for operation and management of Gramin Agricultural Markets (GrAMs) circulated for adoption by the States.
- National Agriculture Market (e-NAM)

a. 585 wholesale regulated markets of 16 States & 02 UTs integrated
b. 1.65 Crore Farmers & 851 FPO registered
c. 1.26 Lakhs Traders registered
d. 150 commodities with tradable parameters
e. Inter State trade has started in 12 States / UT in 20 Commodities.
f. Benefits to Farmers
   i. Lesser turnaround time for farmers
   ii. More competitive bidding through e-NAM (nearly 4.0 bids per lot)
   iii. Better transparency due to integration of electronic weighing scales with e-NAM portal
   iv. Assayed lots fetch better price such as for turmeric, castor seed, chilli, Groundnut etc.
   v. Better price realisation for farmers for commodity over MSP like Cotton
   vi. Direct payment to farmers' bank account

- **Future Plan for e- NAM:**
  a. 1000 new mandis by 2023-24.
  b. Inter-operability with other e-trading platform (ReMS in Karnataka)
  c. Linking to GrAMs
  d. Institutional mechanism for Inter-State trade licensing & dispute Settlement
  e. Warehouse based trading module
  f. Enabling FPOs fore-NAM bidding from their location
- **Formation and Promotion of FPOs:**
  a. Objective- **Collectivization of small and marginal farmers into institutionalized Farmer Producer Organizations (FPOs)** to leverage economies of scale in production and marketing
  b. Challenges -
  i. Voluntary mobilization of farmers on common interest of commodity and purpose
  ii. Inaccessibility to institutional finance/credit, input & technology
  iii. Inadequate technology extension and market linkages.
- To address the challenges, a dedicated scheme is being formulated to form and promote FPOs. Salient features of proposed Scheme -
  a. FPOs incorporated under Part IXA of Companies Act or registered under Cooperative Societies Act are eligible
  b. It is produce cluster based with the focus to develop value chain for agri and allied produce
  c. It is oriented towards providing market and credit linkage
  d. Hand- holding and financial support to FPOs is for five years
  e. Institutionalized capacity building mechanism provided
  f. In addition to formation of FPOs, Agribusiness Development Plan to make FPOs sustainable is in focus
- Marketing and Storage infrastructure Development essential to:
  i. improve marketing efficiency;

ii. make produce more trade-able;
iii. provide scientific storage facility and reduce losses; and
iv. avoid distress sale

- Govt. has been implementing a capital investment subsidy scheme for development of marketing and storage infrastructure.
  a. Under the scheme, since inception (01.04.2001), a total of 39204 godowns with storage capacity of 66.12 million MT involving subsidy of Rs. 3,000 Cr. developed
  b. In addition , under AMI sub-scheme(20.10.20104), a total of 18579 marketing infrastructure other than storage projects involving subsidy of Rs. 1,822 Cr. have also been developed
- Marketing Information and Intelligence-Farmers' Empowering Tools
  a. Issue are as follows:
  i. Market information asymmetry leading to poor bargaining power with the farmers
  ii. Govt. has been implementing since March,2000 an ICT based Market Research and Information Network (MRIN) Scheme
  iii. Under the scheme an unique central portal (agmarknet.nic.in) has been developed
  iv. Farmers may visit the portal (agmarknet.nic.in) to access arrivals and prices data to take better production and marketing decision
  v. Govt. is working to formulate a scheme of Market Intelligence with components of price & demand forecasting and supply chain mapping
  vi. NIAP is a knowledge partner and there is a Technical Committee
  vii. Under the Scheme farmers will remain pre-informed about the probable market demand and price- trend in future so as to facilitate them in taking informed decision
- Market scenario in NCR region indicated a total of 203 Agriculture Produce Market Committee (APMC) and 198 Haat markets are available, which covered around 59,495 sq. Km of area.
- Way-Forward:
  a. There is one Terminal Market at Gannaur (Sonipat) and there should be **2-3 Collection Centres (CCs) in production areas of 14 districts based on production**
  b. Collection Centres be linked directly to farmers and feed to main market (HUB) at Gannaur
  c. **One state of art Terminal Market (HUB) on PPP mode be established in Gautambudh Nagar with 2-3 Collection Centres in each of 8 districts of U.P**, which will feed to main market (HUB) at Gautam Budh Nagar- Legal Provisions in UP supports
  d. Uttar Pradesh and Rajasthan have reformed their APMC Acts, therefore, **Direct Marketing licences be issued to Agro-Industries and Bulk Retailers to integrate farmers with retail chain of Delhi and other big cities**
  e. Warehouses be developed and declared as market to facilitate city dwellers to buy the produce directly without middlemen, along the Expressway passing

through NOIDA and NH-2. Such legal provision already exists in UP "APMC Act" while Rajasthan and Haryana are in process.

f. Since area is consumer based, therefore "**SMART FARMERS' MARKETs"** be established in surrounding of Cities for retail marketing by farmers directly to consumers. Rural haats of U.P may be developed as **FARMERS' MARKETs**

g. FPOs to play critical role in empowering farmers through development of value chain and linking to consumers

h. NCT of Delhi may reform its APMC Act, however, F&V is deregulated

4.2.7 **Shri Sanjeev Chadha, Chairman, NAFED** made a presentation on "**Procurement of Pulses & Oilseeds at MSP under PSS**". Its Key points included:

- Umbrella Scheme PM-AASHA of GoI to ensure Minimum Support Price (MSP) to farmers:
  a. **Price Support Scheme (PSS)-** Procurement at MSP. Scheme to be implemented by Central Nodal Agencies of Govt. of India like NAFED, FCI, SFAC, NCCF. NAFED is the prominent agency to implement PSS. Pulses & Oilseeds both are covered under PSS.
  b. **Price Deficiency Payment Scheme (PDPS)-** Price difference between the MSP and modal price provided to farmers. Scheme to be implemented by State Governments. Only Oilseeds is covered under PDPS.
  c. **Pilot of Private procurement and Stockists Scheme** (PPSS)- Initially, to be implemented by State Governments on pilot basis in some Districts. Only Oilseeds is covered under PPSS.
- **Price Support Scheme (PSS)**
  a. PSS has been introduced to ensure a remunerative and stable price environment for farmers.
  b. encourages higher investment & production in agriculture & aims at a balanced and integrated price structure for overall needs of the economy.
  c. With increase in production, dependency on imports is reduced.
  d. NAFED undertakes procurement through 3 tier structure:
     i. NAFED at National level .
     ii. State Marketing Federations at State Level.
     iii. Primary Cooperative Societies at Local level.
  e. Commodity, Implementing Departments & Agencies of GoI :
     i) Pulses and Oilseeds - Implementing department is Department of Agriculture, Cooperation & Farmers Welfare, Ministry of Agriculture & Farmers Welfare. Implementing Agencies are NAFED, Food Corporation of India (FCI), Small Farmers Agriculture Consortium (SFAC)
     ii) Paddy, Wheat and Coarse Grains - Implementing department is Department of Food & Public Distribution, Ministry of Consumer Affairs, Food & Public Distribution. Implementing Agency is Food Corporation of India (FCI)
     iii) Cotton - Implementing department is Ministry of Textile. Implementing Agency is Cotton Corporation of India (CCI)

iv) Jute - Implementing department is Ministry of Textile. Implementing Agency is Jute Corporation of India

f. PSS Procurement Process :

Step 1-State Governments sends proposal as per PSS guidelines to DAC & FW.

Step 2-DAC & FW after examining issues order mentioning the sanctioned quantity and period of procurement.

Step 3-State Governments in consultation with Central Agencies appoints State Level Agencies (SLAs) and finalize procurement centres

Step 4-Central Agencies enters into an agreement with SLA for procurement.

Step 5-SLA enters into an agreement with Primary Cooperative Societies/ FPOs for procurement at Field Level

Step 6-State Government makes publicity through newspapers, pamphlets, banners and announcements in the APMCs

Step 7- Only farmers stock meeting the PSS Specifications are procured.

Step 8-Procurement is made from registered farmers on NAFED's portal / State Government Portals.

Step 9-Payment to the farmers are transferred directly into their bank account by State Level Agencies.

g. Role of GOI through DAC&FW in PRICE SUPPORT SCHEME (PSS)

i. Governs policy matters.
ii. Nominates central nodal agencies.
iii. Declares and notifies MSP for Rabi & Kharif crop.
iv. Decides the duration of the PSS scheme.
v. Decides the commodity-wise quantity to be sanctioned for procurement.
vi. Decides the Fair Average Quality norms for each crop.
vii. Convey the approval to State Governments and Central Nodal Agencies for commencement of procurement.
viii. Provides working capital to Central Nodal Agencies through Government guarantee/letter of comfort.
ix. Conducts concurrent audit of PSS operations.
x. Settlement of PSS accounts through Cost Account Branch (CAB) of Department of Expenditure .
xi. Monitors Procurement & Disposal.

h. Role of Central Nodal Agencies in PSS:

i) Deployment of surveyors for inspection of stocks at storage points.
ii) Execution of agreement as per PSS guidelines with State Level Agencies(SLAs).
iii) Preparation of Action Plan for procurement.
iv) To finalize the incidental expenses in consultation with State Government.
v) Deployment of Officials in field to supervise the procurement.
vi) To coordinate with State Government and State Level Agencies for smooth procurement, to expedite the deposit of procured stock in warehouses and submission of Warehouse Receipts (WHRs).

vii) Release of payments to State Level Agencies quickly as per deposit of WHRs.

viii) Disposal of stocks preferably within 9 months after closure of procurement.

ix) Submission of final accounts within 3 months after completion of disposal.

i. Role of State/UT Governments in PSS:

i) to validate the data information / registration submitted by the farmers through Sample physical survey of the crops sown by farmers during 2nd month of crop,

ii) To notify estimated sowing area, average yield, production, peak arrival/harvesting period for the crops proposed to be procured under PSS.

iii) Pre-registration of farmers on NAFED e-Samridhi portal or State Govt. procurement portal.

iv) Selection of competent & efficient State Bodies preferably State Cooperative Marketing Federations and FPCs registered with SFAC as the State Level Agencies.

v) Engagement of competent procuring societies and FPOs as primary procurement agencies.

vi) To finalize the State Level Agencies and procurement centres in consultation with NAFED.

vii) To exempt Mandi tax/levy on PSS procurement.

viii) To make arrangements of gunny bags, warehousing and other logistics.

ix) State Warehouses/ Central Warehouses to take the responsibility of inspection of stock being deposited by the SLS in favour of NAFED.

x) Release of WHRs by the State / Central Warehousing Agencies in minimum possible time to facilitate immediate reimbursement by NAFED.

xi) To notify the documents to be obtained from farmers to establish their genuineness.

xii) Strict adherence to the provision of revolving fund to support minimum of 15 days procurement

xiii) Arrangement of Storage space in 30 km radius of the procurement center.

xiv) Participation by State Level Agencies / procuring societies in live auctions at mandi to give competition to the traders to offer Minimum Support Price and to ensure that mandi fee, cess, arhat charge etc. are exempted in purchases through these auctions.

xv) Provide replacement quality seeds in the areas where inferior quality production is reported, as in the case of Gram, Khesari is reported in few of districts of MP and Rajasthan.

xvi) To utilize PSS Stocks in various State Government Welfare Schemes.

j. Role of State/Primary Agencies in PSS

i) To ensure procurement strictly as per PSS Guidelines and FAQ specifications.

ii) Feeding of procurement related data on portal on daily basis.
iii) To ensure the procurement from genuine farmers and obtain specified land records from farmers.
iv) To release payment to the farmers within 3 days of procurement from the revolving fund provided by State Government.
v) To maintain all the procurement related records in a identifiable manner at procurement centres for inspection.
vi) Safe storage of procured stock till its deposit in warehouses.
vii) To provide daily procurement report to NAFED Branch office.
viii) Submission of clean WHRs mentioning the quality as FAQ quickly after deposit of stocks for releasing the payment.
ix) Submission of bills including incidental expenses, transportation, gunny bags etc along with supporting documents on weekly basis

k. Disposal of PSS stocks:
i) Procured quantity under Price Support Scheme (PSS) is never exported.
ii) Transfer of PSS stock to buffer stock.
iii) Supply of Pulses to State Governments under various welfare schemes and nutritional programme.
iv) Open Market Sale through e-auction.

l. Disposal Process under PSS

Supplier/NAFED → E MARKET PLACE→ Registered bidder-> Bidding at Platform→ Confirmation of trade by NAFED→ Fund Deposit by Bidder→ Issuance of Delivery order by NAFED—>Warehouse→ Delivery of Stock

4.2.8 **Shri Paban K. Borthakur, CMD, Agricultural and Processed Food Products Export Development Authority (APEDA)** also shared the following views:

- Important points justifying the reason for export are:
  a. Provides valuable foreign exchange.
  b. Leads to food security in many parts of the world.
  c. Can be a mechanism tool in increasing farmer's income and hence Export quality products should be produced.
  d. Agriculture production should be self-sustainable. Government cannot provide MSP for a long time. This could be managed, if export of vegetables are promoted.
- Usage of Urban Space like the terraces, building colonies, for producing the vegetables required would further lead to enough quantity of vegetables for exporting.
- NCR has advantage of better logistics in terms of transportation & storage facilities, air connectivity etc. Hence, NCR has better access to international market. Besides, NCR participating states are more resourceful, hence there is **better scope for processing of food production in NCR**.
- In India, food is used for internal consumption first, and then the surplus is exported. The country however needs to produce what the other countries want, from export point of view.
- Look for Center **of Excellences in the NCR region**.

4.2.9 **Dr. Sudhanshu, Secretary, APEDA** presented his views on "**Market access – Preparing for 2041, Option for Agriculture Exports**." It included the following:

- India's Agri export is USD 38.5bn in FY- 2018-19 out of which 12% is merchandise exports and APEDA's share (Around 50% of Agri export)
- APEDA is Facilitating Agri Exports since 1986
  a. India's share in global Agri exports is 2.4%.
  b. India's Agri export contributes nearly 12% of total merchandise exports.
  c. Value of Agri export is $38.2 bn (FY 2018-19).
  d. **Top five States for agriculture export** are Gujarat, Maharashtra, **Uttar Pradesh**, Andhra Pradesh and **Haryana**.
- APEDA's Functions:
  a. Promotion of Export Oriented Production.-cereals(44%),processed food (17%),fresh fruits and vegetables(8%),animal products(23%)
  b. Infrastructure for Transportation, Handling and Storage.
  c. Support for R&D and Quality Assurance.
  d. Fixing of Quality Standards and Specifications.
  e. Inspection & Certification of Processing Plants, Storage & Transportation Points for Meat Products.
  f. Improving Packaging of Products.
  g. Training in Various Aspects of the Scheduled Products Industries.
  h. Market Development and Promotion.
  i. Market Intelligence – Undertaking Surveys & Feasibility Studies.
- Products covered > 700 tariff lines
  a. Floriculture and seeds
  b. Fruits & Vegetables
  c. Processed Fruits & Vegetables
  d. Other Processed Foods
  e. Livestock Products
  f. Cereals
- 10 Top Products of Present Export in 2018-19 - Basmati Rice (4723 USD Million), Buffalo Meat (3609 USD Million), Non Basmati Rice(3048 USD Million), Groundnut(474 USD Million), Grapes(335 USD Million), Gherkin (206 USD Million), Mango Pulp (94 USD Million), Dehydrated Onion (103 USD Million), Pomegranate (99 USD Million), Mango (60 USD Million).
- 10 Top Present Export Destinations:
  i. Vietnam - Buffalo Meat, Animal Casings, Groundnuts, Maize, Fresh Onions
  ii. Iran - Basmati Rice, Non Basmati Rice, Buffalo Meat, Processed Fruits, Juices & Nuts, Groundnuts
  iii. Saudi Arab - Basmati Rice, Buffalo Meat, Non Basmati Rice, Processed Fruits, Juices & Nuts, Mango Pulp
  iv. UAE - Basmati Rice, Non Basmati Rice, Buffalo Meat, Alcoholic Beverages, Sheep/Goat Meat

v. USA - Guargum, Basmati Rice, Miscellaneous Preparations, Cereal Preparations, Natural Honey
vi. Indonesia - Buffalo Meat, Groundnuts, Non Basmati Rice, Miscellaneous Preparations, Cocoa Products
vii. Nepal - Non Basmati Rice, Maize, Cereal Preparations, Other Fresh Vegetables, Wheat
viii. Bangladesh - Non Basmati Rice, Fresh Onions, Maize, Other Fresh Fruits, Cereal Preparations
ix. Malaysia - Buffalo Meat, Fresh Onions, Miscellaneous Preparations, Groundnuts, Basmati Rice
x. Iraq - Basmati Rice, Buffalo Meat, Non Basmati Rice, Pulses, Other Fresh Fruits

- **Possibility for Agri Exports in NCR**

a. Focus on Fresh Produce
- Integrated Packhouse can be set up in the adjoining regions of Delhi city to cater to the bulk of Fresh Farm produce, production for export:
  i. Fresh fruits (Mangoes, Kinnow ,banana)
  ii. Fresh vegetables (Okra, Green chilly, Bitter gourd, Bottle gourd etc.)

b. Focus on Value Added Products
- Identify and promote the export of Value added items:
  i. Rice and ethnic preparation (Ready to eat)
  ii. Meat and Poultry products
  iii. Honey
  iv. Kinnow (Juice, squash)
  v. Bitter gourd (herbal products)
  vi. Mangoes (Mango bars, dried mango)
  vii. Wheat (Wheat starch, wheat gluten free)
- Promoting Value added exports
  i. Product development with focus on marketing: e.g. biscuits & confectionery, Indian ethnic foods, cereal preparations, other vegetables & frozen vegetables including processed fruits, juices, concentrates, Ready to eat food products.
  ii. Promote Value added Organic exports
  iii. Standardized packaging and quality protocols for organic and ethnic food
  iv. 'AMUL' – style cooperatives may be set up
  v. Promotion of R&D for new product development (fortified food, coarse cereals etc.)
  vi. Skill Development
  vii. Promoting skill development and enhancing capacity of different food processors, particularly from MSME and unorganized segments.

c. Focus on Super Food
  i. Development and promotion of Super Food varieties having export potential (viz. Moringa, Quinoa, Oats, Kale etc.)

ii. Growing global demand for Moringa in the International market. Moringa is increasingly popular in the European market as a food supplement. It has benefits and contains variety of nutrients and high level of antioxidant activity.

iii. In 2017-18, global annual exports of Moringa (including leaf powder, seed oil and other products) by India were estimated to amount to around 500 MT, of which an estimated 100–200 MT went to Europe.

iv. Major importers of Moringa products from India are : Germany, UK, Austria, France and Spain.

d. Advocacy for adoption of new technologies for generating surplus Fresh produce in NCR

i. Advocacy for adoption of Urban kitchen gardens in Housing societies etc. for increasing surplus fresh vegetables production for home consumption

ii. Advocacy for recycling of Kitchen bio-waste in Housing societies for preparation of compost which will facilitate Organic farming and production.

iii. Advocacy for adoption of Hydroponics for increasing surplus fresh produce production for Exports

iv. Advocacy of Vertical gardening for growing exotic salads viz. Lettuce, Broccoli, Bell pepper (red/yellow), Zucchini, Cherry tomato etc.

e. Cluster Development

- **Interventions envisaged by APEDA for boosting the exports in NCR**

a. Pre Harvest Interventions

i. More Number of FPOs/Co-operatives can be formed with the support of NABARD, SFAC, NCDC

ii. Area expansion and Productivity enhancement

iii. Up gradation of Package of practices

iv. Area expansion of Organic Production

v. Implementation of GAP

vi. Fruit cap for protection of heat and pest (for Mango, kinnow, guava)

vii. Irrigation System including source of water (Drip Irrigation)

viii. Rejuvenation program for senile Mango orchards

b. Post-Harvest Interventions

i. Mechanized/Manual harvester

ii. Collection centre for export – Farm fresh fruits and vegetables can be consolidated and brought to a common Collection centre based on Hub and spoke model

iii. Pack house for export Quality Certification

iv. Facility of Plant Quarantine for PSC

v. Processing unit (value added) for export Quality

vi. Exportable Box /Bag manufacturer Unit

c. Infrastructure & Logistics

i. Electricity supply in each cluster and facility centre

ii. Adequate Water supply in each cluster and facility centre
iii. Interior Roads to link the each cluster and facility centre
iv. Transportation/Reefer Van/Availability of containers
v. Requirement of ICDs
vi. Exportable Box /Bag manufacturer Unit

d. Quality-
i. Recommended list of Pesticides and label claim
ii. Integrated Pest and Disease Management
iii. Identification of Pest free area
iv. Requirement of Centre for excellence, if required
v. Farmer registration in Hortinet for establishing Traceability
vi. Have **Food Testing Laboratories**

e. Market Linkages-
i. Connecting with exporters
ii. RBSM/BSM
iii. Promotion program in abroad through EOI
iv. Promotion of "Brand India"
v. Market Intelligence

- Market Development- Farmer Connect Portal
  a. The Farmer Connect portal which provides a platform for farmers and exporters to interact.
  b. Farmer Connect portal helps in conversion of underperforming farms into high yielding farms of quality products in demand, by leveraging ICT enabled services.
  c. The main objective of Farmer connect portal is to facilitate and integrate the activities of Farmer and aggregators in the form of Farmer producer Organization (FPO) with Exporters through the assistance of ICT platform.
  d. 840 FPOs has been registered in the portal till date
- APEDA's Initiatives for implementation of Agri Export Policy:
  Agri Export Policy (AEP) was announced in December 2018 for:-
  a. To double exports to USD 60 billion by 2022 in consonance with doubling the income of farmers.
  b. Policy was framed with **"Farmers' Centric Approach"** for improved income by minimizing losses across the value chain.
  c. In this regard, APEDA has made an intensified approach for ensuring greater involvement of all the State Governments & UT's for effective implementation of Agri Export Policy (AEP). Preparations of **State action plan** is at different stages of finalization in the States.
- Clusters Identified under AEP- 29 Clusters of 12 Products in 11 States covering 67 Districts
- For Cluster Development:
  a. Cluster identification based on - existing exports, exporters operations, scalability of operations and potential for increase in export in short term.

b. Focus on developing export oriented infrastructure in identified clusters with integrated post-harvest processing facilities, laboratories etc. with support from MOFPI / DoC (TIES) / DAC&FW (MIDH) / DAHDF (IDMF), etc.
c. Concerned Organisations/Stakeholders to support :
    i. Supply chain ownership/participation through farmer registrations,
    ii. FPO formation,
    iii. Provision of quality inputs,
    iv. Price discovery,
    v. Adoption of new technology,
    vi. Farmer training through technical organizations
    vii. Third party certification.
d. Scheme to be implemented in partnership with private exporters with natural incentive to promote such clusters.

e. Higher involvement and efforts of ICAR institutions / KVKs / extension machinery.

- **Strategy and Action Plan**
    a. Leveraging Horticulture and Organic Production
    b. Enhancing efficiency of rural supply chains
    c. Optimum utilization of marketable surplus
    d. Improving quality and reaching international markets
    e. Capacity building and skill development
- **APEDA's Promotional Financial Assistance Schemes**
    a. Export Infrastructure Development
    i. Emphasis on **setting up of post harvest handling facilities**.
    ii. Financial assistance provided for **setting up of infrastructure such as pack houses, refer van, VHT, HWT, cable system etc.**
    iii. Assistance also provided for processing facilities for addressing missing gap.
    b. Quality Development
    i. Assistance provided for quality management system, lab equipment and testing of sample etc.
    c. Market Development
    i. Activities covered include development and dissemination of data base and market intelligence, participation of trade fair, BSM, R-BSM, Events, trade delegation etc.
    ii. Product development, R&D and enhancement of traceability etc
- Other Government Schemes:
    a. Ministry of Commerce:
    i. Trade Infrastructure for Export Scheme (TIES)
    ii. Merchandise Exports from India Scheme (MEIS)
    b. Ministry Of Agriculture:
    i. Pradhanmantri Krishi Sinchayee Yojna
    ii. Pradhan Mantri Fasal Bima Yojana

iii. Agricultural Extension and Technology (NMAET)
iv. INTEGRATED SCHEME FOR AGRICULTURAL MARKETING (ISAM)
v. Agricultural Marketing Infrastructure
vi. Mission for Integrated development of Horticulture (MIDH)
vii. Direct Benefit Transfer (DBT)

c. Ministry of Food Processing Industries:

i. Mega Food Parks
ii. Integrated Cold Chain and Value Addition Infrastructure
iii. Creation/ Expansion of Food Processing/ Preservation Capacities (Unit Scheme)
iv. Infrastructure for Agro-processing Clusters
v. Creation of Backward and Forward Linkages
vi. Food Safety and Quality Assurance Infrastructure
vii. Human Resources and Institutions
viii. Operation Greens

4.3 **SESSION III** of the workshop was titled – **Livestock Incomes, potential game changer for rural NCR.**

4.3.1 **Dr. Rohan Jain, GCMMF (AMUL)** presented on "**Dairying Scenario in NCR-2041**". His presentation provided following key points:

- India is No. 1 Milk Producer (180 MMT (20% of world milk production i.e 830 MMT)
- Milk production status since last 60 years: CAGR for India is 4.5%, USA is 1.8%, EU is 1.3%, Australia is 1.3% and Netherlands is 2.7%.
- India is 100% self-sufficient in Milk consumption. There is **huge potential for export in neighboring milk deficit nations.**
- Percentage Share of Dairy sector in total Agricultural Production in India's is 28%, (among highest in the world
- Indian Agriculture Scenario:
  - **a. Agriculture: 18% contribution to GDP and employment to 60% of population**
  - b. Livestock sector-Largest contributor to Agriculture GDP (~ 30%)
  - **c. Milk is the largest 'Agricultural Crop' of India (INR 7 Lakh crores per year)**
  - d. Dairy is a supplementary source of income for >100 million families
- In recent years, maximum growth in rural income has been from Livestock sector & Milk Production is growing at 4.5% CAGR in last 15 years & Contribution of India to World Milk Production will rise from current 20% to 31% in next 15 years
- Supply and demand estimates as per NITI Aayog report indicate surplus of 38 MMT is estimated by year 2032-33
- Indian Farmer has the highest share of consumer price.

- Dairy Cooperative ensures that 80% - 86% of consumer's rupee goes back to its dairy farmers. Indian dairy cooperatives ensure that their farmers get 71 to 75% of Consumers Rupee spent on Milk & Milk Products.
- **Milk Market Scenario in NCR in 2041**
  a. NCR region is **set to become a huge market for all industries, especially market for milk and milk products**
  b. Advantage of NCR:
  i. Growing population in NCR leading to increase in demand of milk / milk products
  ii. Rise in disposable incomes is making consumers to spend more on healthy dairy products
  iii. Rapid urbanization in region is creating increased demand of packaged milk products
  iv. Population in NCR Region are becoming health & product quality conscious, leading to increased demand of variety of milk products
  v. Numerous competitive players in region increasing the dairy market pie on a continuous basis
- **Various Milk Production related estimates of NCR**
  a. Milk Production in India (2018-2041)-Milk Production in India would grow at an annual CAGR of 4.3% and will be 126 Cr Liter per Day in 2040-41 from current 50 Cr Liter Per Day
  b. NCR Population Projections (18-19 to 40-41)-NCR Population to grow to about 12.5 Cr by 2041 out of which urban population would contribute about 70%
  c. Milk and Milk Product Market Size NCR (2018-2041)- NCR Milk and Milk Product Market Size to grow to about 6.5 Cr Liters Per Day
  d. State wise milk production projections were shared from 2018-2041 for the NCR participating states. Further, it was estimated that, to meet growing milk requirements of NCR, UP and Haryana to meet 65% of total requirements in 2041.
  e. Fresh Products Investments in NCR- 2041- Investments of about Rs 64000 Cr in Milk Processing Capacities will be required by 2041 to meet fresh products demand in NCR
- **Milk Booths Requirement in NCR- 2041**
  a. Currently one booth's capacity is around 1000 liter per day and is selling about 10% of total pouch milk sales.
  b. Considering various Government norms for reduced plastic usages, there is a requirement of booth numbers of about 23000 in 2041 to sell milk and milk products.
- **Impact on Rural Sector in NCR**
  a. Employment Generation- **Considering 6000 jobs per 1 lakh liter of milk production & sales through organized sector, it may provide employment to around 34 lakh people**
  b. Assured Livelihood- Rural people gets assured income for their produce and earn livelihood with dignity

c. Exploitation Reduction- Significant Reduction in exploitation of rural people as there will be remunerative returns
d. Urban Migration- Potential to reduce urban migration
e. Nourishment- Milk is important source of protein requirement in India and will improve overall wellbeing of rural as well as urban people
f. Improvement in animal health at individual house household level
g. Huge potential of investment. INR 65,000 Cr in just Plant and Machineries. Around INR 25,000 Cr additional requirements for milk chilling, village infrastructure, veterinary medicine, cold chain maintenance etc will aid rural people

- Conclusion with respect to Dairy Production
  a. NCR market is poised to grow from about 100 LLPD Market to 650 LLPD Market by 2041
  b. Investments of about Rs 64000 Cr in Milk Processing Capacities will be required by 2041 to meet fresh products demand in NCR
  c. **Booth numbers of about 23000 in 2041 will be required** to sell milk and milk products and meet demand of NCR market
  d. Positive Impact on Rural sector in NCR in terms of massive employment generation, assured livelihood, reduced exploitation and overall improvement in wellbeing of people.

4.3.2 **Shri Ruparam Choudhary, Senior General Manager, Mother Diary** presented on **Milk and Milk Products**. It included the following:

- Salient features of milk consumers in Delhi:
  a. About 2/3rd of consumers buy packed milk & Mother Dairy is the leading brand in milk segment (45% of total milk sale)
  b. About 30% of milk is consumed out of home in different forms
  c. Ghee, curd, butter, paneer and lassi occupy major share in milk products segment
  d. About 3/4th of milk is consumed in the form of products in both rural and urban areas
- Rural and Urban demand (2019) – Milk and milk products
  a. Rural Demand in 2019 is 92 LLPD
  b. Urban Demand in 2019 is 153.9 LLPD
- Estimated rural Demand in 2041 is 165.1 LLPD
- Estimated Urban Demand in 2041 is 393.2 LLPD
- Objective of Mother Dairy to cater the Need of NCR are as follows:
  a. Aim- Right Price to Consumers And Value for Money
  b. Two important Stake holders- Consumers & Producers
  c. Environmentally Sustainable Eco-System
  d. Mother Dairy- Agency of Linkages (Back End to Forward)
  e. Forward Linkages-
    i. Servicing Consumers through 60 thousand Outlets

ii. Dispensing environmentally friendly milk thru 1000 Milk booths and 1600 FS outlets in NCT
iii. Facilitate to provide place for 5000 more outlets for 2041
iv. To avoid adulteration in Dairy products like Paneer, Khoa and other Indian Sweets which are more prone to adulteration.
v. Mother Dairy is launching Branded Indian Sweets
vi. Mother Dairy is having Cold Chain - Fresh products and Ice Cream are supplied in proper cold chain
vii. Booths maintain a required temperature 24X7 to provide best products to consumers
viii. Investment in cold chain at local kirana store so best quality products are provided to consumers
ix. Cold Chain on the Move – Usage of CNG tankers and Vehicle to supply milk

- Colour coding or Logo may be provided to identify fresh products
- Strengthening of farmer's organization and cooperatives in Capital Region may be promoted.

4.3.3 **Shri S.N. Purohit from Rajasthan Cooperative Dairy Federation (RCDF) Limited, Jaipur,** Rajasthan shared his views on "**Overview of Fodder Scenario in India and Strategies for Up Scaling Fodder Feed Production & Marketing Programs in Dairy Cooperatives".** His key points included:

- Green Fodder
  a. While traditionally, green fodder is natural feedstuff for dairy animals, but now green fodder is highly nutritious, palatable, rich in minerals & vitamins and an economic source of macro & micro nutrients
  b. Cost of nutrients: green fodder vs. concentrate feeds:
     i. Approx. cost of one kg cattle feed: Rs. 20.0 with average dry matter content (90 %), crude protein (CP) 20 % & total digestible nutrients (TDN) 70 %
     ii. Approx. cost of one kg legume green fodder : Rs. 2.0 with average dry matter, CP and TDN (20 %, 18% and 65%, respectively)
  c. Comparative cost of Crude Protein & TDN indicates that availability of nutrients from green fodder is significantly cheaper than concentrate feed.
- Fodder & Feed Scenario:
  a. Several studies indicate deficit of fodder & feed resources in the country.
  b. Availability of concentrate & crop residues are directly linked with agricultural crop production. CAGR of agricultural production of last 50 yrs is around 2.2% only.
  c. Availability of crop residues is further declining due to adoption of high yielding Dwarf varieties / hybrids and field wastage due to extensive use of grain picker / mechanical harvester in cereal crops.
  d. Import of oil meals is increasing & export is decreasing.
  e. Green Fodder is in deficit despite large area in Country under fodder cultivation (9.2 m ha) and permanent pasture & common grazing land (10.2 m ha).

f. Low green fodder yield of cultivated fodder & pastures is main reason of green fodder deficit.

g. Strong possibilities to enhance the production & availability of green fodder through various technological interventions from the existing land under fodder cultivation & pastures.

- Impact of deficit:
  a. Deficit offered & fodder resources causes exorbitant increase in the prices of concentrate & crop residues
  b. Higher cost of feed & fodder leads dairy farming a challenging enterprise for landless, marginal & small dairy farmers and their livelihood is at the stake in rural areas.
  c. Due to deficit of green fodder, farmers are feeding little quantity of green fodder to livestock affecting their health, breeding and milk yield.
  d. Average dry matter intake from green fodder in indigenous cattle, buffalo and cross bred are in the range of 23-27 percent while in the developed countries it is about 60 percent including conserved fodder (silage & Hay).
  e. To meet the growing nutrient requirement of dairy animals in an economic way, there is urgent need to focus on green fodder production enhancement programme.

- **Geen Fodder Production Enhancement**
  a. Objectives
     i. Increase production & availability of green fodder through propagating improved technologies.
     ii. Reduce cost of feeding/ milk production through increased feeding of green fodder.
     iii. Utilise additional nutrients produced through green fodder enhancement programme in increasing milk production
  b. Constraint & Focus area to increase green fodder production:
     i. Cultivated fodder is main source of green fodder (producing about 70 % of total green fodder)
     ii. Estimated annual green fodder yield of cultivated fodder is around 40 tons/hectare, much below the potential of high yielding newly notified varieties/hybrids of fodder crops.
     iii. Shortages of quality fodder seeds of high yielding improved varieties /hybrids is main reason of low green fodder yield.
     iv. At present seed replacement rate in fodder crops is less than 20 %. Higher seed replacement rate is directly co-related with higher yield.
     v. In view of above, there is **huge opportunity to increase green fodder production through enhancing seed replacement rate of quality seed of high yielding varieties**.

- Necessity of having quality fodder seeds:
  a. Seed is most critical and cheapest input of enhancing agriculture output
  b. Production of quality seed is a systematic, highly scientific and long term approach passes through generation system i.e. Breeder, Foundation and certified / truthfully labelled seed.

c. Quality assurance at two stages i) standing crop, ii) seed testing in laboratory after processing.
d. Meet minimum seed standard for genetic & physical purity, germination, and disease & pest resistance.
e. Regulated by The Seeds Acts, 1966, The Seeds Rules, 1972, The Seeds control orders, 1983 and their amendment etc.
f. Use of quality, robust & vigorous seed is the start of a lavish & healthy crop.

- Traits of Certified Seeds like being a Clean Seed, with guaranteed germination & vigour, quality assurance, resistance to diseases and higher yield etc. was also elaborated.
- Demand vs. Availability of fodder seeds
  a. Annual estimated requirement for 9.2 million hectare land under fodder production would be 4.6 lakh MT and the estimated availability of certified/truthfully labelled seeds of high yielding improved varieties is roughly 45- 50000 MT.
  b. Seed replacement rate is less than 20 percent, leading to estimated annual seed requirement of 92000 MT. Hence, there is huge opportunity to increase green fodder production & availability through enhancing seed replacement rate.
- Reasons of Deficit of fodder seeds
  a. In **absence of reliable data on crop wise area under different fodder crops**, it is difficult to estimate crop wise/ variety wise seed requirement.
  b. Due to **lack of priority of fodder development & dedicated trained manpower** in the districts AH department, there is no long term vision to focus this activity.
  c. **Fodder seed production is highly un-organized**. Large Public sector seed companies are focusing on production of food crop seeds, while organized private sector seed companies are focusing on high value low volume crop like vegetables, hybrids & GM crops. Few organized private companies are involved in production of Sorghum sudan grass hybrid only.
- Opportunities for Dairy Cooperatives:
  a. Area under green fodder cultivation – 9.2 m ha
  b. Number of revenue villages in the country : 640867
  a. Average land under fodder cultivation/ village : 14.35 ha.
  b. Fodder seed requirement / village: 14.35*50 kgs= 717 kgs.
  c. Present Availability of improved fodder seeds: 78 kg/revenue villages.
  d. No. of Dairy Cooperative Society (DCS) : 170000 (Functional – 115000)
  e. No of Producer Institutions – 13500
  f. Considering that dairy farmers are primarily sufferers with deficit of certified fodder seeds of high yielding improved varieties / hybrids, RCDF initiated fodder seed production & marketing programme through dairy cooperatives.
- Mechanism to Increase sale of fodder seeds:
  a. Milk Unions (consumer) need to identify new varieties/hybrids of fodder crops having higher production potential & suitable to their local agro-climatic condition.

b. Create awareness among farmers about new varieties through live demonstrations/ village awareness programme/ extension mechanism.
c. Project year wise/ crop wise/ variety wise fodder seed requirement for next 5 years with a target that in the 5th year minimum 70% potential functional DCS must sell fodder seeds/planting material for on an average of 6 hectare.
d. Procure certified seeds in time & supply it to the DCS well before sowing season.
e. To push the sale, suitable incentives may be given to DCS/Secretary.
f. Avoid purchase of fodder seeds at last minutes through tender.

- **Key Areas Need to be focused by Seed Production Unit:**
  a. Production of Fodder seed of old varieties need to be replaced with newly notified varieties/hybrids.
  b. Follow Quality Assurance Norms strictly- Produce maximum certified seed, avoid production of truthfully labelled seeds.
  c. Strengthen Marketing:
     i. Create strong & popular Brand.
     ii. Explore possibilities to market fodder seeds beyond cooperatives.
     iii. Close coordination with buyers.
     iv. Create small marketing funds.
  d. Promote seed production under partnership
     i. Execute partnership agreements with other dairy cooperatives to produce seeds for them under joint quality control.
     ii. Under the agreement each seed pack should have information regarding "Produced by" & "Marketed by".
  e. Introduction of new Technology at Seed Processing Plant e.g. Initiate Seed coating in maize & sorghum seeds.
- **Strategies – Way Forward**
  a. Commitment from Milk Union that green fodder production enhancement would be taken up as priority program.
  b. Deployment of dedicated manpower to promote fodder development (one FDO/MU).
  c. Production & sale of fodder seeds on partnership basis (between producers & consumers).
  d. Focus on production of certified seeds.
  e. Creation of strong fodder seed brand.
  f. Preparation of 5 years Fodder Development Plan.
  g. Creation of dedicated funds by Milk Unions for fodder development (0.25% of net profit). 25 % for development & 75% as working capital & subsidy.
- Benefits of the Programme
  a. Dairy farmers
     i. Getting quality fodder seeds in time at a reasonable price
     ii. Increase fodder yield with lowering cost of feeding/ milk production.
     iii. Increase in income of dairy farmers.

b. Seed Grower
   i. Increase their income by getting a premium on seed production
   ii. Regular updating their skill on improved seed production technologies.

c. Production Agencies
   i. Ensure self-sufficiency in quality seed supply
   ii. Generate small profit from the activity

- Extensive use of certified seeds of high yielding varieties/hybrid in agricultural crops leads India from food deficit to food surplus. Now need to prioritize and focus on production and use of fodder seed extensively to overcome green fodder deficit and reduce cost of feeding/milk production.

4.3.4 **Shri Sachin Jain, Noida Authority** presented on "**Requirement from Agricultural output & Strategies for Agricultural Land Use – 2041**". It mainly included the following:

- Vision for NOIDA as developed on the basis of NCR major policies proposals as below:

a. Agriculture (Rural) Zone outside Controlled/Development/Regulated Areas:
   i. This zone has to be regulated and guided by Village and Block Plans to be drawn under the District Planning Process. It has been proposed to initiate measures for protection of prime agricultural land and ensure its needless conversion into non-agricultural/urban use and to utilize less and least valuable land for urban expansion/new urban centres/development purposes.
   ii. Keeping in view rapid urbanization, environmental degradation and to ensure orderly development in the region, broad Zoning Regulations, i.e. major activities/uses permitted in the zones have also been proposed.
   iii. With an objective to protect and conserve both surface and ground water resources, it has been proposed that at least 2-5% area should be earmarked under water bodies (natural as well as constructive). It has further been proposed to promote recycling and reuse of waste water for non-drinking purposes. Recharge of aquifer through various means has also been proposed. Integrated regional water supply scheme to be prepared after preparation of blue print for water resources in the region.
   iv. The growth of the Noida has been led by a forward thinking plan for its development. The city infrastructure of roads, services and open spaces which was established early, has resulted in Noida being well endowed with greenery and open space.
   v. NOIDA Authority aims at recognizing the open space systems of NOIDA as a connected network rather than disjointed pockets of greens. This approach draws specific attention to the connectivity of open space and presents distinct possibilities in terms of linkages, accessibility, usage, safety of users and a pedestrian friendly environment.

- Open spaces could fulfill the role of agriculture in a city
- Further, details about ongoing projects related to open spaces and details about bio diversity parks of NOIDA and their salient features were discussed in the presentation.
- Other important points that emerged during discussions included:

- Hydroponics may be introduced. Hydroponic fodder unit is available with National Institute of Animal Nutrition, the design is available with the institute. Just for Rs. 30,000, it gives 30 kg of fodder every day with just 35 kg of water. It feeds about 3 cows a day. Where land is scarce fodder can be grown, at home itself through Hydroponics. Soft loans of NCRPB may be directed in this direction also. This unit is also available in solar version. There is another unit which produces 100 kg per day of fodder, and it costs Rs. 90,000.
- Shifting of Dairy activities – Haryana has identified an area of 25 acres for Dairy Cluster. The idea is to shift the dairies from the city core. However, this needs to be funded because of high cost of land.
- The value of land varies according to its use. Residential/commercial land value is higher than agricultural land. Hence, the **areas where the dairies are to be shifted, zoning should be done such that they are considered under agriculture land use**. **Discounted land prices to dairy farmers may also be planned** to incentivize them.
- Mobile veterinary units are to be promoted.
- FPO is too small to handle the dairy sector. Hence, milk producer companies need to come up.
- Dead Animals – Central Institute of Fishery Research has come up with a model which is almost 90 lakh rupees, where 10 dead cows can be disposed off every day by feeding it to those fishes which eat the dead animals.

- Disposal of Cow Dung: Because of population pressure, mostly people who have cattle, do not have agricultural land. Hence, the cow dung cannot be used by them. So, cow dung instead of becoming an asset, it is becoming a nuisance. Hence, **cow dung disposal units, usage of cow dung in bio gas plants should be thought off.** In Punjab, a machine has been developed which compresses the cow dung which is mixed with a little amount of straw. This forms a shape of a wooden structure which is again used for cremation of public. The machine costs around Rs. 52,000.
- Integrated farming should be promoted.
- Anand, Gujrat has been promoting the milk producer companies across the country. It is also promoting Bio Gas units for Dung management. In Jakharia village, the entire village is provided with a gas line connected to the bio gas plants. The slurry is also being procured by the agency, for which the farmers are being paid. Further, the slurry is being converted to fertilizer and is being sold.

4.3.5 **Shri Atul Chaturvedi, Secretary, Animal Husbandry & Dairying (GoI).** who chaired the session, shared following views on the subject:

i) Growth rate is about 3% when agriculture is combined with other allied sectors at the constant price in last 5 years. Out of this, if livestock and fishery is separated, and agriculture (crop) and horticulture is combined, then the growth rate is around 0.5%. Further, if horticulture is separated from agriculture (crop), CAGR of agriculture (crop) would be negative.

ii) In case of Livestock sector alone, at constant price the growth in last 5 years is 7.9%. Whereas, the growth of manufacturing sector is 8.3%, service sector is 8.7%. Hence, the **livestock sector matches the manufacturing and service sector in terms of growth rate.**

iii) In order to achieve Hon'ble PM's vision of doubling farmer's income in next 5 years, it is important the **agriculture sector is combined with livestock and fishery sector and then it can be planned accordingly**.

iv) In manufacturing sector or service sector, expenditure per 1 rupee gives a return of Rs. 3. In agriculture sector, expenditure per 1 rupee gives a return of Rs. 3.50 -3.75. In livestock sector, expenditure per 1 rupee gives a return of Rs. 4.50 - 4.75.

v) In a particular area along with Rabi/Kharif crop, if cash crop is cultivated vis a vis in an area along with Rabi/Kharif crop, livestock and integrated farming is done, in case of latter the income is double than the former.

vi) Efforts should be made to incentivize integrated farming.

vii) 4 pillars in livestock sector:

a. Disease Control – vaccination program to be done. Tagging of animals to be done, this unique identity will be there throughout the lifetime. Through this, presently govt. has initiated the task on traceability of products.

b. Breed Improvement

c. Nutrition and cost of fodder- Awareness in ration balancing.

d. Processing and marketing of products.

viii) If developed, then this would along with poverty alleviation give livelihood security, food security also. This would also lead to an increase in the export. This would also lead to job creations.

ix) Entrepreneurial Development in this sector should be looked into.

x) Dry Dairy – This aspect should be looked at. It is mainly about how economic viability can be achieved once the cow stops giving milk.

xi) Hygienic market places to be made available so that the farmers themselves can sell their product **(livestock products).**

4.4 **SESSION IV** of the workshop was titled, "**Requirement for Agriculture Output and Strategies for Agriculture Land Use 2041**".

4.4.1 **Shri P.C. Meena, Dy. Director, Agriculture, Alwar, Govt. of Rajasthan** shared the following views on the aspect:

a) Alwar and Bharatpur are in Dark Zone. Hence, maximum effort should be made for efficient utilization of surface water and the available ground water.

b) **Planning has been done to construct rain water harvesting structures in the agricultural fields** in the upcoming time.

c) The **Plan 2041 should include minimum usage of water over a larger area**.

d) To save wastage of water, **drip irrigation has been introduced not only for horticulture crops, but also for cereals in Rajasthan.**

e) Onion is cultivated on around 15-20 thousand hectares. Around 20% of this area is cultivated through drip irrigation presently. Drip irrigation helps in saving water as well as in increasing the per hectare productivity.

f) **By 2041, plan should be such that 100% of the area under horticulture should be cultivated through drip irrigation**.

g) In order to double the income of farmers by 2022 - under the scheme of soil health card, all the villages of the district has been covered. Through this scheme, efficient utilization of fertilizers was emphasized upon, though which farmers got

benefitted. Hence, the **recommendations of Soil health card scheme may be taken into consideration while planning this sector.**

h) Cost of cultivation comes down through organic farming. Farmers may be advised that biological insecticides or botanical insecticides should be developed by the farmers themselves instead of procuring it from the market. Through Param Paragat Krishi Vikas Yojana, last year 25 clusters in the district were taken up, this year 150 clusters are taken, where **farmers are advised for developing biological insecticides or botanical insecticides.**

i) Efforts should be made such that **by 2041, maximum area of the district is under organic farming** as far as agriculture sector is concerned.

4.4.2 **Dr. Gulati, representing Govt. of Haryana** shared the following on "**Fishery and Animal Husbandry Sector**":

a) Haryana is second largest in terms of productivity of inland fishery in the country, producing 11 tons/ Ha.

b) Re-Circulatory Aqua Culture System – In Rs. 50 lakhs it is available. In 1000 gauge area, in every 8 months, Rs. 18 lakhs of fishery can be cultivated. However, this system needs to be monitored properly.

c) Re-Circulatory Aqua Culture System, Bio Flock and Back Yard RAS will play an important role in the near future and may be developed in the NCR area.

d) Real Skill development to be done. By 2041, there will be 11.5 Cr population in the region. **Courses on dairy farmer and entrepreneur, veterinary health assistant, animal health worker, fish farmer related to animal husbandry and fishery sector may be imparted to people in this region.** There are a total of around 40 such courses.

e) In water logged area, there are saline fishes, like milk fish, soul fish etc. Such fishes can grow in saline areas also. Around 30% of NCR area is saline water. Hence, this also should looked into.

f) The water quality of the ponds is deteriorating very fast. **Fishes like singi, pabda etc can grow on very low dissolved oxygen and such fishes can be developed in the village ponds.**

g) Efforts may be made such that **water may be taken from the canal and stored in a small area (pond) and then later on through drip irrigation, the nearby areas may be cultivated through it**.

h) Azola (fodder with 28-35% protein) may be cultivated on the same pond that has now been developed. Azola is fodder being eaten by Cow, Buffalo, Pigs, Hen etc. can be harvested after every 21 days. Efforts should be made to communicate such initiatives to the farmers.

i) Haryana is the first state who has done HS + FMD combined vaccination. There is an app in Haryana by which the farmer can request what service he needs. This would enable the service provider to provide service at the door step.

j) **Insurance of Animals** are being done at Rs. 100 in Haryana presently.

k) Pashu Gyan Ganga has been initiated. This program is about educating children about animals.

l) Promotion of Pashu Kishan Credit Card should be cundertaken.

m) Efforts are being made to engage 5 lakh farmers under National Skill Qualification Framework for Dairy Entrepreneurs level 4 course.

n) **Adulteration is big threat in Dairy Sector**. This needs to be tackled properly.

o) **Initiatives like Dudh ki Chakki be replicated.** It is a project ongoing, where a bus with few experts goes to the village and trains youth about how to process milk and prepare milk products like khoya, paneer etc. The machines to prepare milk products are in the bus itself. This is initially to motivate the youths. Then the youths are being trained in the training centers. The idea is that the milk produced in the region, is being utilized in the same region itself. This may be done to reduce the adulteration aspect.

4.4.3 **Shri J. S. Yadav, SAAKAR Foundation** shared his views on **"Infrastructure for marketing".** It mainly included the following:

a) The world is becoming a single unified market. China emphasizes that **individual private players should participate in the whole sale markets of individual countries**, thereby abolishing role of the importers and exporters.

b) India should take a lead to establish world class infrastructure. **Approach should be from production centric to distribution centric**. For production the Govt. has already come up with a lot of schemes and programs to promote it. Hence, focus should be given on consumers more now.

c) More distribution centers and terminal complexes are required at the moment in the region.

d) The major fruits banana, mango, citrus, apple and guava etc. available in NCR comes from other parts of the country. Example, Banana comes to Delhi from 700-1000 kms. Vegetables like onion, potato, cabbage, cauliflower and brinjal is 85% of the total vegetables utilized in NCR. Potato only 20% comes from Punjab, remaining comes from West Bengal, Karnataka, Uttar Pradesh. Similarly Onion comes from Rajasthan, Bhavnagar, Nasik. The interdependency of Delhi on tomato is highest on Maharashtra. Hence **for distribution, hub and spoke is important**.

e) In Haryana, **World's one of the largest market Ganaur Green Terminal Complex, has been proposed**. This complex shall be located at around 40 kms from Delhi. It is to be developed in 450 acres (approx.). Land has already been acquired, and it is under planning stage now. This would be out of the preview of APMC act. This would be sustainable without market fee collection. The material would come to this market from 17 states. The total volume would be 20 lakh metric tons. The downstream service would be for approx. 12 states. Traffic congestion, carbon footprints of Delhi could be removed once this market is in place. The roof top is about 400000 sq m which is having solar panels. The idea is to rent out these rooftops. Rent is to be collected for the area beneath the roof also. This is how the business model has been developed. It includes three parts – Commercial Zone, Welfare Zone and Processing Zone.

5 Conclusion

It could be concluded that the NCR needs to adequately take into consideration the issues related to ' Agriculture' , covering issues related to agricultural land, farming, farmers, crops and their productivity, dairy development, seeds, horticulture, agriculture & dairy produce marketing etc. Benefits of various ongoing schemes of States and entre and successful pilot initiatives undertaken, need to be considered while planning for the aspect in NCR.

The plan for 2041 need to carefully address all such aspects that were highlighted during Regional Plan 2021 review as well as the subsequent workshop and deliberations thereafter, considering views of maximum stakeholders as possible.

List of participants “Agriculture” 16.12.2019

S. No.	Name, Designation and Organization
1.	Shri Jignesh Shah, Sr. Manager, NDDB, Anand, Gujarat
2.	Shri S N Purohit, Manager, RCDF Ltd., Jaipur
3.	Shri Mahavir Singh, Dy. Director, Agriculture-Farm, Deptt. Haryana, Palwal
4.	Shri Keshav Choudhary, Executive Director, NCDC
5.	Dr. M R Singh, Head, Division of ICACR-IISR, Lucknow
6.	Shri Vikas Bhatt, AGM, NABARD, New Delhi
7.	Shri Pravin N. Gorle, Consumer Officer & DR&DD, Deptt. of Food & Public Distribution, ITO
8.	Shri Mohit Jain, Accounts Officer, AMDA
9.	Dr B N S Murthy, Hort Commissioner, DAC & FW
10.	Shri P Selvadurai, Director, AMDA
11.	Shri Gaurav Jain, Admin Officer, AMDA
12.	Shri P C Meena, Dy. Director Agriculture, Alwar
13.	Shri Lila Ram Jat, Asstt. Director, Horticulture, Alwar, Fajasthan
14.	Shri Udit Ratna, Town & Country Planner, TCPO, GOI, M/o Housing & Urban Affairs, New Delhi
15.	Shri Anupam Mitra, Member Secretary, CACP, M/o Agriculture
16.	Dr J S Yadav, MD COSAMB
17.	Shri J S Suri, GM, IOCL, UPSO-II
18.	Shri Rohan Jain, Branch Manager, Amul
19.	Shri S K Verma, Dy. Secy., MoF
20.	Dr S K Mishra, Professor, IIT Roorkee
21.	Shri Dalbir Singh, Seed Analyst, Dev. Deptt, GNCTD
22.	Shri Sunil K. Gulati, Addl CS Haryana
23.	Dr S S Juneja, Project Officer Services,Haryana
24.	Ms. Arcchana Sharma, Associate Planner, NCR, GZB
25.	Shri Totak Acharya, AD (Planning), AMDA
26.	Ms. Gurpreet Kaur, AD (CBQT), AMDA

S. No.	Name, Designation and Organization
27.	Shri R P Meena, Spl, Dev. Commissioner, GNCTD
28.	Ms. Neelanjali, DD
29.	Shri Arun Kumar, Secretary, APMC, Shamli (UP)
30.	Shri Neeraj Gupta, Engg., Baghpat Development Authority, Baghpat
31.	Shri Kishan Lal Sharma, Asstt. Director, Horticulture Div. Bharatpur
32.	Shri Yogesh Raundal, Asstt Commissioner, M/o Agriculture, GoI
33.	Shri Pankaj Tyagi, Director, M/o Agriculture, GoI
34.	Shri Prince Jain, SA, O/o JD (Agriculture), GNCTD
35.	Shri K C Sahu, GM, PWC, FCI, HCS
36.	Dr Hari Shanker, District Agriculture Officer, Shamli
37.	Dr S S Rathore, Principal Scientist, IARI, Pusa, New Delhi
38.	Shri H S Mehta, Dy. Manager, Mother Dairy F&V Unit, Mangol Puri, Delhi
39.	Shri R R Choudhary, Sr. GM, Mother Dairy, NOIDA
40.	Shri Kuldhir Singh, Addl. Director, Agriculture, Haryana
41.	Ms. Rajeshree Gawhaui Desai, Asstt. Professor, GGSIPU, USAP
42.	Dr Vivek Mishra, Consultant, Deptt. of Animal Husbandry, Govt. of Haryana
43.	Ms. Neelam Patel, WTC, IARI, New Delhi
44.	Shri Rakesh Mehra, Mother Dairy, SAFAL
45.	Dr S K Malhotra, Commissioner, Agriculture
46.	Shri Vipin Goel, ADIO, NIC, Faridabad
47.	Shri Lal Bahadur Gangwar, Junior Engg., Agriculture Deptt., GBN
48.	Dr Manveer Singh, Sail Conservation Officer, G B Nagar
49.	Ar. Anjul Bhatt, Ass. Professor Architect, USAP, GGSIPU
50.	Shri Anish Bansal, Asst. Manager, Indian Chambers of Food & Agriculture, Delhi
51.	Dr Dharampal Singh, DD Agriculture, Bharatpur (Raj)
52.	Shri Chand Ram, Dy. Director Agriculture, DDA Nuh, Haryana
53.	Shri Rishi Dangi, DDPO Ch. Dadri
54.	Ms. Ishita J Kumar, DTP, Alwar, Rajasthan

S. No.	Name, Designation and Organization
55.	Ms. Shilpi Madhawat, Research Associate MPMR & NCR unit, DDA
56.	Ms. Vibha Dhawan, TERI
57.	Dr Virendra B Shankar, Associate Professor, Deptt. of Social Work, JMI
58.	Shri Rajiv Santoshi, Consultant, APEDA
59.	Dr Sudhanshu, Secretary, APEDA
60.	Shri Paban K. Borthakar, CMD, APEDA
61.	Dr. L C Das, Director AH, AH Unit, Delhi Govt
62.	Shri Paban K. Borthakar, CMD, APEDA
63.	Shri Ritesh Pandey, TSU PMF By Team Leader
64.	Shri Pushpinder Jeet Kaur, Asst. Director, FSSAI

Annexure-I

AGRICULTURE
Date: 16.12.2019
Venue: Scope Convention Centre, New Delhi

S. No.	Topics	Speakers
Session I: Inaugural Session		
Chair: Smt. Vasudha Mishra, Special Secretary, Ministry of Agriculture and Farmers Welfare		
1.	Welcome address	Shri Satish Prashar, Chief Regional Planner, National Capital Region Planning Board
2.	Strategies for Productivity Increase in Conventional Crops	Dr. S.K. Malhotra, Commissioner, Department of Agriculture Cooperation
3.	Potential for Horticulture Farm Incomes in NCR-Fruits & Vegetables, Floriculture	Dr. B.N. Srinivasa Murthy, Commissioner, Horticulture, Ministry of Agriculture and Farmers Welfare
4.	Potential for Horticulture Farm Incomes in NCR -Cold Chain	Shri Pawanesh Kohli, Chief Advisor and CEO, National Centre for Cold-chain Development (NCCD)
5.	Challenges of Food Security & Increasing Farm Incomes	Chaired by: Smt. Vasudha Mishra, Special Secretary, Ministry of Agriculture and Farmers Welfare
Tea Break		
Session II: Facilitating Environment for Farm Incomes		
Requested to Chair: Shri P.K. Swain Joint Secretary, Department of Agriculture, Cooperation and Farmers Welfare, Ministry of Agriculture and Farmers Welfare		
6.	Opportunities in Food Processing Sector in India	Shri S.K. Verma, Deputy Secretary, Ministry of Food Processing Industries (MOFPI), Govt. of India
7.	Value Addition Strategies & Infrastructure Needs: Testing, Labelling & Certification	Dr. Vibha Dhawan, Distinguished Fellow and Senior Director, The Energy & Resources Institute (TERI)

S. No.	Topics	Speakers
8.	Future of Sugar cultivation in NCR 2041	Shri Avinash Verma Director General, ISMA
9.	Future of Sugar cultivation in NCR 2041	Shri. M. R. Singh, Head, Division of Crop Protection ICAR-Indian Institute of Sugarcane Research, Lucknow
10.	Pradhan Mantri Krishi Sinchai Yojana	Shri Pankaj Tyagi, Director, Ministry of Agriculture and Farmers Welfare
11.	Sustainable Agriculture Practices & Innovations for future	Ms. Neelam Patel, Water Technology Centre, Indian Agricultural Research Institute, New Delhi
12.	Market Access – Preparing for 2041: Empowering Farmers	Shri P.K. Swain, Joint Secretary, Department of Agriculture, Cooperation and Farmers Welfare, Ministry of Agriculture and Farmers Welfare
13.	Procurement of Pulses & Oilseeds at MSP under PSS	Shri Sanjiv Chadha, Chairman, National Agricultural Cooperative Marketing Federation of India Ltd.(NAFED)
14.	Market Access – Preparing for 2041: Options for Agricultural Exports–	Shri Paban K. Borthakur, CMD, Agricultural and Processed Food Products Export Development Authority (APEDA)
15.		Dr. Sudhanshu, Secretary, Agricultural and Processed Food Products Export Development Authority (APEDA)
16.	Market Access – Preparing for 2041: Options for Agricultural Exports	Shri Rakesh Mehra, Senior Manager, SAFAL
17.	Facilitating Environment for Farm Incomes	Dr. Sunil Kumar Gulati, Add Chief Secretary, Deptt. Of Animal Husbandry and Dairying, Govt of Haryana
Lunch		
Session III: Livestock Incomes: Potential Game Changer for Rural NCR		
Chair: Shri Atul Chaturvedi, Secretary, Department of Animal Husbandry & Dairying (GoI).		
18.	Potential Game Changer for Rural NCR	Chair: Shri Atul Chaturvedi, Secretary, Department of Animal Husbandry & Dairying (GoI).
19.	Dairying Scenario in NCR-2041	Dr. Rohan Jain, GCMMF (AMUL)
20.	Milk and Milk Products	Shri Ruparam Choudhary, Senior General Manager, Mother Diary

S. No.	Topics	Speakers
21.	Overview of Fodder Scenario in India and Strategies for Up Scaling Fodder Seed Production & Marketing Programs in Dairy Cooperatives	Shri S.N. Purohit RCDF Limited, Jaipur, Rajasthan
22.	Requirement from Agricultural output & Strategies for Agricultural Land Use – 2041	Shri Sachin Jain, UP, NOIDA Authority
Session IV: Requirement from Agricultural output & Strategies for Agricultural Land Use-2041		
23.	Fishery and Animal Husbandry Sector	**Govt. of Haryana**: Dr. Sunil Kumar Gulati, Add Chief Secretary, Deptt. Of Animal Husbandry and Dairying, Govt of Haryana
24.	Requirement from Agricultural output & Strategies	**Govt. of Rajasthan**: Shri P.C. Meena, Dy. Director, Agriculture, Alwar, Govt. of Rajasthan
25.	Requirement from Agricultural output & Strategies	**Govt. of Uttar Pradesh**: Shri Sachin Jain, Consultant
26.	Requirement from Agricultural output & Strategies for Agricultural Land Use-2041	**Govt of Delhi:** No speaker
27.	Infrastructure for marketing	Shri J. S. Yadav, SAAKAR Foundation
28.	Vote of Thanks	Shri Jagdish Parwani, Director (A&F), National capital Region Planning Board

Workshop Title: Rural Development

Date: 18.12.19 (Wednesday)

Venue: Scope Convention Centre, CGO Complex, New Delhi

Brief Minutes of the Stakeholders Workshop on 'Rural Development'' held on 18.12.19 at Scope Convention Centre, for preparation of RP-2041 for NCR

1) The Workshop on "Rural Development'' was held on 18th December, 2019 for Preparation of Regional Plan-2041-for NCR at Scope Convention Centre, VGO Complex, New Delhi. The list of participants is enclosed.
2) The main topics discussed during the Stakeholder's Workshop includes (i) Reverting Migration: Redirecting towards Rural Urbanism & Strategies to Arrest Migration (ii) Development of Polycentric NCR (iii) Land Use Allocation Strategies (iv) Empowering PRIs (v) Identification & Creation of Appropriate Skilling Infrastructure (vi) Perspectives on Rural Development in context of SDGs (vii) Leveraging aggregators and IT infrastructure for Rural Incomes (viii) Transformation of Rural NCR (ix) Transformation of Rural NCR through Synergies of Macro Development (x) Options for New Rural Development, and (xi) Rural Development Perspectives of the NCR States
3) The Workshop had speakers & participants from different Central & State, International Agencies, Practitioners & Consulting Organizations, Industries, Knowledge Institutions, NGOs, etc. Some of the major speakers & participants includes Additional Secretary, Ministry of Rural Development; Joint Secretaries, Ministry of Rural Development; Prof. Pramod K. Singh, Institute of Rural Management-Anand; Dr. S.K. Kulshrestha, Regional Planning Expert, Prof. Ashok Kumar, School of Planning and Architecture (SPA), Delhi; Shri Varun Kappal, State Program Manager, Rajasthan Migration, Tata Trusts; Director, Development & Panchayats Department, Govt of Haryana; Dr. Shanker Goenka, IAMSME, Philip Mathew, Expert, United nation Development Program; Executive Vice President, ITC; Director General, Deen Dayal Upadhyay Rajya Gramya Vikas Sansthan, Govt. of UP ; Prof. Vinita Yadav, SPA Delhi; Advisor, Dhan Foundation, Prof. Murugeshan, National Institute of Rural Development, etc. amongst others. The list of Speakers is at **Annexure-I**.
4) Session wise proceedings/ record of decisions are as under:

4.1 **SESSION-I** was the Inaugural Session which was chaired by **Smt. Alka Upadhyay, Additional Secretary, Ministry of Rural Development, Govt. of India.** Various points discussed during the session are summarised as under:

4.1.1 **Prof. Pramod K. Singh,** Institute of Rural Management Anand **(IRMA)** – *views on 'Rural Development in NCR in 2041: Way Forward'*

a) Transform Delhi Metropolitan Area into Delhi Ecopolis Area & address concerns such as Air Pollution, Climate change, gaps in SDGs attainment, Unsustainable urbanization, water stress, etc.
b) Synergy between urban & rural development to be looked into.
c) Uneven pressure on resources- State wise area vis a vis population within NCR participating states should be managed.
d) Solution for above problems are as follows :
   - Ecopolis—increasing resource use efficiency, linkage between urban system and ecosystem
   - De-materialisation—circular and performance based economy
   - De-carbonisation —decentralized renewable energy
   - Better water management
   - Enhancing land and water quality
   - Effective waste management
   - Collective enterprise development & Skill enhancement
e) Linkage between urban ecosystems should be established through activities like market gardening, mixed farming & renewable energies, etc.

f) Resource Efficient Buildings like Pixel Building, Melbourne which is a fully carbon neutral office building, should be envisioned.

g) Achieve simultaneous rural & urban transformation through:

i. Economic development-
   - Urban - High quality Service based economy
   - Rural- Green production, eco-tourism

ii. Primary production
   - Urban - High value kitchen garden
   - Rural- Fruits, vegetables, dairying, poultry, fishery, floriculture that are resilient to future climate

iii. Self-Sustaining Rural Economy
   - Rural- Gene bank, seed bank, grain bank, water bank, building of peoples' institutions

iv. Enterprises
   - Urban-Knowledge enterprises by corporation
   - Rural- Value addition by collective enterprises, own marketing channel

v. Skill development
   - Urban- Skills to match the needs of modern urban economy
   - Rural- Skills to match the needs of modern rural economy

vi. Energy
   - Urban- Roof-top solar
   - Rural- Solar for local requirement and even feeding to the grid, biomass with increase combustion efficiency

vii. Water management
   - Urban- Roof-top harvesting
   - Rural- Harvesting all along; entire ridge area as water harvesting zone

viii. Waste Management
   - Urban & Rural - Bio-filtration Technology

ix. Enhancing land quality
   - Urban- Green buffer along transport network
   - Rural- Conservation agriculture

x. Regenerative economy
   - Urban- Ecopolis: Resource-efficient regenerative urban development; Linkage between urban system and ecosystem
   - Rural- Sustainable agriculture and peoples' power based economy, Switching over to organics

h) Conventional STP/ ETP (activated sludge process) and Bio-filtration technology which generates waste into resources should be adopted.

i) Vision for a New Age NCR:

i. Maintain a co-productive balance between humans and the nature

ii. Provide a healthy, meaningful livelihood for all based on a just and equitable sharing of natural wealth

iii. Give every person a voice in decisions on which their well-being and that of the whole depend

4.1.2 Ms. Alka Upadhyay, Additional Secretary, M/o Rural Development, Govt. of India – *views on 'Rural Development in NCR in 2041: Way Forward' are as under:*

a) A lot of migration is happening from Rural to Urban, however, in census 2011, it has been observed that migration from rural to urban area is reducing. Maximum migration is happening from rural areas to nearby *"Mafatsal"* towns. Hence, these *mafatsal* towns are now becoming the hubs of development. One of the main reason has been an increase in the commutation facilities. The penetration of roads in villages has increased over last few years due to PMGSY and other schemes being taken up by Central & State Governments. As a result people find it easy to transport themselves and their products to nearby areas which are now becoming centers of development. China and Korea has already done this. They have completed their race for Metro Region Planning and now they are concentrating on developing these clusters. Based on this, MoRD has taken initiatives. As a result of which the concept of RURBAN clusters came into picture.

b) Multidimensional aspect of poverty – Two types of Poverty:

i. **First - poverty of household**: For this a number of schemes under M/oRD, M/oHUA, M/o Social Justice, M/o Agriculture, M/o Women & Child Development, M/o School Education etc. are in place. ***All of them has to put in a combined effort in order to tackle certain deficiencies like lack of education, lack of skills, under nutrition, ill health, employment opportunities, drinking water facilities etc.***

ii. **Second - poverty in Geography:** For example, in a progressive state like Tamil Nadu recently, a woman who was in her path for delivery in hospital, could not be taken to hospital and she died. The reason being there was no road connectivity. In Sirohi district at Mount Abu area there are still 27 villages which has no connectivity because of various forest issues.

Therefore, **equity in distribution of Government Schemes is necessary.**

c) Convergence & pulling in of resources is needed.

d) There is a need to create infrastructure in rural areas at par with the urban areas.

e) Sustainable and diversified livelihood are essential.

f) Evidence based intervention is essential. For example -During the development of RURBAN program, a scientific matrix was developed.

g) Multiple doses of intervention are required and there is a need for saturation approach.

h) Pooling in of human resources and use of technology for effective delivery.

i) MoRD and other Ministries of Govt. of India are undertaking number of schemes like Livelihood Mission (NRLM) – training of women & creation of SHGs (58 lakh) - A continuous intervention is being made to develop the community cadres who would like to be taken along to move them forward; UJJWALA scheme – for Clean Energy, under Ministry of Petroleum; PM Awas Yojana for houses in Grameen areas, MGNREGA & Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) by MoRD. MoRD also ensures that at least 70% of these candidates are placed. Rural Self-Employment Training Institutes (RSETI) under MoRD look at skilling people for self employment. Annually, around 4.5 lakh women are being trained under RSETI program. There are pension programs, Pradhan Mantri Grameen Sadak Yojana, the rural connectivity program and the cluster development program. **These are the interventions which become important when the rural multitude moves into the NCR area.**

j) A strategy should be developed to identify people moving into the NCR area. There is necessity to identify who are the people that need to be identified first on the priority list. **Socio-Economic Caste Census (SEC) data may be used for this.**

k) Conflict between hope of better living vs quality of living should be addressed. Presently, it is also being observed that youth is not willing to move to urban as quality of life is degrading in urban areas, average wage employment is between Rs. 8000 to Rs. 10000 & considering this amount, making a living in urban areas becomes really difficult.

l) **Loss of Identity** – Thankfully, one nation one ration card is in place and hopefully this notion will not be there. For Example – in few States people did not have aadhar cards,

this again leads to a difficulty in opening bank accounts, etc. Hence, aspects also need to be taken care off.

m) Affordable housing – China provide houses to the workers working in the factory inside the campus. Such issues in India, also need to be addressed.

n) Schools and Hospitals – While planning decentralized places, there is a need to consider this too where people can get assured health and education facilities.

o) Soft Skilling – When people move from rural to urban areas, people should be trained in soft skilling too. Hence, through DDU-GKY program it is being done. This is being done so that they are able to negotiate themselves in urban spaces with their employer, in their neighborhood or within their conglomerate.

p) A licensing facility for a person moving into urban area is important.

q) Three verticals are required to plan:

   i. **Infrastructure and Access to Services**.

   ii. **Social Development and Protection** – For need of migrants from rural areas, there is a need for migration support centers. This needs to be planned in each of the satellite centers of Delhi.

   iii. **Livelihood Opportunities** –migration support centers and development authorities should connect with each other and become a repository for information related to possible opportunities for livelihood.

r) Planning should be done not only for Delhi but for surrounding areas in such a way that they become feeders of services for urban area and people go back to live in the sub urban areas.

s) To develop gram panchayats, there is a possibility to develop convergence of RURBAN Clusters. There should be some scheme where Satellite clusters may be taken up such that better infrastructure can be assured. Hence, MoHUA should come up with a cluster development program. There is necessity to see the neighbouring gram panchayats or villages as suppliers of skilled manpower and various other kinds of services.

t) Segregation of plastic waste and further usage of it in construction of roads may be looked at.

u) Role of NRLM – NRLM is also looking at commercial ventures.

v) The plan should be able to project the requirement of future jobs. Further, the possibility of these future jobs may be taken into account while planning for the training process.

w) Apprenticeship Model may be promoted.

4.2 **SESSION-II** was on 'Reverting Migration towards Rural Urbanism' which was chaired by Shri Rohit Kumar, Joint Secretary, M/o Rural Development, GoI.

4.2.1 **Shri Rohit Kumar, Joint Secretary, M/o Rural Development,** mentioned the following:

a) Secretary General (2007-2016), United Nations ***"Migration is an expression of human aspiration…"*** and ***Rural India seeing rapid transition in people's aspirations*** (IIHS, 2018).

b) 2/3^{rds} of Delhi's migrants are from Rural India (Census 2011) and 45% - 50% of Delhi's population increase due to migration (DMP 2021).

c) Livability (in core) suffering due to immense population burden and therefore there is a need to decongest the core by reverting / redirecting migration.

d) Migration can be reverted / redirect by:

   i. Developing multiple growth centers that meet people's aspirations

   ii. Approach of Polycentric Growth & Sustainable Development (UN Habitat).

e) Growth centres can be developed with spirit of Hon'ble PM's vision**…. "*Atma gaon ki ho aur suvidhayein shehar ki ho"***. This further equates rural urbanism.

f) Rural Urbanism (Rurban) to attract people & investments should have following aspects:

i. Spirit of Villages:
    a. Community institutions (SHGs, Producer Groups)
    b. Participatory governance & planning (Gram Sabha, GPDP, Social Audit)
    c. Livelihoods based on local resource/culture/tourism
    d. Focus on Natural Resources
ii. Facilities of Cities
    a. Access to Basic Services – 'Ease of Living"
    b. Choice of Economic Opportunities, Skill Upgradation, Access to Markets & Growth
    c. Leveraging Information and communications technology (ICT) & Geographic Information System (GIS)
    d. Land-use regulations and service benchmarks

g) Creating more Growth Centres across NCR can lead to redirecting & more evenly spread population. Hence, aspects for identification & build more Growth Centres that retain & attract people should be thoroughly looked into & deliberated upon.

h) There are over 6,000 potential growth centres across India (CPR 2019) and strong potential exists across NCR (Over 350 potential growth centres). Mapping done by MoRD of over 350 Potential Growth Centres across NCR.

i) Citing example of Muzaffarpur District it is observed **that potential growth centers are located on periphery of urban centers** and they are growing in isolated sub-zones.

j) Challenges posed by these potential growth centres:
    i. Economic growth but lacking corresponding infrastructure & ecosystem (Chatterjee,2014)
    ii. Undergoing rapid land-use change & increased built-up area (Shaw & Das, 2017)
    iii. Leading to Environment degradation & social inequity – (Mukhopadhyay et al 2016). No planning norms.
    iv. Administratively still villages. PRI not equipped (ORF, 2019)

k) Step taken by MoRD for **'Integrated Development' of the Rurban areas** across the country - '*A promising step to improve regional development'* (IIHS, 2018) *'Takes an important role of shaping the urbanization pattern of rural areas'* (CPR, 2019)

l) **Shyama Prasad Mukherji Rurban Mission (SPMRM) - National Rurban Mission (NRuM) details**:
    i. **Approach**
        a. Integrated development: Basic services & Economic activities
        b. 'Cluster of villages' 'Clustering = Economy's building block (Harvard Business School, 2018).
        c. Focus on human capital development and in-situ employment opportunities.
        d. Leads to more evenly spread out urbanization (IGC, 2018)
        e. Focus on increasing women participation in economy (with NRLM)
    ii. **Vision:** 'Development of cluster of villages that preserve & nurture the essence of rural community life with focus on equity and inclusiveness without compromising with the facilities perceived to be essentially urban in nature
    iii. **Key Objectives**:
        a. Stimulate local economic development
        b. Enhance various facilities/services

c. Well-planned clusters

iv. **Desired Outcomes**:

a. Reduced / reverse migration, reduced unemployment
b. Improved quality of life, reduced poverty
c. Attracting investment
d. Spreading development beyond cluster

v. **Mission's Progress:**

i. Physical progress:

a. 296/300 Rurban Clusters approved
b. 288 Integrated Cluster Action Plans (ICAPs) approved
c. 234 DPRs approved
d. 165 clusters notified for planning
e. 7 draft geo-spatial plans prepared
f. Rurban Soft MIS portal revamped
g. Model Planning guidelines shared with States

ii. Financial progress:

a. Approved:
- Total Gov. Investment: Rs 27,841 Cr.
- Gap Funding: Rs. 6,846 Cr.

b. Expenditure:
- Total Gov. Expenditure: Rs. 6593 Cr.
- Gap Funding: Rs. 1016 Cr.
- MIS linked with PFMS

vi. **Key Learning's**

a. Hybrid investment criteria (70:30) of Convergence: CGF incentivises resource facilitation. Untied fund (CGF) provides flexibility
b. Eco dev & Basic Services – symbiotic when integrated

vii. **Present Challenges:**

a. New concept: Spatial planning & cluster governance
b. Sets high standards: Project life-cycle approach, O&M, Outcomes with benchmarks

m) **Presently 13 Rurban Clusters being developed across NCR** with total approved investment of Rs 1526 cr.:

- Haryana - 07 clusters
- Rajasthan – 02 clusters,
- Uttar Pradesh – 03 clusters,
- Delhi – 01 cluster

i) In NCR clusters, components seeing maximum investment based on local needs include Water Supply, Village Streets, Agriculture services, Waste Management, Skill Development etc.

ii) **NCR- Rurban clusters economic focus areas are:**

1. Balla Custer – Economic theme is Agri services and processing. Rurban Investments are in Agriculture Equipment Banks and Providing training to unemployed youth

2. Uchana Khurd Cluster - Economic theme is Skill development. Rurban Investments are in providing training to unemployed youth and Agriculture Equipment Banks.
3. Badli Cluster - Economic theme is Skill development. Rurban Investments are in Providing training to unemployed youth
4. Kosli Cluster - Economic theme is Skill development. Rurban Investments are in Skill development and Dairy Farming.
5. Sewah Cluster - Economic theme is Agri services and processing. Rurban Investments are in Agri-service centre and Cold Storage.
6. Tigaon Cluster - Economic theme is Skill development. Rurban Investments are in Residential training to unemployed youth and Street Vending Project.
7. Singar Cluster - Economic theme is Skill development. Rurban Investments are in Establishment of Multi skill development training centre and Agriculture Equipment Banks
8. Jurahera Cluster - Economic theme is Skill development. Rurban Investments are in SHG formation and capacity building and Veterinary Building Upgradation.
9. Naugauwan Cluster - Economic theme is Agri services and processing. Rurban Investments are in Construction of animal shed and Irrigation
10. Dasna Dehat Cluster - Economic theme is Agri services and processing. Rurban Investments are in Capacity Building/Skill training for self-employment and Farmers Training Programme
11. Chitehera Cluster - Economic theme is Agri services and processing. Rurban Investments are in Organic farming and Farmers Training Programme
12. Silana Cluster - Economic theme is Agri services and processing. Rurban Investments are in Seed Godown and Dairy Development.

n) **Success Story** – Integrated Cluster Development story of Suttamalli cluster, TN having basic features as follows:
   i) Suttamalli Cluster includes 13 villages in Tirunelveli, Tamil Nadu - having Population over 34,000 people
   ii) Women / Youth – more than 80% HHs provided skilling & employment opportunities
   iii) SHG led growth by MSME units and allied activities
   iv) 100% habitations provided with Basic and Social amenities:
      a. Piped water supply
      b. Solid & liquid waste management
      c. Inter & Intra roads connectivity
      d. Village street lighting
      e. Smart classes in schools
      f. Upgraded health services
      g. Citizen Service Centres.

o) Rurban Cluster are creating & contributing to Cleaner Air in and around NCR by Use of Super / Happy seeders in Dhapali Cluster, Punjab

p) NCR Cluster - Dasna Dehat : Access to village streets with drains

q) Towards well-planned Rurban Clusters – Model Guidelines can be followed.

r) Geospatial planning of Rurban Clusters through superimposition of Base Map, Cadastral Maps and Satellite Imagery like of Kambadur Cluster in AP was suggested.

s) Rurban Cluster Development Index being created at M/o RD using both Urban & Rural insights

t) **Focus Area for the 350+ Growth Centres:**

i) Comprehensive collaboration on developing these clusters through MoRD and MoHUA.
ii) Resource (technical & financial) support for these clusters through NCRPB.
iii) 2021-2026 time bound development vision for the clusters through NCRPB.
iv) Cluster Adoption through cities in vicinity.
v) Attract & incentivize private sector investments as well as CSR / Foundations in these clusters through MSMEs/MNCs already having offices in NCR.

u) **Path Forward:**
   i) MoRD's Role for coming 5 – 10 years: Transform these 350+ Rurban Potential Growth Centres into Actual Growth Centres in collaboration with MoHUA & other entities.
   ii) Importance of MoRD & MoHUA collaboration for these Rurban areas:
      a. Existing Scenario: Governance & Schemes in Rural / Urban binary
      b. Future Scenario: Integration along the urbanization continuum

v) **Summary of potential focus of MoRD:**
   i) Across NCR: Special focus on the 350+ potential growth centres in NCR
   ii) Across India: Developing 300 present Rurban clusters across Country. More clusters in the future. Better overall rural livability across Rural India through MGNREGS, NRLM, DDU GKY, FFC, PMAY, SBM etc.

4.2.2 **Dr. Ashok Kumar, Prof. of Physical Planning, SPA, Delhi** while discussing on "Polycentric Development in NCR" presented following viewpoints:

a) Polycentric Development can be correlated/characterised as population deflection (spatial distortion) to settlements other than the metropolis and enhanced horizontal interactions between major settlements. Can also be seen as bottom up clustering under the Rurban Mission through ICAPs and top down approach of development (Polycentric) through a Regional Plan.
b) A region is a system of small and large human settlements inter-linked by way of roads, rail, air, etc. and due to functional specialisations, nodes tend to develop around large settlements & complementarities and dependencies tend to develop.
c) Polycentric Development theoretical can be seen with 3-4 perspectives i.e Hierarchy of Settlements, Networking among Settlements, Functional Specialisation of Nodes/ Settlements. It is a better model than the Central-periphery or Monocentric Model
d) Practical Implications of Polycentric Development
   i. Multiple Large Settlements
   ii. Highly Accessible Settlements
   iii. Cultural Diversity and Richness
   iv. Ability to Attract Global Investment
   v. Large advanced service firms
e) Spatial Strategies for Polycentric Development
   i. Cooperation and Alliance Building
   ii. Forging Development Partnerships
   iii. Devolved Governance
f) Challenges of Polycentric Development
   i. Balanced Development and Growth
   ii. Social Cohesion
   iii. Territorial Cohesion
   iv. Sustainable Development

g) Goals of the Settlements Policy of the NCR Plan 2021
   i. To take advantage of growth dynamics of Delhi
   ii. Integration of urban and rural settlements

h) Settlements Policy of the NCR Plan 2021
   i. To allow growth of settlements as per their carrying capacities and development potentials.
   ii. To identify 4 to 5 metro centres or regional centres or suitable townships.
   iii. By attracting investment, providing infrastructure and developing industrial and commercial complexes.
   iv. To develop small and medium towns for supporting socio-economic development of rural hinterlands.

i) Following points from NCR Planning done for 2021 was discussed:
   i. Settlements Hierarchy, 2021- 'Urban Complex' is not defined but is shown on a map.
   ii. Multi-nodal Hierarchy of Settlements in the NCR, 2021

j) Imagining Polycentric Development in the NCR was discussed.

k) Critique of the Settlements Policy of the NCR Plan 2021:
   i. To take advantage of growth dynamics of Delhi: Against deflection policy
   ii. Growth of settlements as per their carrying capacities and development potentials: How about the idea of spatial distortion?
   iii. How to develop the proposed settlements' hierarchy remained unexplored in the plan.

l) Concluding remarks/ suggestions:
   i. Starting point has to be balanced development rather than deflection of population to other settlements.
   ii. Marrying polycentric development with clustering envisaged under Rurban Mission.
   iii. Evidence based policy for polycentric regional development

4.2.3 **Prof. S.K. Kulshrestha,** Regional Planning Expert, while discussing 'Land Use Allocation Strategies' mentioned that:

1) **A spatial plan** is basically a land use plan. It has to be a strong component of the entire planning process so that other aspects can have a spatial location on ground.
2) **Hierarchies of Plan**:
   i. **Regional plan** - would talk about policy.
   ii. **Sub Regional plan** - could deal with further details.
   iii. **Sub-Sub Regional Plans** - could be a cluster of settlements.
3) **From Regional Plan there could be a district plan and then sub regional plans which has 4-5 districts in NCR. From District Plan, a tehsil plan may be prepared. After Tehsil Plan, there could be a grouping of villages (RURBAN) that could be planned.**
4) Whole NCR is urbanizing. The rural share in 1981 was 54%, 49% in 1991, 43% in 2001, however, it is the population not the area.
5) Urban population is higher than the rural population in the National Capital Region.
6) In Sub region, NCT is purely urban, 98% is Urban and 2% is rural. Haryana and UP are 50% rural and 50% urban. Rajasthan sub region is predominantly rural (82% of population living in rural areas).
7) There are about 7528 villages. **About 9% is built up, agriculture is about 80%. Hence while preparing the Plan, agriculture sector should be given importance. Hence, the plan should focus both on Urban and Rural areas.** Through the process of plan there should be a rural urban continuum, which could be an outcome of the plan.

8) **Current Regional Plan has land utilization zones, like urbanizable area, agriculture zone within the controlled/ regulated/development area and outside the controlled/regulated/development area, Highway corridors and National Conservation Zones.**
9) In each of the zones mentioned in the above point, there are rural areas. However, the existing approach has been on the basis of zoning regulation. There is **only one set of zoning regulation which has been applied, which perhaps need to be analysed and amended accordingly.**
10) In Haryana there is a **Haryana Rural Development Authority**. Its role is to prepare plan and implement it in a specific identified area. The other role is to approve the landuse conversion.
11) Suggested approach – **the approach should be pro active**.
    - There is a necessity to imagine the likely things to come, and plan for it accordingly.
    - **The type of activities that are going to come up need to identified and plan accordingly**.
    - The kind of **changes that are occurring and where they are occurring, need to be identified**. The reason of such changes also needs to be identified.
12) Changes come due to demand, demand leads to activity pattern. Activity Pattern when located on ground, gives land use. Hence the **outcome of spatial activity is landuse**. These aspects need to be considered while preparing the land use pattern.
13) **Quantity of land to be allocated** – This again depends upon demand.
14) The **transitional areas where transition is taking place from Rural to Urban in NCR need to be identified**.
15) **Growth dynamics of transitional areas need to be looked into**. How and why the changes are occurring, need to identify. The outcome of this transition also should be identified. Accordingly, landuse may be proposed.
16) **Fringe areas are the transitional areas**. The **activities in the fringe area need to be analysed**. The dynamics of change in that fringe area need to be studied and accordingly the landuse to be provided may be decided.
17) **Large Quarrying areas** - In NCR, villages are directly affected because of those quarrying sites. The kind of changes occurring in this zone need to be identified.
18) **National Parks and Heritage Sites** – A lot of changes will be occurring here also because of tourism aspects. This also needs to be looked at before assigning land use.
19) **Corridor Zone** - Because of accessibility, lot of activities are concentrating. These activities need to be considered, analysed and accordingly allocation may be done.
20) **Predominantly Agriculture** – This category within NCR is not covered by Developed Area/ Developable Area/ Controlled area
21) **Approach for rural area should be different than the approach for the transitional area.**
    a) **Fringe Area - entire CNCR minus NCT Delhi is an area which is booming with activities**. A planned approach for this area need to be done. Presently, an uncontrolled development is going on this area.
22) **Rurban Clusters should be identified and planned accordingly in the entire CNCR.**
23) **Fringe areas outside the CNCR**- The regional centers outside CNCR are around 12. The fringe areas of these centers should be taken up and then activity pattern may be studied.
24) **Large land consuming activities may be allocated in fringe areas**. City does not have large chunks of land which these activities demand. For example – **In all large cities, E Commerce is coming in a big way**. E Commerce demand huge storage space. This

storage space again has a potential of giving employment in the vicinity area. The fringe areas can accommodate those kind of activities.

25) NCR is going to be the largest region in the world. Delhi to be a mega city. Hence, in this mega city region, hence all aspects need to be taken care and plan may be prepared accordingly.

26) **Storage facilities should be developed for all kinds of activities**. From Fruits, Vegetable, to Petroleum products. Hence, land use planning should be done after considering such activities also.

27) **Another large area consuming activity is educational**. Lot of institutes want to expand, like engineering colleges. Land use in the fringe areas may be assigned accordingly.

28) Other Activites – **Solar Park may be planned accordingly**

29) **Facilities and Infrastructure** – approach of Rurban mission may be adopted and conversion approach of Rurban mission may be looked at.

30) There are many schemes available to be implemented in the rural area. **Identification & convergence of those schemes may be done and implemented in the settlements**. The aspects which are not covered in the schemes, may be financed accordingly.

31) **There is one national Park. There is Aravalli Hill. The activities likely to be concentrated here are related to tourism and recreation. Hence, in this zone activities may be identified accordingly and land use plan may be prepared.** For example – In this zone, allocation of land for hotels, socio cultural activities etc. may be permitted.

    b) In Quarrying areas, instead of single village approach, a cluster of villages may be looked at. After the cluster is identified, a hierarchy of facilities related to health, education, transportation etc. to be provided, may be identified accordingly. In addition to this, the activities related to quarrying need to be identified. For example, in case of stone quarry there can be intermediate processing process, storage, sale system etc. While planning land use in such areas, such aspects also needs to be taken into consideration.

32) **Micro region planning may be promoted** (**Region – Sub Region - Micro Region)**. In micro region planning, a small urban settlement or a large rural settlement becomes a focal point. Around this, there may be 20-25 panchayats around, where each panchayat has a set of 3-4 villages. In this region and integrated system of infrastructure and other facilities may be provided accordingly. This would assist in reducing inequalities to a certain extent because within the region, each facilities would be designed accordingly to a specific distance norm. Depending upon the potential, economic activities may be provided. This could be MSME sector, or a market. This is to be followed by Storage capacity.

33) **Land use allocation approach needs to be proactive based on location & demand.**

4.2.4 **Shri Varun Kappal, State Program Manager, Rajasthan Migration, Tata Trusts**, views on "Reverting Migration: Strategies to Arrest Migration" were as under:

1) India – turning into an epicentre of urbanization and urban population in India is expected to reach 600 million (40% of the total population) by 2031. Urban sector is expected to occupy 75% of the total GDP by 2031

2) **One-fifth of the urban population growth is accounted for by rural to urban net migration** and 30% of migrants are of youth age 15-29 Years, another 15 million are children (Census 2011)

3) **Policies that aim to restrict rural-urban migration are ineffective at forestalling city growth, and can even produce economic, social and environmental harms**

4) **One of the significant drivers of Urban Growth is rural to urban migration.** More urbanized states have high level of migrants - Maharashtra, Gujarat, & Delhi and

Migrants make up a significant component of Urban Informal Sector (Construction industry is the largest employer).

5) Three major **driver of Urbanization- natural increase, emergence of new towns, and net contribution of rural to urban migration**.
6) In 2011-12, the **construction sector** employed about 50 million people, making it the **largest employer outside of agriculture after trade, hotel work and manufacturing**.
7) **Construction industry is also the largest employer of seasonal migrants**. In 2007-08, the industry employed 33 per cent and 19 per cent of rural and urban seasonal migrants, respectively. *(Sources: Central Statistical Organisation; NSSO, Rounds 64 and 66)*
8) **Reasons for migration -** Women migrate due to marriage and men due to work. Other factors responsible for migration are work/ employment, Business, education, moved after birth, moved with households etc.
9) **Migration is not a bad phenomenon. It is an important variable to measure growth in an economy.** It is integral to human aspirations and to bring them out of poverty (HDR2009) and **it allows economic diversification and growth**. Besides, improvement in access to education and health, it is a pathway out of poverty that helps build assets.
10) **Reverting migration without creating enough economic potential in rural areas will be counter productive**
11) **Unfavourable state policies towards migration**
12) Creating Cities with Optimal Population Density which should be Efficient, Productive, Environmentally Sustainable, Economically Viable
13) **How do we deliver Optimal Migration?**
    i. Labour mobility is the expected outcome with increasing economic development and urbanisation
    ii. Estimates suggest increase in Urban poverty
    iii. Decelerate process of concentrated Urbanisation by effectively controlling migration:
        - **Regulate rural-urban movements -** Populating migrants in selected places and releasing pressure for the core (NCT Delhi)
        - **Deliver Integrated rural development**
        - Develop periphery to facilitate organic shift,

    For example:

    a) Beijing with 2.17 crore has planned to limit it to 2.3 crores
    b) Mass evictions of migrants
    c) Developing Jing-Jin-Ji, a new city 130 Kms from Beijing
14) **Preventing creation of Urban sprawls** though Rural Urbanism, Creating inclusive cities with spaces for Poor and LIG and avoid non-strategic gentrification
15) **Limiting the entry of migrants from the vicinity of Delhi:** About 6 – 7 % of total migrants are from NCR
16) **Reconsider plans to establish Regional Rapid Transport System (RRTS) with high speed trains connecting Meerut, Alwar, Sonipat**
17) **Establish Migration Support Centres:**
    a. Skilling: Counselling at Source and Training at Destination
    b. Could provide information on work options as per the Urban Pull
    c. Legal assistance, Social Security Linkages

    Migration Support Centres

    a. Tata Trusts ran 67 centres which deals in counselling and advising, financial services, across 5 source states and 12 destination cities
    b. E-Mitras across 5 source states and 12 destination cities

c. Direct monetary benefits of Rs. 24 crores for 4 Lakh migrant workers
d. 13000 direct/post training placements
e. 8000 legal cases resolved

18) **Integrated Rural Development**
   a. Increasing economic potential by
      - **Pumping money in rural society to increase rural spending**
      - **Exploiting natural resources, e.g. Honey bee keeping has huge potential,**
      - **Setting up of agro processing units**
      - **Reinvigorating handloom industry** - *Tata Trusts is spearheading this in Nagaland, Odisha and Assam*
   b. Climate change risk mitigation:
      - **Crop insurance compensation to be fast and hassle free**
      - **Integrated watershed management programs (IWMPs)**

4.2.5 Sh. Sushil Sarwan, Director Development and Panchayats Department, Govt. of Haryana, presented the following w.r.t. State initiatives for Rural Development:

1) Vision - "Empowering PRIs to function as institutions of local self-government for economic development and social justice"
2) Mission-"Strengthening of PRIs for efficient, accountable, transparent and responsive self-governance by means of institutional capacity building, financial support, resource generation and progressive regulatory framework"
3) **Various Regulating Relevant Acts & Rules in Haryana**:
   I. Haryana Panchayati Raj Act, 1994
   II. Haryana Panchayati Raj Rules, 1995
   III. Finance, Audit & Works Rules, 1996
   IV. Punjab Village Common Lands (Regulation) Act, 1961
   V. Punjab Village Common Lands (Regulation) Rules, 1964
   VI. Haryana Rural Development Act, 1986
   VII. Haryana Rural Development Rules, 1987
   VIII. National Rural Employment Guarantee Act, 2005
   IX. Haryana Cattle Fairs Act, 1970
4) Rural Department of Haryana has spent 68% of allocated fund in FY 2019-20.
5) Flagship Schemes:
   i. Swachh Bharat Mission- Gramin
      a. Launched on 2nd October, 2014 with the aim to achieve "Swachh Bharat" by 2019.
      b. The components of the scheme are Individual Household Latrine (IHHL), Community Sanitary Complex (CSC), Solid & Liquid Waste Management (SLWM) and Information Education & Communication (IEC)
      c. As per BLS- 2012, Haryana State has achieved 100% IHHL coverage.
   ii. Swachh Survekshan Grameen-2019
      a. DDWS commissioned "Swachh Survekshan Grameen-2019" through an independent agency 'Ipsos Research Private Limited'
      b. The Scope of the survey included survey of public places like schools, Aanganwadis, PHCs, Haat/Bazars, Panchayat, SC/ST community toilets and citizen's perception of Swachhata
      c. Haryana State achieved 2nd position in the Country and top cleanest State in North India

d. District Faridabad has achieved 2nd position in cleanliness in the Country. Similarly, District Rewari has achieved 3rd position in the Country during this survey

6) Solid and liquid waste management

a) Objective: To manage the Solid & Liquid Waste from inception to its final disposal to reduce the adverse effects on health & environment in rural areas

b) Funding:

- SBM (G) – 7/12/15/20 lakhs for GPs with households upto 150/300/500/> 500 and State Budget/Other Sources for additional requirements
- 1395 SLWM projects (1359 SWM + 1323 LWM) valuing Rs. 390.57 cr. in respect of 22 districts have been sanctioned
- 671 Solid Waste Management and 502 Liquid Waste Management projects have been completed and the work on 133 Solid Waste Management and 468 Liquid Waste Management projects are in progress.
- An amount of Rs. 245.43 Crore has been released for these projects and Rs. 145.00 Crore yet to be released

7) Haryana Rural Development Fund (HRDF) (started in 1986)

- Objectives: To provide and upgrade the basic infrastructure in rural areas
- Source of Funds: Collection of rural development fee @ 2% on sale proceeds of agricultural produce bought/sold/brought for processing.
- Establishment & Constitution: Constituted under Haryana Rural Development Act,1986 & its Rules of 1987
- Work priorities: As provided in Sec.6(5) of HRD Act, 1986 —
  a. Construction of streets/roads in rural areas
  b. Construction of dispensaries
  c. Arrangements for water supply, sanitation & other facilities
  d. Construction of Godowns and other places of storage
  e. Any other work for the benefit of persons paying the HRD fee
- **Achievements :** FY2019-20 (from 1.4.2019 to 15.11.19)

Availability of Total Funds(A)	:	Rs.809.00 cr.
Last Years' Liabilities (B)	:	Rs.263.09 cr.
Balance (A – B)	:	Rs.545.91 cr.
Works sanctd. (2019-20)	:	Rs.675.45

8) Park cum vyayamshala in Sonipat

- **Objective:** To promote healthy life style; provide covered space for Yoga & other sports activities; provide green breathing space; provide space for small children to play and space for events such as celebration of 26th January, 15th August etc.
- 581 Park has been completed and 128 are yet to start and remaining in progress out of sanctioned 1017

9) Gram Sachivalayas

Objective:

a. To setup an IT enabled administrative complex for Gram Panchayat and other village level functionaries of all the line departments

b. To ensure transparency, efficiency, service delivery, accessibility and accountability through e-Governance in the functioning of Gram Panchayat and other agencies

c. Space for setting up Common Services Centre (CSC) for ensuring citizen services at their door step

d. To provide accessible and efficient citizen services (like G2C, G2B and B2C) to the inhabitants of the Gram Panchayat

Funding- Gram Sachivalayas are being set up by Development & Panchayats Department in convergence with State Budget & Funds under MGNREGS

Achievements- 1855 Gram Sachivalayas set up till date out of which Atal Seva Kendras have been established in 1029 Gram Sachivalayas

10) E-Governance Initiatives

a. **Adoption of e-Panchayat Enterprise Suite** to bring more transparency and accountability in the system

b. 11 core application from preparing of work plan, physical and financial monitoring, payments, creating of asset and Geo-tagging of assets

c. Haryana being top performing State in creation and updating of work Plans in e-Panchayat application

d. All GPs in the state of Haryana has adopted e-Panchayat application for works to be executed under Fourteen Finance Commission

e. In year 2019-20, 99.7 % GPs uploaded their plan on **Plan-Plus**

f. Development of Rural Work Monitoring System - A single portal for physical and financial progress of Panchayati Raj scheme is developed and 03 schemes namely Gram Gaurav Patt, Shivdham Navinikaran Yojna and Park cum Vyayamshala is monitored through the software Department is planning to re-design the software as a dashboard monitoring system alongwith Mobile App for entering of record

g. Development of IT Solution - HARTRON empanelled agencies for 'Selection of System Partner for Study, Design, Development, Implementation and Operation & Maintenance of IT Solution for Development and Panchayats Department and Rural Development Department, Haryana'

11) Capacity building and Training of PRIs

a. Department has state level training institute constituted at **Haryana Institute of Rural Development,** Nilokheri, Karnal and 2 extended training centres at Rajiv Gandhi State Institute of Panchayati Raj Institution & Community Development (RGSIPR&CD), Karnal and Regional Institute of Panchayati Raj, Bhiwani for providing trainings to elected PRIs, officials and staff of department and other line departments

12) Gram Panchayat Development Plan (GPDP) "Hamari Yojana Hamara Vikas"

a. Constitutional mandate – Article 243G requiring plan at GP level (also at the levels of higher tiers of Panchayat) for economic development & social justice

b. To involve Panchayati Raj Institutions in preparation of plans and implementation of the schemes

c. Focus on Economic, Social and Human development with special reference to Gender equality and Social Justice

d. Transformation of development governance- from bureaucratic development governance to democratic development governance

e. Convergence of Plans of all line departments and schemes by using participatory approach

13) People's Plan Campaign 2019

a. Structured Gram Sabha meetings spread over 2nd October – 31st December, 2019, with physical presence and presentation by frontline workers/Supervisors of all 29 Sectors in XI Schedule

b. Strengthening Role of elected Panchayat Leaders and SHG Women under DAY-NRLM in effective Gram Sabha

c. Evidence Based Assessment of proposals for 2020-21 in all 29 subjects of XI Schedule

d. Public Information Campaign – Full public disclosure on a Village Display Board on Schemes, Finances, etc. of all Programmes in Gram Panchayat Office

e. Plan Plus strengthened to provide for a pragmatic and holistic Gram Panchayat Development Plan

14) Devolution of 3fs (Funds, Functions And Functionaries)

i. Provision of Technical Staff at Zila Parishads

a. Vide letter no. 47606-608 dated 17.07.2019 following provisions are done:

- One Independent Junior Engineer will be posted in each Zila Parishad, if necessary on deputation basis from Panchayat Department/ Public Health Engineering Department., until a permanent arrangement is made
- For every two Zila Parishads, one independent Sub Divisional Engineer

ii. Devolution of Powers:

a. Monitoring and supervision of maintenance work of Shivdham/Kabristan work

b. Monitoring and supervision of maintenance work of Health Sub-center. Further, requisition of yearly amount of funds

c. Construction, maintenance and selection of site for Aangawadi to be executed by ZP. Also, to identify sites as per criteria of W&CD Department

d. Construction, maintenance and selection of sites for Bus Queue shelter to be executed by ZP

e. Monitoring of activities of Primary schools and submission of monitoring report to District Education Officer

iii. Facilities to Zila Parishads:

a. Vide letter no. DFA-8-2018/1089356-76 dated 31.12.2018, a provision for purchase of new Vehicle (upto Rs.12.65 Lakh excl. Taxes) or to replace existing vehicle for office use to President Zila Parishads (subject to condemned instruction of State Govt. and admin approval by the competent authority)

b. Sanctioned and release funds of Rs. 18.31 Crores for providing facilities and renovation of ZP Building and New ZP building through Panchayati Raj works rules and instructions of State Govt.

c. Vide letter no. DFA-7-2018/91754-74 dated 11.10.2018, provision of facilities of President/ Vice Presidents of the ZP is as below:

- Residential accommodation: Rs. 15,000/- per month
- Telephone: Rs. 1000/- per month (incl. Internet)
- Office Furniture: Rs. 2.00 Lakhs. (Purchase through GeM portal)

d. Each ZP to receive funds of Rs. 20-25 Crores according to size/area in a FY

iv. Pension scheme for Ex-Chairman and Ex-members of Zila Parishads

v. Devolution of Funds to Zila Parishads/ Panchayat Samiti:
   - Devolution of Funds from Women and Child Development Department
   - Devolution of Funds from Health Department
   - Devolution of Funds from Transport Department

15) Achievement Under Jal Shakti Abhiyan (JSA)

i. State ranked third in the overall progress made by the 19 districts under JSA. Progress made in JSA as below:
   a. Water Conservation and Rain Water Harvesting-Construction of roof top rain water harvesting structures in all public and 13000 private buildings
   b. Renovation of traditional water bodies/tanks-Desilting and digging of 700 ponds
   c. Reuse and Recharge Structure-Construction of 1.92 lakh soak pits in the State
   d. Watershed Development-Construction of 620 rain water harvesting structures under IWMP
   e. Intensive Afforestation-Over one Crore trees planted in all the Gram Panchayats of the State

ii. IEC strategy rollout plan prepared and circulated to all the districts to convert this campaign into people's campaign.

iii. Radio Jingles, TV Spots and one film/documentary prepared through DIPR

16) Future Roadmap

i. Use of e-Governance at all levels for planning and monitoring

ii. Use of tendering mechanism of works at all levels

iii. Gram Panchayat performance based ranking using IT Tools

iv. Use of Panchayats lands for various Govt./Industrial/ commercial projects

v. Bring about more transparency in auction of panchayat land, village pond for fishing to give boost to income of Panchayat

vi. In-situ village re-development plans

vii. Empowering Panchayats for various regulatory activities as per section 25 of Haryana Panchayat Raj Act 1994

17) Schemes of Rural Development:

i. Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)

ii. Shyama Prasad Mukherji Rurban Mission (SPMRM)

iii. Pradhan Mantri Awaas Yojana- Gramin (PMAY-G)

iv. Vidhayak Aadarsh Gram Yojana (VAGY)

v. Member of Parliament Local Area Development Scheme (MPLADS)

vi. Below Poverty Line (BPL)

vii. Jal Shakti Abhiyan (JSA)

viii. Integrated Watershed Management Programme (IWMP)

ix. National Rural Livelihood Mission (NRLM)

18) DAY-NRLM: A Macro Picture

i. HSRLM has covered 131 blocks in 22 districts. This year we have entered in 31 new blocks and likely to enter in rest of the blocks during balance period of this year. Thus, expanding our foot prints in all 140 blocks by end of current FY.

ii. During FY 2019-20 (01.04.2019 to 30.09.2019), 7366 SHGs formed, 339 Village Organizations formed, 7 Cluster Level Federations formed. Mobilized 2,66,388 number of Households into 34,622 SHGs. Formed 1737 Village Organization (VO) and 66 Cluster Level Federation (CLF) up-to 30/09/2019.

iii. During the period 01.04.2019 to 30.09.2019, Revolving Fund given in 5052 SHGs with amount of Rs. 505 Lakhs, Community Investment Fund given in 2354 SHGs with amount of Rs. 1244 Lakhs. As on 30/09/2019, HSRLM has disbursed Rs. 2188 Lakhs as Revolving Fund (RF) to 20,613 SHGs and Rs. 7010 Lakhs extended as Community Investment Fund (CIF) to 8550 SHGs.

iv. Total 14,232 SHG have been Credit Linked with Amount of Rs. 153.42 Crore up to 30/09/2019. During FY 2019-20, 3713 SHG credit linked with amount of Rs. 49.39 Crore against target of 10,846 SHGs with amount of Rs. 133 Cr. fixed for current FY.

v. Total 2618 enterprises supported under Start Up Village Entrepreneurship Programme (SVEP) with Community Enterprise Fund (CEF) Rs. 791 Lakhs.

19) Plastic Free Campaign

i. Approx. 198640 SHG members participated in Awareness Camps.

ii. Approx. 359851 SHG members participated in Pledge Ceremony.

iii. Approx. 170227 SHG members participated in Rallies.

4.3 **SESSION-III** was dedicated to discuss various options for 'Transformation of Rural NCR through Synergies of Macro Development'. The session was chaired by Smt. Leena Johri, Joint Secretary, Ministry of Rural Development. Brief of various discussions and deliberations held during the session is as under:

4.3.1 **Dr. Shankar Goenka, IMMSME** suggested the following regarding 'Identification and Creation of appropriate skilling infrastructure' :

1) It has been observed that in the industry there is no skilled labour force available to work.
2) **Rural areas can only develop through proper handholding.**
3) There should be a connection between education/training attained and the job a candidate is doing.
4) Training in NSIC may be promoted. Such models may be promoted in rural areas also.
5) Proper counselling to understand the interest of the children in a particular sector may be identified, and accordingly industry oriented training may be given to them
6) There should be a common platform where all the related schemes running under different Ministries may be brought, analysed and accordingly the plan may be prepared.

4.3.2 **Shri Philip Mathew, Expert, UNDP** presented viewpoints with respect to "Perspective on Rural Development in context of SDG" which are as follow:

1) **17 Sustainable Development Goals** which is to be achieved by India. Number one being "No Poverty" and number eleven being sustainable cities and communities.
2) Three Outcome Areas:
   i. Institutional and system strengthening for service delivery.
   ii. Inclusive growth through skills and entrepreneurship.
   iii. Energy, Environment and Resilience.
   iv. Financing and partnership for development results.
3) UNDP portfolio in Inclusive Growth
   i. Disha Project: Creating Employment and Entrepreneurship Opportunities for Women-Pan India

ii. Empowering marginalized communities through entrepreneurship
iii. Building Capacity of MSMEs for export competitiveness
iv. Creating institutional market linkages and capacity building for entrepreneurs
v. Technical Support to State Rural Livelihood Mission
vi. Strengthening Nehru Yuva Kendra Sanghathan and National Service Scheme

4) Energy Environment and Resilience

i. Climate Resilience: Resilience integrated in State Plan in 5 States and 6 Cities. Green climate Fund proposal to support Climate -resilient livelihoods for 1.7Million people approved. India's First Post Disaster Needs assessment in Kerala
ii. Plastic waste management-Initiated partnerships with local government in 5 cities; Planned scale upto 50 cities and 85000 MT of wastes, reaching 37500 waste pickers.
iii. Clean and efficient energy: Video series to support small scale steel sector rolled out. Renewable energy solutions implemented in 4 sectors..

5) India's Preparedness for SDG Implementation

i. India strongly commits for holistic SDG implementation
ii. India ratified SDGs in UN Summit in 2015
iii. Premier think tank appointed (NITI Aayog) - coordinator of SDG
iv. MOSPI –responsible for M&E
v. 38 Central Ministries assigned with roles & responsibilities
vi. Legislative Oversight - Parliament and State legislatures exercising oversight
vii. NITI-MOSPI – Carried out Mapping of Schemes & Programmes
viii. Vision Plan 2030 Combining national planning for 15 years and SDGs
ix. 7 Year Strategy Paper translating broader vision into implementable policy
x. 3 Year Action Plan translating Policy into Actions
xi. SDG India Indicator Framework with 306 Indicators
xii. SDG Ranking Index(State wise) with 62 (2018)/ 102 (2019) high priority Indicators

6) UNDP overall SDG support framework

i. National Level – SDG coordination with NITI Aayog, MOSPI & Ministries
- UNDP along with other UN Agencies, donors and partners
- Core Areas of Support- 1. Country level workshops 2. SDG Communication 3. SDG Localization tools and workbooks 4. M&E – SDG State Index and SDG Dashboard. 5. Global experts

ii. **State Level - SDG Centre / Cell with Planning Dept**
- PLATFORM - UNDP convened SDG State Advisory Committee. IMPLEMENTATION - PMU for SDG in state offices + SDG Innovation Labs to support for thematic areas
- 5 areas of state level support – 1. Integrated VISION, Strategy and Action planning 2. Awareness Generation and Capacity Building 3. SDG Localization 4 . M & E Tools and Manuals, SDG District Index and Dashboard 5. Partnerships- Private Sector/ Foundations

iii. District Level - SDG Localization Cell with District Collector
- Aligned with District Planning Committees in high priority districts in state offices
- District Level support to ensure SDG alignment with District Action Plans & GPDP plans + Strengthening of Data collection and Monitoring capacity

7) Institutional mechanism for localisation in states/UTs

i. Planning Department of all States/ UTs as nodal department

ii. Dedicated centre/ unit/ team to coordinate & technically support SDG implementation (Haryana, Uttarakhand, Punjab, Nagaland Gujarat, Andaman and Nicobar Islands, Bihar, Madhya Pradesh, Assam, Mizoram, Tamil Nadu, Uttar Pradesh, Jammu Kashmir, Karnataka, Andhra Pradesh)

iii. Nodal departments/ structures/ personnel for each SDG (Uttarakhand, Haryana, Nagaland, Rajasthan, Uttar Pradesh, Jharkhand, Karnataka, Kerala)

iv. District level structures (Rajasthan, Uttarakhand, Tamil Nadu. Assam, Jharkhand, Kerala, Madhya Pradesh, Mizoram)

v. High level processes led by the Chief Minister or Chief Secretary for monitoring (Uttarakhand, Nagaland, Tamil Nadu, Andhra Pradesh, Jharkhand, Kerala, Mizoram, Odisha)

8) Working in and with the state

i. Supporting and Implementation of Flagship schemes and public programmes in the states.

ii. Promoting SDG localisation and integration in states and districts

iii. Setting up of hubs and policy, innovation and technology fast track SDG implementation. Example -SDG coordination in Haryana

9) On-going Projects:

i. Instructional & Systems Strengthening

- **Enhancing Outreach and Sustainable Development Goals Integration at State Level.**
- **Establish SDG Coordination Centre for facilitating implementation of Haryana SDG Vision 2030**

ii. Inclusive Growth:

- Building an Institutional Structure to Provide Marketing Support and Capacity Building for Entrepreneurs under the Mukhyamantri Yuva Udyami Yojana.
- Enhancing Effectiveness of Tribal Development Programmes in India.
- Strengthening Nehru Yuva Kendra Sangathan and National Service Scheme.
- Creating Employment and Entrepreneurship Opportunities for Women in India: DISHA

iii. Energy Environment and Resilience:

- Strengthening Natural Resource Management
- Plastic Waste Management Programme
- India High Range Landscape Project
- Enhancing Institutional and Community Resilience to Disasters and Climate Change
- Improvement of Mercury Management in India
- Market Transformation and Removal of Barrier for Effective Implementation of the State Level Climate Change Action Plans
- Strengthening Climate Change Planning & Implementation
- Scale Up of Access to Clean Energy for Rural Productive uses
- Fast-tracking of Rural Housing – Enhancing Community Resilience
- Strengthening the Capacity of SDMA and DDMAs
- Hydro-chloro-fluro-carbons Phase out Management Plan (HPMP) Stage-II

- Secure Himalaya
- Building Resilience of Communities around Guwahati Airport
- Preparation of Third National Communication and other new information to UNFCCC

10) Some of Existing Partnerships of UNDP with the State and Govt. of India for various support programmes in RD programmes were also discussed which relate to aspects like livelihood, women empowerment, business improvement, technical support, etc.

11) UNDP's value proposition

i. Creating value through innovative co-financial models, bringing 50 years of global development experience through the United Nations brand
ii. Robust knowledge and technical expertise
iii. Unique and sustainable platform for aligning CSR activities with SDGs
iv. Systems-level policy/implementation change and impact
v. Programmatic footprint in 15 states in India
vi. Strong government and institutional partnerships: Annual portfolio of 50 million dollars
vii. Impact-based solutions for economic empowerment of women

4.3.3 Shri Prabhakar Executive Vice-President, ITC Limited, presenting ITC **p**erspectives **on '**Leveraging aggregators and IT infrastructure for Rural Incomes' which are summarised as follow:

1) **There is a need to plan for elderly people**, mainly because of two reasons:
   i. Nuclear Families coming in the region.
   ii. Youth migrating from rural villages. Strategies may be made to plan for those who stay back in the villages.
2) **Aspirations of 60-65% of the rural workforce need to be taken care off**. The planning for NCR is a perfect agenda to look at it.
3) **Urban societies cannot succeed in rural societies that fail. In NCR context, it is extremely important to develop the rural catchment area of Delhi.**
4) Government or Private Entity alone cannot do it. It should be all about partnerships and platforms. These partnerships or platforms that co exists between people ecosystem, drives a sustainable growth.
5) **Key to Rural development should be evidence and need based.**
6) Resource allocation should be based on the impact that the interventions are creating.
7) **The mind-set of growth needs to be created.**
8) **E Chaupal is about hub and spoke model with a cluster approach**. The approach is it services around 10 villages which are in close proximity, and each village in turn cater to 5 sub-villages. The role that ITC plays is in terms of orchestrating this network of clusters.
9) **Digital linkages** has been created as a part of E Chaupal.
10) **Aadarsh Gram** includes indicators of economic development, environment development and social development. There is a target. For example in case of Social Development, in case of villages there should be "x" number of toilets, how much watershed should be there in each village, acreage in terms of forestation etc. **Mapping of each villages** are done on this basis.
11) Around 6 lakh villages across the country, around 121 million farmers. A large number of them are landless farmers. Around 65 million from rural areas have access to internet data.

12) E Chaupal 1.0 is all about computers being installed in villages. E Chaupal 4.0 is about shifting from Computer to mobile.
13) 7.5 million Farmers to be connected by 2024-2025.
14) Efforts are being made so that all services in the platform are offered free of cost to the farmers.
15) The idea is to become an aggregator of multiple services to farmers through a single app.
16) ITC has a very strong linkage in terms of connecting the farmers to the market.
17) Export of products is done to about 65 countries.
18) The endeavour is to create India's largest digital ecosystem for agriculture.
19) To succeed digital activities in rural India, there has to be handholding.
20) Phygital model – in physical context, there is a farmer who is at the center of the design, a sanchalak who is the key node of the entire E Chaupal Ecosystem supported by a field extension officer, there is an engagement center which is like a call center. In digital context, there are 4 verticals broadly – Crop Advisory, Agri Services, Market Linkages and E Commerce Shop. An E Sanchalak would be looking at around 1500 farmers and would act a linkage between the farmer and the market.
21) There are 5 sets of products – agri services, crop monitoring, crop advisory, e commerce, market linkages.
22) Most of the farmers are struggling to get labour. Hence several models may be looked at. If there can be an Urban Clap, there may be a Rural Clap also. ITC is trying to prepare an ecosystem where there is Maistry logging into an app where he will be having an access to labour resources. The Digital Sanchalak is the one who will help connect the farmer and the maistry. ITC is also looking at farm equipment, so that organizations like Mahindra etc. can have access to the end consumers. The revenue stream is, there will be a commission for E-Sanchalak, people who are in the list should pay, and also advertisements.

4.3.4 While responding to the query of Member Secretary, NCRPB regarding ITC platform for buying & selling, assurance about quality, payments flow to seller and strategies to use the common citizen service centers for a cluster of villages, Executive Vice-President, ITC Limited, clarified that it is mainly on trust basis. Once the product is prepared, from a technology perspective it's about getting the system going. ITC is present in about 200 districts, with an understanding of about 20+ commodity value chains, the competence, experience and the bandwidth to certify all the people who come in the platform is available. There is a feedback mechanism also, similar to that of any other e commerce platforms. Here the farmer can rate his/her experience whether he/she has got a fair value or not. In Phase 1 ITC is looking mainly at agriculture. In Phase II and Phase III, it would also be looking at health sector, skilling sector and any other allied sectors that get into rural development. Connecting the women self help groups on to this platform, is also a feature which is being looked into as far as connecting them to the market is concerned. Lijjat Papad model was sighted as an example. Regarding common citizen service centers, ITC need to collaborate with them. ITC is in talks with Govt. of MP to start with. In terms of schemes being implemented in rural areas, whether a digital sanchalak can act as a bridge between the centre and the farmer is also being looked at.

4.3.5 **Ms. Leena Joshi, Joint Secretary, MoRD, GoI** while concluding the session added the following:

1) Small Village Entrepreneurship Program is one in which the ministry provides community enterprise funds almost similar to community investment fund which is given to given to the community institutions. However, community enterprise funds are given to the entrepreneur to kick start the enterprise. Only after understanding the interest and future prospects of the enterprise, such funds are provided.

2) NRLM through National Rural Economic Transformation Project, there are 6.5 cr women households which has been mobilized in 58 lakh SHGs. Hence, there is strong social base. The department is also trying to converge with other departments and within the Ministry also.
3) The department is also working on how SHGs can leverage funds through Rurban Clusters to the benefit of their livelihood.
4) Financial Literacy – In this, SHGs are looked upon, where women are identified who are slightly educated and has the capacity to help in micro planning formulation of SHGs. After identification, these women are considered under Financial Literacy Community Resource Person (FLCRP). Then, they are sent to National Academy of RSETI. Accordingly training is being imparted to these women. These women help in delivering banking services (Pensions etc.) at the grass root level. Through these women, digital transactions are also being promoted in SHGs or Community Based Organizations.

4.4 **SESSION-IV** in this session 'Rural Development Perspectives' of experts and State functionaries were discussed which are summarised as under:

4.4.1 **Prof. Dr. Vinita Yadav, Head, Department of Regional Planning, SPA Delhi** views on "Options for Rural Development":

1) **Rural Development in a Regional Context:**

India is Nation of Villages (6,38,588 villages in 2011).Basic Problems in the villages:

a. 50% villages do not have basic facilities
b. 60-70% of rural population lives in primitive conditions (Patil, 2016).
c. 60% of the rural households do not have electricity connection (Mahra et al., 2015).
d. Most of the labour force depends upon agriculture (Kumar, 2016)

2) **Distribution Pattern of Rurality in India:**

a. Rural characteristics are more in the central part of India
b. Uttar Pradesh is predominantly rural
c. Uttar Pradesh: 71 districts; 312 sub-districts; 14 MCs; 915 town; 15 UA (> 5 million population); and 1,06,773 villages.
d. Out of 199 million, 78% (155 million) resides in rural areas

3) **Adarsh Gram:** Contextualisation and Importance:

a. Address the problems with the focus on the special needs of the village (MoSJE, 2015).
b. Achieve the concept of sustainable development (Jin and Lin, 2011).
c. Provision of basic infrastructure facilities along with advanced technological development
d. Emergence of Adarsh village will happen in the series of nation development, rural development, ideal Indian village development and then Adarsh gram

Features of Adarsh gram

a. Sanitation
b. Cottages with sufficient light and ventilation
c. Dust free streets
d. Houses of worship for all
e. Common meeting place
f. Village common land for grazing its cattle
g. Provision of Co-operative dairy

h. Availability of Primary and secondary schools
i. Panchayats for settling disputes
j. Produce its own grains and its own Khadi

4) **Digital Village** - Any Village having facilities like Free Limited Internet Access, Interactive Educational Tools, Medical Services makes it a digital village.
5) **Cashless Village Means** -All Adults having Bank Account, SMS-based Banking, Swipe Machine for Cashless Transactions & Digital Transactions
6) **Pradhan Mantri Adarsh Gram Yojana (PMAGY)**
   a. **Physical Infrastructure** - All weather road, Safe drinking water, Electrified households, Adequate street lighting
   b. **Social Infrastructure**- Anganwadi Centre,Schools,Sports Playground,Community Centre
   c. **Sanitation and Environment**- Niram Gram Puraskar, Water Harvesting, Renewable Sources, Planting trees
   d. **Social Harmony**- No Public Consumption of Liquor,Special care of Women,Senior Citizen and PwD
   e. **Human Development**- Primary Health Care (PHC),100% Institutional Deliveries
   f. **Livelihood-** Employment,Use of Technology,Skilled Development
7) **Sansad Adarsh Gram Yojana (SAGY) -** Launched on the occasion of birth anniversary of Jayaprakash Narayan in 2014. Responsible for developing the socio-economic and physical infrastructure. Lok Sabha MPs can choose a village from their constituency and Rajya Sabha MPs from the state of their election. 1 Model Village by 2016, 2 or more Model Villages by 2019, 5 or more Model Villages by 2024. It has 04 factors as below:
   a. Personal- Personal Values, Cleanliness,Cultural Heritage,Behavior Change
   b. Human- Education, Health, Nutrition,Social Security
   c. Social- Voluntarism, Social Values / Ethics, Social Justice, Good Governance
   d. Economic- Livelihoods, Skills, Financial Inclusion, Basic Amenities/Services
8) **Constitutional Mandate:**
   - 73 Constitutional Amendments Act (CAA) 1992: Reorganized PRI (Panchayats at the village, intermediate & district levels); 29 functions
   - Article 243 ZD: District Planning Committee to consolidate the plans prepared for rural and urban jurisdictions.
9) **Sectorial Approach**
   i. Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)
   ii. Deen Dayal Upadhyay Grameen Kaushal Yojana (DDUGKY)
   iii. Pradhan Mantri Gram Sadak Yojana (PMGSY)
   iv. National Rural Health Mission (NRHM)
   v. Pradhan Mantri Awas Yojana (PMAY)
   vi. National Rural Drinking Water Mission (NRDWM)
   vii. Swachh Bharat Mission (SBM)
10) **Pradhan Mantri Adarsh Gram Yojana (PMAGY) -** launched by Central government in the financial year 2009-10 for the development of villages under the Ministry of Social Justice and Empowerment (MoSJE).

- Planning Commission has transferred the PMAGY from the MoSJE to the Ministry of Rural Development (MoRD) in 2012 (TH, 2012).
- **Pilot Basis:** integrated development of 1,000 villages was initiated within five years.
- Selection Criteria: villages with more than 50% of SC population (majority).
- Targets: list of 13 targets to monitor the quantifiable outcomes and performance of the Scheme.
- Funding: allocated has increased from Rs. 10 lakh to Rs. 20 lakh per village from September 2013 onwards.

11) **Smart Strategies For Adarsh Gram:**

a) Preparation of Integrated Rural Development Plan as per 243 ZD with detailed implementation plan by Gram panchayat.
b) Spatial and economic planning in addition to sectoral approach of planning
c) Preparation of District Development Plan in every 5 years.
d) Officer in-charge: Block Development Officer (BDO)
e) Stakeholder consultation to be made an integral part
f) Environmental Impact Assessment, Social Impact Assessment, and Economic appraisal to be made mandatory for infrastructure projects.
g) Integration of all Missions (NRuM), Yojana (PMADY, SAGY), Plan (ICAP) with the Regional Plan.
h) Detailed assessment study and consent from NCRPB for the expansion of Urban areas boundaries.
i) Demand Prioritization through the gram sabha.
j) Linkage of Spatial and Sectoral Information for Village Development.
k) Digital Screen installation at village level to show the implementation status of schemes.
l) Generation of secondary data with the help of ASHA workers for all the sectors on periodic basis.
m) Spatial mapping using spatial attributes of Land (location, demarcation, Size, ownership, usage) through digitization.
n) Community related Spatial Data to be collected using primary survey.
o) Social Mapping tool to engage the participation of all villagers.
p) Inter-linkage of Data at Varied Levels
q) Electronic (E) Governance- E-Transit,E-Monitoring,E-Banking,E-Health Care ,Digital Metering
r) E Display through Smart Dash Boards

12) **Way Forward**

a) Skill development initiatives in school and colleges within rural areas to reduce forced migration.
b) Hands on Training on cashless transaction and use of digital applications.
c) Allocation of number of villages to Gram Sachiv, based on terrain, area and population, for improvised monitoring.
d) Monthly report submission from Gram Pradhan to BDO on the status of programmes implementation.

e) Gram Pradhan shall be given an active role in preparation and implementation of plan

f) Generation of base line data to track the progress.

g) Data accessibility to general public.

h) Mid term and end term evaluation of each of Government schemes and programmes

i) From Adhoc programme implementation to planned implementation.

13) **Positive Steps Initiated by Government**

i. Focus on Rural settlement system i.e. Service Centres, Central Villages and Basic Villages based planning.

ii. Schemes :

a. Swatch Bharat Mission (SBM) ensuring hygiene in the rural areas

b. MNREGA providing employment in rural areas

c. National Rurban Mission (NRuM) developing rural areas by provisioning of economic, social and physical infrastructure facilities

- 300 Rurban clusters out of which 6 in National Capital Region (NCR) upto 2021
- Critical Gap Funding (CGF) for focused development of Rurban clusters

4.4.2 **Shri B. L. Gupta, Executive Engineer, Panchayati Raj, Govt. of Rajasthan** mentioned the following:

1) In Rajasthan, plan for each gram panchayat is prepared every year, known as GPDP. This plan gets approved at Gram Sabha. However, the Graam Sevaks are overburdened, and the available infrastructure is also not proper. As a result, the plan cannot be prepared efficiently.

2) Approx. Rs. 50 lakhs per year is being received by the panchayats. But the plan that gets prepared considers an amount of approx. 5-7 Cr. Hence, prioritizing becomes an issue.

3) In district Alwar – 512 panchayat and Bharatpur there are 374 panchayats. Total of 886 GPs.

4) There are different schemes with different guidelines. Hence, implementation becomes an issue.

5) **For every village a separate village development plan should be prepared**. This would also help reduce migration to urban areas.

4.4.3 **Shri Krishan Jindal, Advisor, Dhan Foundation** suggested that aspects of like Poverty alleviation & Livelihood, technical inputs for rural folks, empowerment of people for sustainable development & poverty alleviation, mapping of water bodies & other rural resources, etc. be looked into for rural development. He further stated that there is huge scope in rural tourism in NCR because of the infrastructure & connectivity which Delhi provides. He was of the view that all such aspects be adequately covered during the planning process.

4.4.4 **Prof. Murugeshan, NIRDPR** summarised following regarding Rural Development perspective:

1) Vision-2021 is to make Delhi a global metropolis and a world-class city, where all the people would be engaged in productive work with a better quality of life, living in a sustainable environment.

2) **Economic Survey 2018-19**

i. NCR is overwhelmingly Urban with 75 % area and 98 % population categorized as Urban.

ii. Nearly 100,000 persons in-migrate to Delhi every year.

iii. 16.96 lakhs persons below poverty line; accounts for 9.9 % of total population (Economic Survey 2011-12).
iv. Tremendous pressure on Public Delivery of services / Civic infrastructure
v. Systems like water supply, sewerage and drainage, solid waste management, affordable housing, health and educational facilities
vi. About one third of population lives in sub-standard housing
vii. Garbage disposal system is disappointing
viii. This has implications for health and sanitation of population
ix. Adversely affect nutritional status of women, children, men and elderly
x. Delhi needs 24 lakh new housing units by the year 2021 (54 % for EWS and LIGs)
xi. Nearly 40 % Houses are categorised as Satisfactory (36%) or Bad (4%)
xii. 90% of population has toilet facility (Census, 2011). This should be raised to 100 %
xiii. The proportion of slum households is 11.3 % (national: 17.7%)
xiv. Delhi Urban Shelter Improvement Board (DUSIB) should be strengthened

3) **Focus on strategies to reduce in-migration**
4) **Identify the constraints and utilise the potentials**
5) This will ease pressure on resources, improvement in standard of living.
6) Concentrate on the socio-economic development of 'sources' of in-migration.
7) Strategies to improve social and economic infrastructure on 'fringe areas' of NCR.
8) **Three pronged strategy:**
   i. **Improve living conditions and quality of life in identified areas of in-migration to NCR Social discrimination, Housing, Sanitation and Health, Education**
   ii. **Create better livelihood options:**
      a. **Agriculture sector development - high value horticultural crops through peri-urban agriculture**
      b. **Skill and Entrepreneurship development programmes with linkages to urban centres of consumption / demand**
      c. **Interventions in unorganised informal sector in 'Counter Magnet Areas'**
      d. **CSR contribution for identified sectors**
   iii. **Strengthen backward linkages to ensure sustainability of these programmes**.
9) Salient features of Pradhan Mantri Awaas Yojana – Gramin (PMAY-G):
   i. To address the gaps in the rural housing infrastructure and achieve the commitment to providing 'Housing for All'.
   ii. Using of AWAAS app to computerize Geo-referenced, time and date stamped photographs of construction.
   iii. Provide enough loan for construction of house.
   iv. For construction of toilets under Swaachh Bharth Mission-Gramin / MGNREGA.
   v. From 2016 to till now 60,53,833 Houses were sanctioned, 17,02,183 Houses were completed.
10) Salient Features of National Social Assistance Program (NSAP):

i. Social security/social welfare programme to support old aged, widows, disabled persons and bereaved families on death of primary breadwinner, belonging to below poverty line households.
ii. Digitization, Aadhar based Authentication, Direct Benefit Transition DBT

11) Deendayal Antyodaya Yojana- National Rural Livelihoods Mission (DAY-NRLM):
i. Aimed at reaching out rural poor households and link them to sustainable livelihood opportunities.
ii. To ensure social, economic and political upliftment of rural poor women (SHGs) and gives them a better social status and in decision making roles.
iii. Start-up Village Entrepreneurship program SVEP has been rolled out in various states.

12) Deen Dayal Upadhayaya- Grameen Kaushalya Yojana:
i. Placement linked Skill Development scheme being implemented in PPP mode.
ii. It targets Rural Youth from poor families in the age group of 15-35 years.
iii. Preferring minimum 1/3 women participation in each project.
iv. Training though RSETIs – all over India 585 centres in 552 districts - providing job training.

13) CSR Spending pattern
i. 82 % of CSR spending in 4 sectors
    a. Education & Skills Development
    b. Healthcare & Sanitation
    c. Rural Development Projects
    d. Environment Conservation
ii. Private Sector fares better than Public Sector
    a. 52 % of Private Companies spend more than 2 % of the mandated CSR amount, compared to 43 % of PSUs
iii. CSR programmes operate in isolation, less convergence with government programmes

14) **CSR contribute to NCR Plan:**
i. Convergence approach with ongoing rural development programmes
ii. Improve efficiency in implementation and delivering impact for society
iii. Bring in professionalism and competency
iv. Best practices and latest technology
v. Better monitoring and project management skills
vi. Promotion of innovation
vii. Complement resource requirements (professional and financial)
viii. Join hands with NIRD & PR to build a better India, through skill development, entrepreneurship development, start-up's , etc..

15) NIRDPR's Centres like:
a. Rural Technology Park (RTP) – Rural Housing Technologies
b. Geomatic Applications – Geo-tagging of development works done
c. Rural Infrastructure – RuRBAN, Connectivity – Roads and Networks
d. NRLM – Women Empowerment and Livelihoods

e. DDU-GKY – Skill Development and Job trainings

16) **Way Forward suggestions:**

In order to carry out Rural Planning within the ambit of the NCR Planning exercise the following points have to be kept in view:

1) The GPs falling within NCR Planning region will have to be identified followed by a demographic and socio economic profiling, basis the census of India
2) Using GIS planning tools, the spatial locations of these GPs within the NCR have to be identified and the distances from the nearest urban centres will then need to be plotted.
3) An existing situation analysis has to be done of the rural centres in terms of the infrastructure availability vis-à-vis the needs projected for 2041- The planning exercise can be undertaken on the lines of the Integrated Cluster Action Plans (ICAPSs) being prepared under the NRuM.
4) Spatial plans for these GPs will also need to be undertaken simultaneously in synergy with the Regional plan 2041 being framed.
5) Planning for rural areas under the NCR will have to be done including the economic development aspects which includes skilling and creating economic and non-farm growth opportunities in the rural areas.
6) Infrastructure for rural areas while being planned to create self-sufficiency in rural areas, will also need to focus on connectivity between rural and urban areas to promote trade and other economic activities between the rural and urban centers.
7) This would ensure sustainable development of rural areas, curb distress migration and ensure balanced regional development as per the tenets of the NCR plan 2041.
8) Convergence of all stake holders such as Rural development department with State Govts, NGOs, Private sector, People's Participation, PRIs.

5 Conclusion - following can be concluded:

1. Instead of a 3-tier system, a 4-tier system of rural settlements (**NBMS**), where N stands for Nodal, B for Big (Bazaar), M for Medium and S for Small Village. Sub-Regional Plans should identify and locate all such villages with indicated influence zone.
2. District Development Plans and Village Development Plan should be prepared. Preparation of District Development Plan encompassing urban and rural areas shall be systematised.
3. Rural Development Plan shall have spatial, sectoral and economic plan. **Integrated Development approach for 'Local to Regional Development'** should be followed.
4. Shifting of mandis from the core urban to rural areas need to be looked into
5. Provide urban amenities/ facilities in rural areas such as housing, better sanitation, water supply, communication system, social infrastructure etc., to improve quality of life in rurban/ semiurban (*Mofussil areas)* and also provide better connectivity among various types of settlements in rural areas
6. Effective implementation of PURA (Providing Urban amenities in Rural Areas) in NCR
7. Linking a loop of villages by a ring road about 30 km in circumference with frequent bus services.

8. Treating rural development as corporate social responsibility.
9. Cluster of villages may be identified for planned development by provisioning economic, social & physical infrastructure on line of "**Rurban Cluster**" as envisaged in the NRuM.
10. Marrying polycentric development with clustering envisaged under Rurban Mission
11. Approach for rural area should be different than the approach for the transitional area.
12. Farmers Markets and Community Supported Agriculture (CSA) should be promoted
13. Transform Delhi Metropolitan Area into Delhi Ecopolis Area & address concerns such as Air Pollution, Climate change, gaps in SDGs attainment, Unsustainable urbanization, water stress, etc.
14. Convergence & pulling in of resources for overall rural development. Rural areas can only develop through proper handholding.
15. Micro region planning may be promoted (Region – Sub Region - Micro Region).
16. Land use allocation approach needs to be proactive based on location & demand.
17. E Chaupal - hub and spoke model with a cluster approach and Digital linkages
18. **Aadarsh Gram** for economic development, environment development and social development aspects - mapping of each village.
19. Improvement in income and significant reduction in vulnerabilities in farm and non-farm rural households
20. Access to primary and secondary healthcare services in vicinity supported by technology and improved infrastructure
21. Relevant and individual focused education system to improve quality of education and employability
22. Improved awareness levels and availability of infrastructure ensuring universal access to safe drinking water and sanitation services

List of participants "Rural Development" 18.12.2019

S. No.	Name, Designation and Organisation
1	Shri Sanjay Kumar, District Development Officer, Hapur, UP
2.	Shri R P Saini, Professor, IIT, Roorkee
3.	Shri Dharmender Singh, IAS, Ad. Dy. Commissioner, Faridabad
4.	Shri Manvendra Singh, Joint Director, Div. Comm. Office, Bharatpur
5.	Shri Asheesh Shivpuri, Chief Town Planner, Ghaziabad Development Authority
6.	Ms. Kanchan Verma, Vice Chairman, Ghaziabad Development Authority
7.	Shri L. Prabhakar, EVP-HR, ITC
8.	Ms. Preeti, ADC, Panipat
9.	Shri Gaurav Jain, Admin Officer, AMDA
10.	Shri Mohit Jain, Accounts Officer, AMDA
11.	Ms. Gurpreet Kaur, AD (CBQT), AMDA
12.	Shri P Selvadurai, Director, AMDA
13.	Shri Totak Acharya, AD (Planning), AMDA
14.	Ms. Neelanjali, DD
15.	Shri Joan Mohammad, SDO (PR), Block Pillu Khera, Distt. Jind
16.	Shri Krishan Jindal, Advisor, Dhan Foundation, Madurai
17.	Shri Sachin Krishna Bhujbal, CRDT, IIT, Delhi
18.	Shri Subhash Gupta, AE, DRDA, Gautam Budh Nagar
19.	Shri Neeraj Kumar Shrivastva, PD, DRDA, Gautam Budh Nagar
20.	Shri S K Kulshreshtha, Urban & Regional Planner
21.	Shri Vinod Kumar Noolu, Consultant, SPMRM
22.	Shri Vivek Shinde, Research Fellow, SPMRM
23.	Prof. Pramod K Singh, Institute of Rural Management, Anand
24.	Ms. Archana Sharma, Associate Planner, NCR, GZB
25.	Shri Varun Kappal, State Program Manager, Tata Trusts
26.	Shri Jagniwas HCS, ADC, Jhajjar
27.	Dr. Pooja Ghosh, CRDT, IIT, Delhi
28.	Dr R Murugesan, Prof. & Head, NIRDPR, Hyderabad

S. No.	Name, Designation and Organisation
29.	Ms Vihag Guru, Regional Planner
30.	Shri Rishi Dangi, DDPO, CH Dadri
31.	Ms Anjali Upadhyay, Nuova Stella Pvt Ltd. SME of India
32.	Shri Sushil Sarwan, IAS, Director (Panchayat), Haryana
33.	Prof. Biswas, HoD, SPA, Delhi
34.	Ms Shilpi Madnawat, Research Associate, MPMR Unit, DDA
35.	Shri L. Venkateshwarlu, IAS, Director General, SIRD, UP
36.	Dr D C Upadhyay, Additional Director, SIRD, UP
37.	Dr B Lal, Principal, RIRD, Ghaziabad, UP
38.	Ms. Alka Upadhyay, Additional Secretary, MoRD,
39.	Ms Jaya Srivastava, AVP Almondz
40.	Dr Sanjay Yadav, Prog. Manager (GVT), NOIDA
41.	Shri Sanjay Kumar Arora, Dy Director, Rural Development Deptt., Delhi Govt.
42.	Shri Vikash Kumar Sharma, AEN, DRDA, Bharatpur
43.	Shri Dhiraj Singh, Secy, AIC URD
44.	Ms. Charu Arora, AGICL-BDE
45.	Shri Anil Kumar Sethi, A En Panchyat Samiti Laxmangarh (Alwar)
46.	B L Gupta, XEN, Rural Development, Rajasthan
47.	Charanjit Singh, Faculty, Bangalore
48.	Mahendra Meena, DTP, Bharatpur
49.	Rajeev Chadha, KPMG (U. Transformation Team), Gurugram
50.	Papiya B. Rout, SPA, Faculty
51.	Prof. V. K. Vijay, IIT, Delhi
52.	Prof. Vinita Yadav, SPA Delhi
53.	Zeeshan Ibrar, Ph.D Scholar, SPA Delhi

Annexure-I

RURAL DEVELOPMENT
Date: 18.12.2019
Venue: Scope Convention Centre, New Delhi

S. No.	Topics	Speakers
Session I: Inaugural Session		
Chair- Smt. Alka Upadhyay, Additional Secretary, Ministry of Rural Development		
1.	Welcome address	Shri Satish Prashar, Chief Regional Planner, National Capital Region Planning Board
2.	Rural Development in NCR in 2041	Prof. Pramod K. Singh, Institute of Rural Management-Anand
3.	Rural Development in NCR in 2041 – Way forward	Address by Chair- Smt. Alka Upadhyay, Additional Secretary, Ministry of Rural Development
Tea Break		
Session II: Reverting Migration: Towards Rural Urbanism		
Co-Chair: Shri Rohit Kumar, Joint Secretary, Ministry of Rural Development		
4.	Reverting Migration: Redirecting towards Rural Urbanism	Co-Chair: Shri Rohit Kumar, Joint Secretary, Ministry of Rural Development
5.	Development of Polycentric NCR	Prof. Ashok Kumar, Professors of Physical Planning, School of Planning and Architecture (SPA), New Delhi
6.	Land Use Allocation Strategies	Prof. S.K. Kulshrestha, Regional Planning Expert
7.	Reverting Migration: Strategies to Arrest Migration	Shri Varun Kappal, State Program Manager, Rajasthan Migration, Tata Trusts
8.	Empowering PRIs	Sh. Sushil Sarwan, Director, Development and Panchayats Department, Govt of Haryana
Lunch		
Session III: Transformation of Rural NCR through Synergies of Macro Development		
Chair: Smt. Leena Johri, Joint Secretary, Ministry of Rural Development		
9.	Identification & Creation of Appropriate Skilling Infrastructure	Shri Dr. Shanker Goenka, IAMSME

S. No.	Topics	Speakers
10.	Perspectives on Rural Development in context of SDGs	Philip Mathew, Expert, United nation Development Program
11.	Leveraging aggregators and IT infrastructure for Rural Incomes: Perspectives by ITC	Shri Prabhakar, Executive Vice President, ITC
12.	Transformation of Rural NCR	Shri L Venkateshwarlu, Director General, Deen Dayal Upadhyay Rajya Gramya Vikas Sansthan, Govt. of UP
13.	Transformation of Rural NCR through Synergies of Macro Development	Chair: Smt. Leena Johri, Joint Secretary, Ministry of Rural Development
Session IV: Rural Development Perspectives		
Chair: Prof. Murugeshan, National Institute of Rural Development		
14.	Options for New Rural Development	Prof. Vinita Yadav, Professors of Regional Planning, School of Planning and Architecture (SPA), New Delhi
15.	Rural Development Perspectives	**Govt of Rajasthan**- Shri B. L. Gupta, Executive Engineer of Rajasthan Panchayati Raj
16.	Rural Development Perspectives	Shri Krishan Jindal, Advisor, Dhan Foundation
17.	Closing Remarks	Prof. Murugeshan, National Institute of Rural Development
18.	Vote of Thanks	Shri Jagdish Parwani, Director (A&F), National capital Region Planning Board

Workshop Title: Health

Date: 20.12.19 (Friday)

Venue: Scope Convention Centre, CGO Complex, New Delhi

Brief Minutes of the Stakeholders Workshop on 'Health held on 20.12.19 at Scope Convention Centre, for preparation of RP-2041 for NCR

1) Workshop on "**Health**" was held on 20th December 2019 for Preparation of Regional Plan-2041-for NCR at Scope Convention Centre, CGO Complex, New Delhi. The workshop was divided into various sessions to cover the major topics under the subject. The list of participants is enclosed**.**

2) The major topics of discussion included Health Systems for a New India, Health Infrastructure Strategies for NCR 2041; Planning for Comprehensive Primary Health Care NCR, 2041 (Sustainable Development Goal & Health Indicators ; Affordable Ancillary Health Services; Land Allocation needs.; Planning Reliable Trauma Care Systems for NCR 2041; Accessible & Quality Tertiary Health Care; Health Hub for Africa/South Asia – Leveraging Advantage NCR; Transformative Health Technologies & NCR Strategies for 2041.

3) The key contributors to the discussions and invitees included Shri Alok Kumar, Senior Advisor, NITI Ayog; Shri Vikas Sheel, Joint Secretary, Min. of Health & Family Welfare, Govt. of India; Dr. Vanshree Singh, Director, Blood Bank, Indian Red Cross Society; Shri Praveen Gedem, Dy. CEO, Ayushman Bharat; Dr. Vijay Agarwal, President, Consortium of Accredited Health Care Organization; Prof. Chandershekar, Indian Council of Medical Research amongst others. The list of Speakers is at **Annexure-I**.

4) Session wise proceedings/ record of decisions are as under:

4.1 **SESSION-I** was the Inaugural Session:

4.1.1 **Ms. Preeti Pant, Joint Secretary, Ministry of Health and Family Welfare, National Urban Heath Mission**, shared her views on the matter of Health sector in NCR. Highlights of her presentation included the following:

- NCR comprises of four States so planning along with these four states becomes an important component. We **need to plan in a manner that it is comprehensive and structural**.
- **Structure should fill in the gaps**. Resources can be pooled in from various departments like Finance commission, CSR fund.
- Need to address issue of How do we dovetail financial resources to Health.
- Planning could be done in two parts:
    - First part is **structure**, to decide what amongst Primary, Secondary or Tertiary facility, is required. There should also be **analysis of deficit in the state**. Once this is planned we move to next step.
    - Second step is to **arrange for resources**..
- Another important aspect of planning is how do deal with burgeoning population of NCR. As per national report, 40% population will be urbanised by 2040. Rural area also need to have plan and developed structures for Health services. (In New Delhi, huge of population awaits facilities in AIIMS residing in its surrounding areas with no designated facilities for this purpose.
- Alongside, **Planning for Ancillary structures for nursing, para medicals is required.**

- Health Ministry, needs to comprehensively look at 35 states and UTs together, with its different kind of infrastructure requirements under National health mission.
- **Dovetailing the resources of NCRPB with National Urban Health Mission, could be looked into.**
- Primarily health care infrastructure has the urban poor settlements, primary urban health centres which need to be planned too.
- The Health Ministry's **Ayushman Bharat** comprising of two pillars (Health Wellness Centres and PMGY insurance) need to be benefitted from. Plan to come up with 1.5 lac health and wellness centre by 2022 we are.
- Dilapidated Health infrastructure in NCR states could be taken up under the NCR Planning fr funding and making them Health Wellness Centres, and the funding gap can be dovetailed from Health ministry.
- Monitoring of such projects is important and **there could be a convergence mechanism between NCRPB and Health Ministry over the infrastructure requirement and completion**. **Monitoring committee to monitor how finances are being utilised and to see there is no delay or time run.**
- **Other suggestions that emerged during discussions include:**
    - To enhance reach of the health services especially good doctors to Rural Areas. Policies to incentivize so that good doctors may also reach rural areas, should be looked into as is done under National Health Mission
    - **May also use Cluster Approach with health services especially diagnostic services every 5 km.** The **access to ambulance** has a very tedious task. Concept of **Air Ambulances should be looked into for future.**
    - To have robust planning we should always **base our planning on finances**.
    - Medical Certification of causes of death is just 22%, and this needs to be looked into as Health Services need to also be based on estimates of mortality through appropriate system.
    - **Plan for ancillary facility whenever a Health Care Facility is planned** else we end up creating more problems that solving them.
    - **Health planning also should look into Data Management**. (**Kind/Type of patients** coming from **which area** e.g lot of people comes from Faridabad are cancer patients). So coordinate with IT sector. (Govt. already working with agencies like NFHS to help to know urban vs. urban poor; facilities under the national health mission has a Health Management Information System)
    - **Trained Manpower required in the remote areas of NCR. (should benefit from** Training given for screening of cancer, diabetes, hypertension and five basic mandatory services training under Health Wellness Centre works of Ayushman Baharat)
    - **need to upgrade our electronic health record system** now.
    - We **should start integrating health with several other policy issues.**
    - **need very good facilities for all those medical persons and paramedics who are working in that area**.
    - **Need PPP policy in health w**hile preparing the regional plan how this policy can be implemented in the NCR.
    - need for upgradation of Health Management Information System (HMIS) HMIS.
    - It is important to **look at health from promotional point of view**.

4.1.2 **Shri Alok Kumar, Adviser (Health), NITI Aayog** presented his views on **Health Systems for a New India: Building Blocks**. Highlights of his presentation included the following:

- Niti Aayog's mandate includes action agenda to be launched, Strategy to be launched and Vision under development.
- In 2017 NITI Aayog initiated an in-depth assessment of the Indian healthcare system and key opportunities for systematic transformation which was validated and refined with more experts and stakeholders in 2018. Its key findings were:
    - India's health system is lagging comparable countries on the following aspects.
        - Current Health Expenditures as % of GDP (2016)
        - Fiscal Health Expenditures as % of GDP
        - Fiscal Health Expenditures as % of GDP
        - Out-of-pocket expenditure (% of current health expenditure) (2016)
        - Neo-Natal Mortality3 (1980)
        - Neo-Natal Mortality3 (2016)
        - Global Healthcare Rank 1
        - Burden of Disease (DALYs per 100,000 population) (2016)

- India is standing **low on HALE (Healthy adjusted life expectancy**) **index**. Indian **health sector is fragmented (Payers, Providers and Digital)** leading to lower performance than other countries at similar per capita income.
- India also has **higher medical inflation** than global/Asia average
- **System reform to drive both health outcomes and economic benefits**
    - Saving more than a million additional infant deaths
    - Reduction of adult deaths by up to 16% by 2030, increasing economic growth up to ~30% over current trajectory by 2030.
    - Reduction in Out of Pocket (OOP) expenses to 45% by 2030 and saving at least 1.5 million additional households from poverty
    - Growth of a healthy and globally competitive healthcare insurance and health service provision industry
    - Improved consumer experience and citizen trust in the healthcare system

- **Initial Building Blocks of Healthcare Reform**
    - Platforms – Ayushman Bharat, National Health Stack, NHRR, National E-Health Authority
    - Enablers – Aadhaar (UIDAI), mobile and digital infra growth
- New innovative models of care be incorporated
- Approach to the assessment: Focus on primary levers for system reform . The **Health System Levers** include:
    - Financing
    - Purchasing/Payment
    - Organization of care
    - Regulation
    - Behaviour
    - Digital Health
- **Health System Objectives** to include:
    - Good Health Outcomes
    - Financial Protection

  - Responsiveness (Patient satisfaction
  - Country competitiveness
- Lower performance of Indian healthcare is due to a vicious cycle of severe fragmentation
  - Severe fragmentation of **Risk-Pooling/ Insurance**
  - Severe fragmentation of **Strategic Purchasing**
  - High levels of fragmentation of **Organization of care/delivery**
  - Highly fragmented **Digital Health** landscape

- Key reforms to improve and expand healthcare financing in India
  - **Reform to existing risk pools**
    - Restructure **Publicly owned commercial insurance** corporate governance and evaluate potential privatization
    - **Create pilots for outpatient coverage in urban areas,** by contracting clusters of private and public providers; eventually linking to publicly funded hospitalization coverage
    - Restructure and **strengthen ESI performance**
  - **Missing middle**
    - Pilot and create a national policy to incentivize the inclusion and participation of informal non-poor across NHA, ESI and commercial insurance
  - **Cross cutting reform**
    - **Strengthen health insurance regulation** (commercial, non-commercial) **and IRDAI as independent regulator** for all
    - Strengthen **transfer mechanisms** from Union to State to incentivize consolidation of state level risk pools – create a mechanism for tracking performance of states, to be linked to the state health index
- Service delivery is highly fragmented, with more than 80% care delivery happening in the private sector.
- **Need for Combining Delivery Models with Provider consolidation under strategic purchasing**
- **Critical actions to reduce fragmentation in services delivery in India**
  - **Enable aggregation of providers** to provide population centered care, and financed through a capitation model in urban India
  - Innovative platform organization models to cluster/aggregate, support and manage small providers
  - Transformative delivery models (including comprehensive primary healthcare)
- Link primary care efforts with PMJAY to **enable continuum of care** and reducing vertical fragmentation
- Enable increase in adequate quality supply at affordable cost (2500+) via low capex model, with integration of care, un bottlenecking investments
- The Digital/ICT landscape in Health indicates
  - Highly fragmented & in silos
  - No Single View of Beneficiary
  - Weak Data Systems
  - Poor Data Quality
  - Misreporting
  - Low Level of Accountability
- Need for **Robust digital health platform critical for enabling financing and service delivery levers**

- Need for Choosing an **independent and autonomous Governance entity** to oversee the 'Big Picture' as articulated in the National Digital Health Blueprint
- **Interoperability standards** and **Health Data Dictionary (HDD)** with clear incentives / disincentives built-in for adoption to happen
- Building a strategy for **'Hospital' Information Systems (HIS)** or **facility based systems** to drive digitization at source
- Designing a **'Health Insurance Information Systems' (HIIS)** for India that acts as a Payers' platform with PMJAY and other government schemes being the initial users of the **shared utility**
- Moving toward **'Electronic Health Record'** and 'Health Data Warehouse' for better policy/decision making
- Facilitating the creation of the Health Information Infrastructure through strategic investments for both the communications backbone as well as hosting environment for the data and/or information

4.2 **SESSION-II** pertained to Health Infrastructure Strategies for NCR -2041 & Shri Vikas Sheel, Joint Secretary, Min. of Health & Family Welfare, Govt. of India – presented on **Planning for comprehensive Primary Health Care NCR 2041**. His views included the following key points:

- Health goals and targets ; Sustainable Development Goal 3 (SDG3) of the of the United Nation's ' The 2030 Agenda for Sustainable Development' adopted by all United Nations Member States in 2015, ensure healthy lives and promote wellbeing for all at all ages by achieving universal health coverage, including financial risk protection, access to quality essential health care services, medicines and vaccine for all; Interaction with economics, other social and environmental SDGs and SDG 17 on means of implementation.
- **Key Health Indicators- India**
  - Maternal Mortality Ratio
  - Neonatal Mortality rate
  - Infant Mortality Rate
  - Under 5 Mortality Rate
  - Total Fertility Rate
- NCR States- SDG achievement
  Health Indicators and National Target Value for 2030
  - Maternal Mortality ratio-70
  - U5 mortality rate per 1000 live births-11
  - Percentage of children aged 12-23 months fully immunized (BCG, Measles and three doses of Pentavalent vaccine)-100
  - Annual notification of TB cases per 1 lakh population -44
  - Number of government physician, nurses, midwives per 1,00,000 population-550
- NCR States- Key Health Indicators:
  SDG Targets:
  - By 2030, **reduce by one third premature mortality from non-communicable** diseases through prevention and treatment and promote mental health and well-being
  - By 2020, halve the number of global deaths and injuries from road traffic accidents
- Universal Health Coverage: Ayushman Bharat
  - Primary-Comprehensive Primary Health Care through Health & Wellness

Centres (HWCs) and Unmet needs NCDs and chronic disease.
    - Referral/Gatekeeping- Follow-up Preventive, Promotive, Curative, Rehabilitative & Palliative Care
    - Service Packages
    - Health & Wellness Centre
        - *Sub Health Centres (SHC) (@5000 in plain areas and 3000 in hilly and tribal areas)*
        - *Primary Health Centres (PHC) (@30,000) / UPHC (@50,000)*
    - Medicines and Diagnostics- Establishment of effective Hub and Spoke models for diagnostic services at different levels
    - Medicines
        - Essential List of Medicines to be expanded for expanded range of services
        - CHO to be able to dispense medicines for chronic diseases on the prescription of the Medical Officer
        - Uninterrupted Availability of medicines to ensure adherence and continuation of care (Eg: HT/DM/ Epilepsy/COPD)
    - Population Enumeration
        - List all households/ families and all individuals in the catchment area/Registration of all individuals at the HWC
        - ASHAs conduct household visits for filling family folder and Community based assessment checklists
        - Filled formats are submitted to HWC for records maintenance and digitization by use of CPHC – IT application
        - Unique Health ID to be issued by HWC by the IT application
    - Community Mobilization and Health Promotion
- HWC Convergence with Eat Right Movement
    - The Eat Right Movement" of Food Safety and Standards Authority of India (FSSAI)- built on two broad pillars - **"Eat Healthy" and "Eat Safe"**
        - Nutrition for first 1000 days of life
        - Dietary risk Factors for NCDs
        - Food Safety
        - **'Eat Right' toolkit designed ,it will start in 2021**
        - Convergence of HWC with Swasth Bharat Yatra, India' a Pan-India Cyclothon.
- Promoting Wellness through Yoga
    - Yoga mainstreamed into the health care delivery system,
    - Close coordination with Ministry of AYUSH/Department of AYUSH at the state and district level.
    - Pool of Local Yoga Instructors at the HWC level being identified
    - Training and certification of local Yoga Teachers to be steered by Department of AYUSH
    - Weekly/monthly schedule of classes for Community Yoga Training at the HWCs
    - Provision for additional remuneration to in house yoga teacher or in sourced yoga instructor
- Robust IT System – to meet diverse needs of different stake holders
    - Comprehensive IT solution integrated with existing applications/ portals (RCH/ NIKSHAY/IDSP/HMIS) to support service delivery and continuum of care for all existing and new package of services envisioned at HWCs.
        - Health ID, Enrollment, Family Folder, CBAC

        - Modular, open, secure Health Platform for scalability, performance and interoperability
        - Job Aids for Service providers and FLWs
        - Follow-ups, Workplans, Dashboards, Awareness and Training material for Health workers.
        - Patients Follow up by FLWs- Use of SMS based service
        - Patient assessment, Examination, Lab investigations, Diagnosis, Treatment – PHC level and above
        - Auto-populated drug-list and drug stock dispensed
        - Referral pathway for patient info from SC, PHC and CHC
        - Disease and Program protocols support for MO and SC team; Triage by Nurse at PHC to minimize data entry by MO
        - Dashboards from national level to state, district, PHC, SC and village levels
    - Applications across different levels -
        - ASHA Mobile App ,
        - SC Tablet App
        - PHC MO Web Portal
        - CHC Portal
        - Admin Portal
        - Health Officials Dashboard
        - Clinical Decision Support System with AIIMS
- Using **Technology: Continuum of Care to Capacity Building**
    - Telemedicine
        - National Medical College Network facility
        - Create a pan India tele-education, specialist consultation and e-library
        - Telemedicine roll out: AP, Assam, Jharkhand, Karnataka, Meghalaya, Mizoram, Tamil Nadu, Tripura and UP.
        - Initially, between PHC-HWCs and State Hubs and Medical College networks
        - States encouraged to expand to all functional HWCs of 2018-19 by January 2020
    - ECHO
        - ECHO programs, or "clinics," follow a consistent format.
        - Hub and Spoke model
        - Fortnightly Videoconferences: experts at hub site "meet" with providers at spoke sites
        - Short didactic by experts, followed by Q&A
        - Spoke participants present clinical cases using a standard template
        - Mode: All learn, all teach
- HWCs **in Urban Areas**
    - Current norm is one UPHC per 50,000 population
    - **All existing Urban Primary Health Centers (roughly 4000) to be strengthened as HWCs by March 2020**
    - Where dispensaries exist, they could be upgraded to serve as H&WC, based on the HR available and geographical context
    - Frontline workers- 4-5 ASHAs and 1 MPW(F) for 10,000 population - trained to deliver preventive and promotive services through outreach, including monitoring drug compliance for chronic diseases.
    - CHO would not be required, as MO MBBS is already approved for UPHCs

- Explore partnerships with not for profit and private sector to provide primary health care, where UPHCs do not exist, as a gap filling measure

- **Planning strategies: Strengthening Primary Health care in NCR**
  - Decongesting tertiary care facilities by strengthening primary, secondary facilities in NCR
    - Advance planning – geo-mapping would be appropriate
    - HWCs in residential areas – to reduce travel – may be in or near markets
  - Rationalize allocation of population to HWC- rural/urban, vulnerable population particularly in urban areas
  - Incremental expansion of service packages based on disease burden (variation in RCH and NCD indicators across states)
  - Consider other models to compensate for limited space/infrastructure availability- e.g. pre-fabricated structure
  - Partnerships with not for profit/private sector on capitation mode for curative outpatient care
    - Geographically spread out multiple locations for public\private clinics and hospitals – may be health complexes.
  - Involving Civil Society and other government departments for multi-sectoral convergence
  - Plan for IT infrastructure – Connectivity
  - Elements for continuum of care –
    - Planning for adding to the fleet for National Ambulance Service – 108\102
    - Locating tertiary care facilities – Health Hubs (Trauma centers, Emergency care, High complexity hospital care)
  - Other important aspects of planning contributing to health –
    - Solid waste management including management of hospital and medical waste
    - Sewage systems and disposal
    - To reduce mortality and injuries due to accidents (Road traffic, Fire safety, Building safety)
    - Spaces for promoting physical activities and healthy lifestyles (Parks, Gyms, Cycling lanes, Yoga centers, Pollution control – green cover, infrastructure for EVs & LNG\LPG)
    - Measure Death Adjusted Life Years – DALYs to build capacity to do assessment of death adjusted life years leading to reduction of years of productive life lost due to death
    - **Include health impact assessment as an integral part of planning**.
    - **Every infrastructure project should have health impacts analysis**; we need to assess it especially in the municipal bodies.

4.2.1 **Prof. Manish Chaturvedi**, National Institute of Family Welfare also made a short presentation on Health system in NCR His key pints included:

- **Challenges in health sector in NCR**
  - We have poor referral mechanism.
  - Less number of hospitals do this.
  - Lack trained manpower.
  - Poor network of Ambulance
  - Lack of accidental trauma centres with trained critical care specialist.

- Working on Universal Health Care Facility and want to promote EWS category in private sector But that is an issue. Our public sector has high number of footfalls patients. Private sector footfall is less due to high cost. If we subsidise the cost, then are we able to maintain the quality of services. Doctors and paramedical staff who are working in private sector are also produced from same institutes and systems
- **Way Forward:**
  - **Promotion of network of government dispensaries in NCR**
  - **Need an insurance scheme which is built to cover the health, road safety, fire safety and so** many aspects which is to be provided by the public sector.
  - Have centralised health care system to the regionalized health care system. Primary, secondary and tertiary health care in any area.
  - Robust and systematic mechanism to decongest tertiary care.
  - **Trauma centre at the primary level** & not at AIIMS level in Delhi NCR, as we are having lot of accidents in Delhi NCR.
  - **Promotion of Tertiary Care Hospital as specialized domain** in single care is also required.
  - The stress and mental health problems is increasing in Delhi NCR area. Number of suicide cases are increasing and this issue needs attention
  - The **training of public health work force**. It has four tier first ASHA, second NPH and other courses in universities, third is Public health specialist and fourth is policy makers. The gap should fill by second tier public health force i.e. by public health managers.
  - **Patients waiting time facility be handled with help of IT care** if we develop primary, secondary and tertiary facility.
  - **Online registration system can tackle Proper Referral mechanism and OPD time.**
  - Need awareness for efficient laboratory system for testing of food and drug. There is availability of Mobile testing labs to in urban as well as remote location.
  - Patients care, Pre hospital care and Emergency services need strengthening.
    - **Hospitals need to have capacity to deal with disaster management or emergency services** and this needs to be looked into

4.3 **SESSION-III** of the workshop was initiated with the presentation of Dr Praveen Gedam, Deputy CEO, National Health Authority, on Ayushman Bharat Pradhan Mantri **Jan Arogya Yojana.** Key highlight of the presentation area as follows:

- On the graph of '*out of pocket spending as share of total health expenditures %* and *public expenditure on health as share of total GDP%*, India is ranking low.
- **Health financing in India needs to be augmented**
- India facing triple burden of disease which is as follows:
    - An epidemiological transition from communicable diseases to non-communicable diseases
    - Non – Communicable Disease burden has grown from 30% to 55% between 1990 and 2016
    - Epidemiological trends indicate greater need for hospitalisation for serious NCDs
- **Relevance of PM-JAY for India's poor**
    - 6 crore Indians go below poverty line per year due to catastrophic OOP expenditure
    - Unmet health care needs of poorest 40%
        - Chronic Morbidity – The incidence of chronic morbidity between the poorest 40% and richest 40% is comparable
        - Hospitalization Rate –It is significantly lower in poorest 40%. Reason could be related to awareness, access and affordability of health care services
- **Salient features of Pradhan Mantri – Jan Arogya Yojana**
    - 54 Crore people Poor and Vulnerable people across 10.7 crore families
    - INR 5 lakh Cover per family per year for serious illnesses (hospitalization)
    - Portable Benefits can be availed in all empaneled hospitals across the country
    - No Cap on Family Size, Age or Gender and covers pre-existing diseases
    - Improved Access to Affordable Quality Care
    - PMJAY Significantly Expands the Coverage
    - MoU with first 5 States has been done
    - 50 lakh Beneficiaries
    - Till Sept2019 around 10 crore Cards have been issued.
    - Scheme rolled out in 22 States at launch
    - Coverage under PM-JAY
        - Larger Population: Extends to 10.7 crore families--almost 54 crore people constituting the bottom 40%
        - More Services: Provides broader benefit packages including secondary care and tertiary care packages (over 1390 packages)
        - Higher Cover: Provides a comprehensive coverage of Rs 5,00,000 which is much larger than the average claim size
    - **PMJAY Anti-Fraud Framework**

      Culture of Zero Tolerance Frauds: Prevention, Detection, Deterrence

      A. Prevention
        - Anti-Fraud Guidelines
        - All-inclusive packages
        - Fraud prone procedures reserved for Public hospitals
        - Robust IT System with in-built checks
        - Efficient Pre-authorization process

      B. Detection
        - Forensic Analytics – trends, outliers, collusion, over utilization
        - Field Investigations
        - Surprise visits
        - Onsite Medical Audits

- Mobile App - Kaizala for field investigation

C. Deterrence

- Contractual provisions with penalties
- Whistle Blower policy
- Suspension and De-empanelment of fraudulent Hospitals
- Financial recoveries
- FIR against errant hospitals, other involved parties

- **Community Education & Empowering Beneficiaries**
  National Health Authority has taken proactive action to empower the beneficiaries of AB-PMJAY through multiple channels. The **objective is to ensure that beneficiaries are empowered by having access to accurate, complete and timely information in a transparent manner** so that they can fully avail their rightful entitlements under PM-JAY.
- **PM-JAY Report Card: Good Momentum has been created**
  - 2 e-Cards in every 1 second
  - 1 free treatment in every 5 second
  - 55% of amount used in Tertiary cases
  - More than 21000 Hospitals Empanelled
  - 64 lakh treatment worth INR 9300 crore
- **Pradhan Mantri Jan Arogya Yojana :**

A big leap towards universal health coverage

  - 39% Insured before PM-JAY
  - 48.2 crore lives insured with 39.2 crore in government schemes
  - 10.7 crore families or 54 crore lives
  - 60% PMJAY + other State schemes
  - 72% PMJAY + other State schemes + all other insured
- **PM-JAY will strengthen the health insurance ecosystem**
  - **AWARENESS-** Last person in the queue understanding about health coverage
  - **REGISTERIES & STANDARDS-** Provider and doctor registries. Standardizing packages, quality & empanelment parameters
  - **PROVIDER CONDITIONING-** All health care providers sensitized to the concept of health insurance
  - **DATA CREATION**- Wealth of health care data being created
  - **CAPACITY BUILDING-** Capacity being created to administer insurance schemes
  - **DATA EXCHANGE**- Standard data formats & e-claim forms across all health covers
  - **FRAUD CONTROL**- Standard reporting format and real time repository of fraudulent transactions
  - **HEALTH CLAIM PLATFORM**- Platform for all health claims in the country
  - **CONVERGENCE-** Converging all government schemes to improve efficiency and resource allocation

4.3.1 Dr. Vanshree Singh, Director, Blood Bank, Indian Red Cross Society made a presentation on Accessible **and Quality Trauma Care system for NCR**

- Road traffic injuries: the facts
  - Road traffic crashes kill 1.25 million people every year
  - 90% of road traffic deaths occur in low- and middle-income countries

- Road traffic injuries are the #1 cause of death for people aged 15-29 years
- Road traffic crashes cost countries around 3% of their GDP

- **GOLDEN HOUR – First Aid Care**
  - **GOLDEN HOUR:** Trauma care in first hour can improve survival and restoring of normal functions
  - **Early pre-hospital care**, early transportation, aggressive resuscitation and interventions play an important role in preventing deaths due to trauma; e.g., early transportation can be facilitated through dedicated corridors/lanes for ambulances
  - **Social and Emergency Response Volunteer (SERV)**
    - IRCS volunteers trained in BASIC FIRST AID and DM concepts.
    - Proximity and access - Belongs to the affected and neighbouring communities and already near the scene of disaster. Will be the first person to arrive at an emergency scene and help injured and ailing victims.
- **Proposal for Scale up of SERV**
  - To build communities' resilience through up-scaling of SERV on pan-India basis
  - To **target training of 1000 volunteers in each District**
    - One batch of trainees to have upto 40 volunteers
    - To achieve training of 1000 volunteers, 25 Nos. of training are to be conducted
  - Every State should have at least 01 Master Trainer.
  - 15 Existing Master Trainers (for FA and SERV) to create Master Trainers in neighboring States.
    - Each Master Trainer will organize one or more training for Instructors in his/ her State.
    - Each District have minimum two SERV instructors
- **Proposal for SERV programme in NCR region**
  - Youth Red Cross volunteers to be enrolled in colleges as SERV
  - College premises to be used as venue.
  - As per the convenience of the participants, the training can be divided into first half/second half covering the curricula as per the convenience and attendance of students in college
- **Overview - Trainings in First aid**
  - Red Cross and St John Ambulance (India) branches deliver statutory trainings.
  - Approx. 25 people trained in First Aid recently as Master Trainers in Delhi.
  - Indian First Aid Guidelines (IFAG) has been developed with support of the Belgian RC (Flanders) and Indian First Aid Manual has been revised

4.3.2 Dr Vijay Agarwal, President, Consortium of Accredited Healthcare Organizations presented on **Health Journey 2020 to 2041.**

- Lack of following is adding to health issues along with the phenomenon of ***Demographic Changes***, ***Increased Life Expectancy***
  - Safe Drinking Water
  - Sanitation
  - Clean Air
  - Undernutrition
  - Living Conditions
  - Education
- Further, **Indian healthcare system continues to face numerous challenges:**
  - World Bank: 2030 Global Shortage of 80.2 million workers
  - **PwC: India needs 2 million Doctors, 6 million Nurses.**

  - As per Boston Consulting - CII: Indian health care to generate 40 million new jobs by 2020
  - Shortage of qualified doctors and nurses, and healthcare infrastructure is a Major challenge considering the large and fast-growing population
- **Opportunity in Healthcare**
  - Cuba earns $8 bill. through 45,000 Doctors, Nurses working in central America & Africa.
  - 5 million Drs/Nurses/techs can remit $100 Billion annually
  - Shortage of Specialists Disproportionate UG and PG seats
    - India- Under-graduate seats-60845 & Post graduate seats-14500
- **2020: Indian Healthcare System: Numerous Challenges: Patient Safety** i.e the absence of preventable harm to a patient during the process of healthcare
  - Patient safety has been brought to limelight like never as the WHO started observing **17th September as Global Patient Safety Day**
  - Assumed huge significance as 4 out of 10 patients are harmed in primary and ambulatory settings according to WHO
  - 134 million adverse events and 2.6 million deaths occur each year in LMIC countries
- **Lack of consistent quality in healthcare services across India**
  - Less than 2% of hospitals in India are accredited.
  - There are also many informal players and unqualified individuals acting as doctors
  - Growing Mistrust
  - Reactive healthcare system lacks focus on prevention
- **Strategic Objectives for Patient Safety:**
  - To **improve structural systems to support quality and efficiency of healthcare** and place patient safety at the core at National, subnational and healthcare facility levels
  - To assess the nature and scale of adverse events in healthcare and establish a system of reporting and learning.
  - To **ensure a competent and capable workforce that is aware and sensitive to patient safety.**
  - To prevent and control healthcare associated infections.
  - To **implement global patient safety campaigns** and strengthening patient safety across all programs.
  - To strengthen capacity for and promote patient safety research
- **A Healthcare facility not accessible uniformly across India :**In some places, patients might have to travel hundreds of kilometers to avail basic healthcare services
- **Lower healthcare coverage, higher out of pocket expenses:** Share of out-of-pocket health expenditure at 62.4% in India, is a very high compared to the UK and USA, where this share in the total healthcare expenditure stands at around 9.7% and 11% respectively accessibility
- **Lower government healthcare expenditure**
- **Rural Health Care: Bleak Picture**
  - Every twelve minutes a young lady dies during child-birth
  - 3 lakh children die the day they are born
  - 1.2 million children die before celebrating first birthday
  - 5.2 million C-sections / year
  - Specialists' Vacancy in CHCs is over 81% (Rural Health Statistics 2015)
  - Medical education is dissociated from health care delivery

- **Focused efforts can help solve the challenges plaguing the healthcare industry in India**
    - **District Healthcare Model – Preventive Eradication & Proactive Care**
        - **Solutions-** Implementing Rural Nutrition, Immunization Preventive Health check-ups Counseling/Awareness camps
        - **Impact-** Estimated that the District Healthcare Model can reverse ~70% of Disease Burden in Rural India Compliance to Annual Check-ups can impact as 80% Diseases are Self-limiting
    - **Incentivize adoption of Electronic Health Records (EHRs) and digitization**
        - **Solutions-** Speech to Text Start-ups , Digital Tax Breaks to encourage use of technology in healthcare facilities, Remote IoT Diagnostics
        - **Impact-** 80% of Asha Workers in Primary Health Centers and 60% of Digital Native Doctors are expected to be digital savvy by 2020 which paves way for digitization boom , Point of Care IoT Devices expected to reduce 60%-70% in diagnostics costs with improving access
    - **Standards for Diagnostics & Care – Measure of Quality**
        - **Solutions-** Define Diagnostic Standards for common diseases, Standardize Delivery of Care, Align Digital Platform for Trials/Tests across hospitals
        - **Impact-** 70+ Million suffer from Life Threatening Diseases among Youth in Urban/Rural India which has a direct impact on Productivity, Economy and GDP growth. Standardization of diagnosis and delivery of care could fasten the diagnosis as well as the treatment
- **Journey to 2040: Globally disruptive technologies are shaping the future of healthcare :** Technology enables caregivers to perform their roles more easily by automating the logging-on mechanism, automating real-time updates of patient vitals and providing insights into early detection of diseases.
    - **Health File on phone**
        - Everyone is a patient, so need health care everywhere
        - Phone is ubiquitous, Phone camera replaces scanner & can act as tool to register the patient in hospitals
    - **Solving Mystery of Diagnosis**
        - ICD 9 has only 6000 diseases 1000 common
        - 50,000 signs and symptoms
        - 100,000 lab reports
        - 5 years - smart software / smarter diagnosis
        - 10 years - legally mandatory for second opinion
    - **Mixed Reality: Revolutionise Medical Education**
        - It can project the human body in its full size in front of med students. Thus, the organs, veins or bones will be visible accurately in 3D, and future medical professionals will be able to analyse their shape, remember their characteristics more vividly than it is possible when studying from a book.
    - **Brain-Computer Interfaces: Hope for The Paralyzed**
        - Imagine a retinal chip giving you perfect eyesight or the ability to see in the dark, a cochlear implant granting you perfect hearing or a memory chip bestowing you with almost limitless memory. What if you could type into

a computer with only your thoughts or control your entire smart house by sending out the necessary brainwaves?

- **3D Printing drugs**
  - biotechnology industry is even working on printing out living cells; hence the appearance of 3D printed drugs also possible
  - In June 2015, scientists from University College of London created 3D printing drugs in odd shapes; such as dinosaurs or octopuses in order to make it easier for kids to take pills.
- **Gamification in Health Insurance**
  - In November 2017,Qualcomm and United Healthcare integrated Samsung and Garmin wearables into their national wellness program.
  - It enables eligible plan participants to earn more than $1,000 per year by meeting daily walking goals. I believe this is just the beginning of a beautiful friendship between health insurance companies, wearable manufacturers, and the principle of gamification. The latter indicates playful incentives, which could motivate and slightly nudge people into the desired behaviour – such as a healthy way of life in the case of health insurance companies.
- **2040: Era of E-Patients**
  - Where the 'e' stands for 'electronic', 'equipped', 'enabled', 'empowered', 'engaged' or 'expert'.
  - A patient who takes responsibility for their health, and actively engages in shaping their future – in a mutually beneficial partnership with their caregivers.

4.3.3 **Dr. Chander Shekhar, Head, Innovation & Translation Research, Indian Council of Medical Research**, New Delhi made a presentation on Transformative **Health Technologies & NCR Strategies for 2041.** Highlights of the presentation are as follows;

- Digital transformation has revolutionized every industry, but in healthcare specific, technology is helping us live longer and lead safer, healthier, more productive lives.
- With innovation in healthcare industry, a connected ecosystem of sensors and devices on and around the individual serve the function of:
  - Capture and Measure
  - Identify
  - Stratify risk
  - Inform
  - Make Decision
  - Take Action
- **The impact of following top healthcare technologies could save lives for decades to come:**
  - **Telemedicine:** Today's telehealth technology is empowering patients in even the most remote locations of the world to access quality healthcare and receive life-saving diagnoses.
  - **Artificial Intelligence:** Using AI and deep learning, body scans have been shown to analyze CAT scans up to 150 times faster than human radiologists, detecting acute neurological events in just 1.2 seconds.
  - **Electronic Medical Records:** automatically provide the allowed doctors and specialists with a complete medical history

  - **Virtual Reality:** help doctors learn how to perform dangerous procedures—such as heart surgery--without having to learn on human beings
- **ICMR is keen to develop and help realize the potential of:**
  - Artificial Intelligence in Healthcare
  - Next-generation digital healthcare systems
  - Engineering healthier environments at workplace
  - Future affordable and inclusive healthcare solutions
  - Technologies to improve healthcare treatment

- **Other points that emerged from discussions included:**
  - Life expectancy quantifiably does increase but on quality terms it has decreased as there is little focus on how to take care of elderly people.
  - Efficiency of primary care to be re-imagined every 2 years
  - Efforts to be made to reduce the number of visit of people to the hospital for minor ailments.

4.4 SESSION-IV focused on **Perspective of NCR states in Health strategy.** Dr. Raheja, Administrator, G B Pant Hospital, Delhi, shared the following important views on the matte:

- Delhi is committed to provide best of healthcare to its citizens. **Almost 40-50%patients from neighboring states for treatment**. In Delhi there are **400+ PHC facilities and in the process of opening 500 more**. 24 polyclinics and **another 100+ polyclinics will be there soon**.
- **Five tertiary care hospital in Delhi** e.g GB Pant, Guru Teg Bahadur, Lady Harding hospital.
- In process of opening more medical colleges also. **Delhi needs more doctors** and it is also concerned about safety of the doctors, health professional and health infrastructure.
- Need to give best of the care with the accessibility, accountability and affordability to patients. For that there is **need to strengthen our PHC facilities**.
- **Need to strengthen the neighbouring states healthcare facilities also**. Need to have a holistic approach and need to strengthen the private hospitals also as about 70-80% healthcare services are provided by private sector.
- **Transport facility has to be improved for critical patients**.
- **Blood facilities also need to be augmented** due to increase in demand of blood.
- About 63% deaths are due to non-communicable deaths heart attacks, diabetes, Blood pressure. 69 million diabetes patients. Every fourth adult above the age of 25 is hypertensive, every second adult above the age of 50 years is hypertensive. Almost 50% people do not know that they are having BP and Diabetes. **Screening to high risk disease is key to success**.
- **Primary prevention and public awareness at the age of teenage is important**. The lifestyle of a teenager becomes the habit of an adult. Asian people have tendency to accumulate fat.
- New era will be era of innovation. Now we have many technologies. For example MRI,CT scan We have to create good doctors & good paramedical staff who can support doctors. They should also be taught of empathy.
- Care of elderly is also important, **Old age home and support system needs to be strengthened**.
- Terminally ill need extra care.

- Vector borne disease should be addressed. **Sanitation should be taken care.** If we maintain hygiene than we can avoid many communicable disease.

4.4.1 **Dr. Nutan Mundeja, Director, Family Welfare, Govt of Delhi** also added the following important points;

- All four states should sit together frequently for all planning initiatives in the region.
- Most of the hospital buildings are designed by the engineers. There **are no skilled people for the hospital designing**. We should **have an educated branch of hospital architects**. Then comprehensive planning like **integrated plans from Delhi Govt. & MCD required**.
- Satellite centres like AIIMS be developed at the periphery of the city so that people do not congest the main city
- **Movement of ambulances should be allowed to across state borders**.
- Data sharing is important. ASHA never comes to know that what kind of treatment has been given to the patient. We have HRMIS data but it is state specific and not shared with other health facility. **There should be common NCR based data.**

4.4.2 **Dr. SP Kamboj, DG (health), Govt of Haryana** added that :

- 14 district in Haryana are covered in NCR there should be Medical colleges in all districts of Haryana.
- Gurgaon hospital being upgraded to 500 beds and another 500 bedded hospital is coming up in Faridabad
- Have trauma centres in Panipat, Bahadurgarh, Rewari, Narnaul, Palwal and few more shall come in this NCR region. **Haryana is focusing on gap analysis in Nuh, Palwal and Jind district**. We are proposing that gaps to be filled in coming years.
- Initiatives taken include : .
  - **proposing 200 bedded hospital in Dharuhera and Rai**
  - Started DMD course in Panchkula and more to come.
  - CT scan facility initiated in 14 districts, MRI scan in 4 districts and dialysis centres in 18 districts on PPP model in district hospital.
  - Quality care has been taken in all the hospitals and trauma care facilities will be upgraded to hospitals who has ICU facilities.

4.4.3 **Dr. Naresh Aggarwal, ACMO, Bulandshehr Govt. of UP** giving his views on the matter on behalf of Uttar Pradesh mentioned the following;

- UP is a least developed State in terms of health and Bulandshahar district is even more ill developed, with 78 PHC including APHC for its 45 lakh population.
- Vacancies of 250 doctors and available are 138 Doctors' in Bahadurharh
- Many more Primary, Secondary and tertiary facilities are needed.
- Even at block level there is need for a MBBS doctor in Bulandshahr. In CHC also we do not have specialised doctor.
- **Mobile clinic with one MBBS doctor and staff nurse with primary investigations if sent in the village on rotation that would be more practicable**.
- Doctors do not want to work in rural area as either residential facilities are not available or if available it is in dilapidated condition. We have fund for new construction but not for maintenance. **Good Infrastructure for doctors should be developed at village level**. Arrangements can be made to accommodate doctors at Tehsil level and there should be vehicle which can take doctors to their respective PHC, secondary health centre.

- Health Insurance for Govt. servants should be made mandatory as even these doctors are under lot of threat.
- Plan should be practical within our resources and should not be hypothetical.

4.4.4 **Dr. Laxman Singh, DCMO, Bharatpur, Rajasthan** giving his views on the matter on behalf of Rajasthan mentioned the following;

- In Rajasthan subregion of NCR, Kishanganj which is a tribal belt, has the main problem of malnutrition. **Malnutrition is an issue which is overlooked, and it should be addressed.**
- In Bharatpur, there 68 PHCs and 5 UHCs under urban health mission.68 PHCs has been converted into Health and Wellness Centres. And 18 health sub centres are also converted into Health and wellness centres.
- Actions have been initiated regarding Training of professionals. In next financial year, new recruitment of CHO will happen but for Tele-consultation we need medical health specialist, professional in PHC, HWCs.
- In Rajasthan **every health facility is overburdened due to lack of medical professionals**.
- Another issue is monitoring if ASHA is able to do screening in desired manner. ASHA has been given duty in health and wellness centre but quality data is expected from them.
- In Bhagalpur, we have one medical college and 03 trauma centres in Bayana, Deeg. It is **well equipped but not yet functional.**
- **State is planning sub-centres to be converted into HWC in the next financial year**.
- **Nirogi Rajashan programme** has started for public awareness.
- Further discussions brought out following points:
    - ASHA is the basic link in the rural areas & is basically for public awareness. ASHA is not required to provide service. It's basically for enumeration and surveys for demand generation not for providing treatment
        - 1000 population size for ASHA (normal for village)
        - Also looking at USHA (at 2000 population for urban level)
        - ASHA & USHA are working as facilitator. They have been given tabs and smart phones for data feeding.
    - Quality be maintained while expanding health services
    - Ayushman Bharat services can be extended to the general public also in the same terms and conditions with the premium to be paid by the public.
    - **For administration and supervision of these services**, instead of specialisation wise the **regionwise supervision could also be looked** into with a Director each for North, East, South and West Centre and areas demarcated in the district.

5 Conclusion:

Hence, it could be concluded that the NCR needs to adequately take into consideration the vast Health issues and potential of NCR and address all related aspects keeping the future problems as well as potentials, in mind.

NCR could look to become a Heath Hub as well. The interrelated aspects of Skill development, cleanliness, involvement of local community as well as private sector, were deliberated in detail, and should be considered while drafting the sector related policies for the region. The plan for 2041 need to carefully address all aspects that were highlighted

during Regional Plan 2021 review as well as the subsequent workshop and deliberations thereafter, thereby take into consideration views of maximum stakeholders as possible.

List of participants – Workshop on "Health" was held on 20.12.2019

S. No.	Name, Designation and Organisation
1.	Dr. Anil Kumar, ACMO, Health, UP
2.	Dr. Laxman Singh, Deputy CM&HO, Bharatpur, Rajasthan
3.	Dr. Sunil Kumar Gupta, Deputy CMO, Hapur
4.	Dr. Harsh Arya Deputy CMO, Faridabad, Haryana
5.	Dr. Suparna Ghosh Jairath, Professor, IIPH, Delhi, PHFI
6.	Dr. Vineet Sharma, Veterinary Officer, Deptt. of Animal Husbandry, Muzaffarnagar
7.	Shri P Selvadurai, Director, AMDA
8.	Shri Gaurav Jain, Admin Officer, AMDA
9.	Dr. Nutan Mundeja, Director, Family Welfare, GNCTD
10.	Dr. Anil Kumar, Deputy CMO (Immu), CMO Office, Meerut
11.	Dr. Shailly Tomar, Professor, IIT, Roorkee
12.	Dr. Sita Ram, Deputy Civil Surgeon, Sonepat
13.	Dr. Vikram Singh, Deputy Civil Surgeon, Nuh, Haryana
14.	Dr. M A Qasmi, Joint Advisor (U)
15.	Ms. Gurpreet Kaur, AD (CBQT), AMDA
16.	Ms. Preeti Pant, JS (UH), MoHFW
17.	Ms. Neelanjali, DD
18.	Shri Totak Acharya, AD (Planning), AMDA
19.	Dr. Sanjay Gupta, Deputy Civil Surgeon, Distt. Charkhi, Dadri, Haryana
20.	Dr. N Srikan, DDG, M/o Ayush
21.	Dr. Ved Yadav, WHO Country Office for India, Nirman Bhawan, New Delhi
22.	Shri Mohit Jain, Accounts Officer, AMDA
23.	Shri Chander Shekhar
24.	Shri T Chinsum Naulak, Under Secretary, MoHFW, Nirman Bhawan, New Delhi
25.	Shri S C Gaur, CCP, NCR, UP
26.	Dr. Nirupam Madaan, Addl. Professor, AIIMS, New Delhi
27.	Dr. Rajeev Nigam, Addl. CMO, CMO Office, Muzaffarnagar, UP

S. No.	Name, Designation and Organisation
28.	Dr. Praveen Sethi, Director, Health Services, Haryana, Panchckula
29.	Dr. Pradeep Sharma, Civil Surgeon, Palwal
30.	Dr. Anant Gupta, AIIMS, New Delhi
31.	Shri Rajeev Arora, IAS, Additional Chief Secretary, Health, Haryana
32.	Ms. Alka Arya, Director (Planning), HDMR, DDA
33.	Dr. Santosh Satya, Em. Professor, Rural Dev. Centre, IIT, Delhi
34.	Dr. Neelam Kumar, SMO, CHC, Bhiwadi, Alwar, Rajasthan
35.	Ms. Archana Sharma, Associate Planner, NCR, GZB
36.	Dr. Nidhi Bhatnagar, MAMC Faculty, Deptt. of Med.
37.	Shri E. Kamal Nathan, DD News
38.	Dr. S B Kamboj, DGHS, Haryana
39.	Dr. Naresh Goel, Add. CMO, Bulandshahr, UP
40.	Shri Rajeev Chadha, Director, KPMG
41.	Dr. Ghulam Nasir, State Ayush Coordinator, Ayush Deptt., Haryana
42.	Dr. Madan Gopal, Sr. Consultant, Niti Ayog
43.	Shri Vikas Sheel, JS, MoH&FW
44.	Dr. Rajesh W, Dy. CS(IT)
45.	Dr. Sunita, Deputy Civil Surgeon, Gurugram, Haryana
46.	Dr. Nimesh G. Desai, Director, IHBAS, Delhi
47.	Dr. A K, DGHS
48.	Dr. Sobhit Gupta, DGHS
49.	Ms. Anshula Menon, National Institute of Urban Affairs
50.	Prof. Jayanta K Das, National Institute of Health & Family Welfare, Munirka, New Delhi
51.	Dr. Shuchita, MO, DGHS
52.	Ms. Smriti Nagpal, DGHS
53.	Dr. Prakamya Gupta, Scientist C, ICMR
54.	Dr. S M Raheja, DGHS, Delhi

Annexure-I

HEALTH
Date: 20.12.2019
Venue Scope Convention Centre, Delhi

S. No.	Topics	Speakers
Session I: Inaugural session		
Chair: Smt. Preeti Pant, Joint Secretary, National Urban Health Mission, Ministry of Health end Family Welfare		
1.	Welcome Address	Shri Satish Prashar, Chief Regional Planner, National Capital Region Planning Board
2.	Health Systems for a New India	Smt. Preeti Pant, Joint Secretary, National Urban Health Mission, Ministry of Health end Family Welfare
Tea Break		
Session II: Health Infrastructure Strategies for NCR 2041		
3.	Planning for Comprehensive Primary Health Care NCR, 2041 • Sustainable Development Goal & Health Indicators • Affordable Ancillary Health Services • Land Allocation needs	Shri Vikas Sheel, Joint Secretary, Ministry of Health & Family Welfare, Govt. of India
4.	Health in NCR	Shri Manish Chaturvedi, Professor, National Institute of Health & Family Welfare
Lunch		
Session III		
Co-Chair: Shri Praveen Gedam, Dy. CEO, Ayushman Bharat		
5.	Accessible & Quality Tertiary Health Care	Shri Praveen Gedam, Dy. CEO, Ayushman Bharat
6.	Planning Reliable Trauma Care Systems for NCR 2041	Dr. Vanshree Singh, Director, Blood Bank, Indian Red Cross Society
7.	Health Hub for Africa/South Asia –	Dr. Vijay Agarwal, President, Consortium of Accredited

S. No.	Topics	Speakers
	Leveraging Advantage NCR	Health Care Organisation
8.	Transformative Health Technologies & NCR Strategies for 2041	Dr Ved Prakash, Indian Council of Medical Research
Session IV: Understanding NCR State Perspectives		
Chair: Dr S K Raheja, Director General (Health), GNCTD and Medical Superintendent, G B Pant Hospital, Delhi		
9.	Health scenario in NCR states	**Govt. of Delhi**: Dr S K Raheja, Director General (Health), GNCTD and Medical Superintendent, G B Pant Hospital, Delhi Dr Nutun Mundeja, Director (Family Welfare), Govt. of NCT Delhi
10.		**Govt. of Haryana**: Dr. S B Kamboj, Director General Health, on behalf of Shri Rajeev Arora, Additional Chief Secretary, Health, Govt. of Haryana
11.		**Govt. of Rajasthan**: Dr. Laxman Singh, Dy. CMO, Bharatpur
12.		**Govt. of Uttar Pradesh:** Dr. Naresh Agarwal, ACMO from Uttar Pradesh
13.	Vote of Thanks	Shri Jagdish Parwani, Director (A&F), National Region Planning Board

Workshop Title: Education

Date: 03.01.20 (Friday)

Venue: Silver Oak Hall, IHC, New Delhi

Brief Minutes of the Stakeholders Workshop on 'Education' held on 03.01.2020 at India Habitat Centre, for preparation of RP-2041 for NCR

1) Workshop on "Education" was held on 3rd January 2020 for Preparation of Regional Plan-2041-for NCR at Silver Oak Hall, IHC, New Delhi The workshop was divided into various sessions to cover the major topics under the subject. The list of participants is enclosed**.**

2) The major topics of discussion included Vision for Secondary Education 2041; Education – The Enabler of Tomorrow's Greatest NCR 2041; Challenges & Strategies for Education 2041; Non-Government Perspectives on Education; Perspectives for Education in NCR-2041; Distance Education Strategies for NCR 2041; Education: Future Strategies & Perspectives by States

3) The key contributors to the discussions and invitees included Prof. Anil D. Sahasrabudhe,, Chairman, AICTE; Prof. Biswajit Saha, Director, CBSE; Shri Ankur Gupta, IAS, Principal Secretary, Higher Education, Govt. of Haryana; Shri D.K. Sharma, Dy. Secretary, M/o. HRD; Prof. Manoj Datta, IIT Delhi ; Prof. Vinay Sharma, Prof Management IIT, Roorkee; Dr. Alka Muddgal, Head Amity Institute of Education; Dr. Sarita Sachdeva, Dean, Manav Rachna International Univ.; Smt. Shobha Mishra Ghosh, Asstt. Secretary General, FICCI; Dr. Renu Batra, Additional Secretary, UGC; Shri Sridhar Srivastava, Dean, NCERT; Prof. B.K. Patnaik, Director, SOEDS, IGNOU; Prof. Manoj Datta, IIT Delhi and former Director PEC, Chandigarh amongst others. The list of Speakers is placed at **Annexure-I.**

4) Session wise proceedings/ record of decisions are as under:

4.1 SESSION-I was the **Inaugural Session** wherein Prof. Anil D. Sahasrabudhe, Chairman, AICTE shared his valuable vision on 'Education', sector. Key highlights of his presentations included the following:

- Important initiative taken by NCRPB by considering Education sector as topic for a separate workshop.
- Various smart cities have been declared by Government of India and for this the support system such as Infrastructure, sanitation, health, transportation and internet are equally important for education.
    - Education starts from Primary Education. **New National Education Policy** is still under consideration in Ministry of HRD. We are **thinking of starting education at the age of 3 years**. There are **Aganwadi, Nursery, LKG, UKH**. So to start early education, we **need require more infrastructure to accommodate the new policy in future**. A child's learning should be **through games and activities rather than writing and reading skills**. Almost all the things child can learn in an informal way.
    - College education is going to be after 15 years of early education. Possible challenges in higher education and technical education.
        - Today gross enrolment rate is 27%. **New education policy talks about 50%** gross enrolment rate as the target.
        - Delhi now itself is facing **problems in terms of infrastructure, buildings, and hostels**.
- UGC, AICTE has certain norms to have particular amount of Area of land for college, university, sports filed.
    - One of the possible **solutions should be rather than horizontal growth, we should have vertical growth**.
        - **Hostels can be ten storied**.
        - Insisting **on every institution should have playground of five acres** is also a challenge. May be **3-4 institutions can share a playground**. Prime Minister is also talking about **Fit India movement so playground is important**.
    - Need **Infrastructure in terms of digital education**. We are talking about **open distance learning and online education** which could also help meet some of requirement of

infrastructure issues. The other modes of education may also be explored. There are certain **constraints like internet bandwidth need to be overcome.**

- Ministry of HRD had given task to **AICTE to start online platform called SWAYAM** which shall enable Students to study online using the portal. It is already ready and **more than 2000 courses can be accessed on it. Online education reduces long distance travelling to college** which is a challenge for many areas. **20% credit are allowed from this portal by AICTE and UGC**
- **Public transport system is also necessary to enable travel to education institutions** in suburban and rural areas.
- AICTE has developed **NEAT (**National Educational Alliance for Technology) **portal being launched** in January 2020, to look into poor Employability issues. **Almost 60% of graduating students need skilling so that they become suitably employable**. Various Startups provide platforms through artificial intelligence, having tools that can make one learn and create employability. Students can also become entrepreneurs. But the **problem is government cannot promote these products so we ask these companies to initially provide it free for trial**.
- To bring these product in market primary level screening was done but none of the committee member knew about these product. Each one of them have to give 25% seats free of cost for taking care of socially deprived citizens as per the reservation policy.
- **Need much better infrastructure in terms of fibre optic connectivity** not only in NCR but in the entire country. The responsibility of planning is going to be prominent. While expanding how far we **make each village to be digital** is equally important.

4.1.1 **Prof. Biswajit Saha, Director, CBSE** – Dr Biswajit Saha, Director (Training & Skill Education),Central Board Secondary Education, while presenting his views included the following important points:

- India to reach midway of its demographic dividend period by 2041.Five pillars to leverage demographic infrastructure planning include Infrastructure planning ; Quality improvement in schools; Creating centers for excellence ; Leveraging Technology; Workforce planning
  - **Pillar I - Infrastructure planning**
    - 7.2 Crore Students in urban schools and 2.4 Lakh Schools in urban locations & 15 Different management types of schools
    - **School infrastructure planning central to urban planning**
      - **Need analysis and planning of new school infrastructure till 2041**
      - **Expand capacity of existing schools and Higher Education Institutions (HEI's) by reusing existing infrastructure**
      - **Create shareable infrastructure** for schools in urban areas
  - **Pillar II – Private and Philanthropic sector;** *One in every three students is enrolled in an unaided school*
    - Enrolment in unaided schools grew by 3.07% CAGR between 2012 to 2016
    - About 50% of the states have more than 33% students in unaided schools
    - %age share of students in unaided schools over time (1-XII)- 24% (Rural) & 51% (Urban)
  - **Pillar III – Creating centers for excellence**
    - **Education Policy Hub-**
      - Need to align current siloed efforts by multiple ministries involved in providing quality school education
      - Regional hubs to coordinate with central hub on various schemes and challenges related to education
    - **National Center for Student Assessment (NCSA)**
      - State of the art centre to provide thought leadership and technical support to central and state governments
      - NCSA to specialize in all aspects of large scale and school assessment
    - **National Center for Education Technology(NCET)**

- A dedicated centre for planning and executing a long-term vision to leverage technology for improving learning outcomes
- **NCET to provide thought leadership, research and technical support to central government and state governments on large scale EdTech implementation**

- **Pillar IV – Technology**
  - **Technology for Student**
    - Use of Internet of Things (IoT) to enhance quick response service for student safety
    - Student safety in schools and transport vehicles leading use case for IoT in student safety
  - **Higher education**
    - Technology could provide high quality courses to democratize higher education through digital platforms such as DIKSHA
  - **Skilling**
    - **Open and Distance Learning (ODL)** of courses in higher education has the potential to significantly increase skilled human resource in workforce
    - **Platforms such as DIKSHA** could enable life long learning for a vast number of students in higher education
  - **Digital Integration of schools**
    - schools through internet and IoT
    - Making teaching data driven through enabling sharing of learning data and digital resources across schools
    - Globally, EdTech is being used to tackle multiple challenges and with different cases:
      - **In-Classroom case Challenges include Large backlog in learning leading to huge diversity in learning levels within the classroom leading to** Multi-grade Teaching and Multi-level (**MGML**) Teaching
        - **Role of Edtech: Personalized Adaptive Learning (PAL) solutions identify student misconceptions and can remediate at the right level**
      - **For Teachers case Challenge is Teacher incentives in public-school system not aligned to outcomes; 20% of teachers are absent from classrooms; 15% of teaching positions vacant**
        - Role of Edtech-Technology driven need-based teacher training and support
        - Tech-enabled delivery of curriculum-aligned teaching content vis DCR, VCR
      - **At Home the** Challenge is Low parental education levels & awareness of tech for education in low income communities and First-generation learners do not have access to quality school education
        - **Role of Edtech-**Students can access free high-quality content after school in multiple languages using smartphones connected to the internet
        - Many of these solutions are self-learning, requiring minimal (if any) parental support
      - **Via Data the Challenge is Limited knowledge on teacher knowledge gaps and student learning levels and Current curriculum design not data-driven based on student learning pathways**
        - Role of Edtech-Data-driven interventions to solve for critical challenges and gaps for students and teachers
        - Science of Learning Library (SLL) is an open source encyclopedia of assessments, learning data, gaps etc.
- **Pillar V – Workforce planning**
  - **Areas for planning with potential**

1. Expand access in tertiary education

- Gross Enrolment Ratio in higher education stands at 25.4%[1]
- Significant expansion of HEIs needed to create qualified human resources

- Expansion of existing HEIs and inviting international universities of repute to open campuses in India

2. **Creating avenues for life long learning**
    - Expand access to higher education institutions through Open and Distance Learning, MOOCs and hybrid system of learnings
    - Existing digital platforms such as DIKSHA could serve as a medium to make high quality learning content available
    - Certification in specialized areas could be offered to increase access to certification courses
3. **Workforce planning**
    - Long term economic planning to take student participation in primary, secondary and tertiary students
    - Provide multiple learning pathways to students to gather relevant skills

- Other aspects that emerged during discussions included:
    - Regional collaboration required with schools and institutinons supporting each other; extend the durations of internship; better Utilisation of resources / teachers ; Teachers from anywhere should be able to work anywhere
    - Haryana has made curriculum with industry itself as Industries were not coming forward to have this integration with engineering colleges. Students are not accepted by the industries for internship. We **should have some enforcement on industries so that they have to give internship to the students**. MHRD can suggest Industries on this aspect
    - TCS, Infosys, MSMEs, Startups, visiting villages and see its challenges, it is also an internship. Space being limited in the organisations and lot of confidential works going on.
    - Hubbali is a tier two city and they invite if anyone wants to initiate a Startup.

4.2 SESSION-II was on "NCRPB: Education 2041 Gazing into the Future" . Prof. Manoj Datta from IIT Delhi presented his thoughts on the subject which included the following:

- **Future of education will be governed by diversity and flexibility**. It should have following components.

    - Diversity & Flexibility
    - Unrestricted Choice
    - Continuous Self Evaluation
    - Experiences in labs,(experimental, computational), research parks, incubators and in industry
    - Lecture Rooms to Studios
    - Teachers as a Mentors not Lecturers
    - Economics: Who will survive?
    - Autonomy: Quality
    - Diversity: Specialists?
    - Expansion: Have a Larger Footprint
    - Integration & Blend: Multidimensional Degrees
    - Relevant master's degrees: Industry Sponsored students As we have medical college attached with hospitals, there should be provision for engineering college or other college to be integrated with respective industry.
    - World Class Research & Innovation: Globalization Students must be given freedom and funds to invest in innovative projects.
- **Students should have freedom to choose degree and self-evaluation**. Online education is the utopian of future.
- **Entity which cannot provide employment after degree will not survive. Autonomy of institutes will drive quality**.
- Integrating and blending is another aspect. **Master program should be industry specific**. IIT Delhi has produced most of the Unicorns namely flipkart, ola, Zomato etc
- University of future will :

- Nurture Leadership
- Nurture Entrepreneurship
- Nurture Innovation

- The connectivity and radial lines are needed even in education. We have educational spots in NCR which need connectivity.

4.2.1 **Prof. Vinay Sharma, Prof Management IIT, Roorkee** presented the following views as far as perspective of planning and strategies in terms of education:

- To start with activities of a test, interview, studying in college/ institute/ placements need not be secluded kind of events but be integrated. Integration has to be done all through.
- Develop internship program for students to bring outcome in context of industry and the learning that has happened in college. Job is not the intention. **Hard resources other than the faculty and soft resources have to be included**.
- **Need to motivate faculty (standardize it) and provide platform for them to grow (bring caliber and quality).**
- There is an element of can we **look upon two elements throughout education system.**
  - **Linguistic relativity** – students thinks in different languages. And they are not clear about the content of the topic of subject. And faculty should also be trained in same line. There have been experiments done in small schools and colleges which can be brought up too. Example of **Vina Vadinin a school in Singroli, Madhya Pradesh, Mr Virangat Sharma teaches students to write with both the hands in two different languages**. To attract students for education simple innovative experiments.
  - Second element is **Hypothetical deductive solution approach**. We imagine a problem and then teach our students to find solution. This is across all schools and colleges. The **right approach would be to make students to reach the right problem**. We have to **inculcate this element of finding the right problem in whole of situation** and bringing all people to this level.
  - Last element is something that has to be done at prospective of hygiene and motivator factors to bring for faculties to that level. A **level where faculties can think at universal level.** Development of faculty is an important part of education.

4.2.2 **Prof.(Dr.) Alka Muddgal , from Amity Institute of Education, Amity University Uttar Pradesh** made a presentation on Education Challenges and Strategies for Education 2041. Major points included the following:

- First thing to be assessed is to segregate the education of private sector and Govt. sector.
- Suggested **Vision for Education-2041**
  - Environmentally Aware Citizen
  - Gender Sensitive Citizen
  - Joyful Education
  - Mutual Cultural Appreciation
  - Achieving the Learning Outcomes
  - Adaptability as per Global Needs
    - Alternative Physical setting for Education
    - Teaching and Learning Hubs / Centers
    - Innovative approach
    - Changes in Evaluation
  - **Regional Cooperation among the stakeholders to exchange knowledge**
    - School Complexes
    - University Complexes
    - Mutual Exchanges
    - Educational Hubs / Centers
    - Collaboration
    - Cooperation
    - Sharing of Resources

- **Challenges for Education 2041 are as follows**
  - Reduction in job opportunities
  - World Class research
  - Funding Alternatives
  - Foreign Universities
  - Retaining the Value System in the society

- **Strategies that can be followed for Education 2041**
  - Multi-disciplinary Studies
  - Industry Oriented Teaching and Learning
  - Skill based courses/ Vocational
  - Entrepreneurship
  - Technology based pedagogical techniques
  - Collaboration and Cooperation
  - Sharing of Resources
  - Accreditation and Rankings
  - Opportunities for optimization of inner talents
  - Changes in Evaluation system
  - Linkage with ancient inheritance

- **Empowering Teacher Education**
  - Qualification with skills
  - Attracting good people to Teaching
  - Skills in Educators in Higher Education

4.2.3 **Dr. Sarita Sachdeva Dean, Manav Rachna International Institute of Research and Studies** presented on Non-government perspective in education which covered following points amongst others:

- **More liberal undergraduate education**
  - At present in UG programmes, single/double/treble major subjects are offered with choice based credit system but in implementation and practice, liberal education requires more resources
  - With the existing infrastructure, many institutions may struggle to add required facilities that would justify offering of a good liberal education spanning, arts, sciences, design and engineering.
- **Private higher education institutions in the country**
  - should be treated at par with public higher education institutions, especially when it comes to funding and incentivizing private higher education institutions.
- **Research Landscape**
  - The funding must be completely transparent, the proposals must be subject to double review, and only at final stage of award, the applicant details must be revealed.
  - Care must also be given to give **more weightage for proposals that have industry partnerships as well as public- private partnerships**. But merit and quality must form the core of the award of projects.
  - The **hiring of retired distinguished teachers/researchers, without any age limit as mentors in Universities should be permitted** so that young faculty may be groomed as today superannuated faculty are not eligible to submit research proposals.
- **Employment track for university staff including faculty**
  - This concern deserves special place as faculty members are the edifice who make education meaningful, relevant, and futuristic.
  - To this end, identification of talents right from the early stages of educational ladder, who are visualizing their career and livelihood through teaching and research, be initiated.
  - Therefore, it is important that we **design a strong ECR (Early Career Researchers) program at UG level in all the disciplines**. Some National Level/ State level fund

and support mechanism be done for the potential researchers to encourage them to take up career in Teaching and Research.
- It is recommended that the **ratio of academician's vs. practitioners especially in professional programmes must be well defined in advance**.
- **Clarity must also be provided regarding whether practitioners will be allowed only teaching or teaching & research both.**

4.2.4 Major points covered by Smt. Shobha Mishra Ghosh, Asstt. Secretary General, FICCI in her presentation, included the following:

- Integration from both from the industry and education perspective. In 2013, FICCI came up with the vision document for higher education for 2030, which is now being planned for 2041. **When compared with the BRICS nation, we are at the bottom of the ladder** .
- Looking at industries which are impacted by technology like robotics,3D printing etc. Findings indicate thatr while there will 9% of job loss , 10% of new jobs will be created. **37% of existing jobs would require new skill set.**
- Higher education industry is catering for society 5.0. Society has changed, Now **Children are more well versed with technology than their teachers** are. **Capabilities of these universities need to be built and institute of excellence are built over decades**.
- Change in profile of students – **need to look if there be a need of universities in future**? **Students need universities for various information even if there is plethora of information available online**. They need to be associated with some brand. Student needs to socialize and share many things.
- **Coding is new language** which is to be learnt by the students very early. In CBSE it **starts at standard 8th but in in developed country they teach coding very early**. In private school it is starting at class 2. Coding inculcates the analytical, problem solving skill at a very young age. It will serve as essential ingredient for future from the employment point of view and otherwise.
- While its difficult to accurately envisage number of jobs that would be required in 2041 but we can envisage what **skills would be required which will be both cognitive and non-cognitive.**
- Until children are exposed to some of hypothetical futuristic situation, it will be difficult for them to solve the problem.
- **Creative economy is going to be a way forward**. In India, **Farm sector and non farm sector are not connected with our education system**.
    - To see as to how **can we leverage the creative economy sector and integrate with technology, research**. Be cognizant of rural area which are engulfed by urban area.
    - Need to see if it **caters to the employability as well as enabling children to be good human being** as if the value system is not there then no point of having higher education system.
- **Education system needs have technological infrastructure that is State of the art and the NCR region is the model region for the country.** How we can have last mile connectivity, should have smart classes, all kind of modern technology so that best of the classes can be actually seen and heard and learnt by the nation at large.
- **Multiple paths of learning are going to be important**. Large part of our population constitute of first time learners and they may not have all the means so, streamlining and fast tracking of creating the means is necessary. **A semi-skilled person should after some experience and trainings upgrade to skilled workforce and that is the kind of skill upgradation that should be envisaged in Regional Planning for 2041.**
- Student profile is going to change in future and **Life like learning is going to be a key**. Programs needs to be developed by universities which would enable the same.
- **Issue of faculty crunch is to be tackled**. Large population of servicing men and women who can be actually inducted into education system need to be provided with adequate opportunities. Universities need to look at programs to bring these people into main stream of education. Some Bridging courses could be introduced.

- **Tackling the Lacking aspect of adequate Career counselling** is need of the hour. With technology changes, Career counselling is essential not only for the school level students and university but even for the mid-career professional who wants move up in the career ladder. **FICCI is setting up centre of excellence for career counselling in greater NOIDA**, under the initiatives of MoLabour

4.2.5 **Ms. Rupa Manjari Ghosh, VC, Shiv Nadar University** also shared her valuable views which included the following important aspects also important in Education sector:

- **Agility:** Flexibility is required in entire structure and out of box thinking is necessary so that we are not just involved in the catching up game.
- Approach of the problem**: Educational sector should always lead in a growing economy**. In higher education there was worry about robots going to take over. The idea is not to mimic what machines can do. **Graduates should not mimic robots. Jobs will not go away but we need better skills that will not go out of date**.
- **To be a problem solver you need to know the context of the problem**. It is not what you think but how to think in the higher education sector. Manner of communication needs to change. One needs to be agile and be updated. Need to be little futuristic. Going solo will not help, hence need to partner, could be national and international partnerships.
- **Quality Bench Marking** : **Accreditation and ranking system is important** and everybody has to get into this system. This should be the part of policy framework. In heterogeneous country like India, regulations are necessary. **Regulations define the minimum standards not the maximum.** We do not have to look at excellent model outside but we should **create excellence model inside. Quality control should be done by universities.**
- **Financial Model: Need a sustainable the financial model. Philanthropic university does not exist in our country** as difficulty in sustaining financially. At Shiv Nadar University, we are doing many research such as plastic eating bacteria, invisible ink story. But then how do we sustain our financial models. If there are no incentives given, people will lose out the real temple of learning and nobody would be actually be interested in research and philanthropic study.
- **Need to have** clean water, air and food and healthcare for next generations. Universities also have to take care of these problems. Having right financial models necessary
- **Attempts be made to make the NCR a hub for study in India: Quality of education and cost of education** :Cost of education is not much in India but quality with benchmarking will hopefully make it an attraction for international students. Need some pro-active policies to make studying in India, an attraction and NCR could lead the way.
- Other important points that emerged during discussion included:
    - Propose for educational guidance right from the school education to the higher education as cant separate education guidance from career counselling. There should be a clear cut mechanism, how are the skills from informal modes be formalized.
    - Government entities like NCERT and NIPA etc. may be part of committee which looks at career guidance right from the primary school whether you need to explore for careers, in middle of career you need guidance, in higher education further guidance. Also capture the drop outs. Further, there is a need for accredited programmes for career counsellors.
    - As on date in the country, there are about 93% private institutions and only 5-7% government institutions. Private institutions do not have good standard teachers. Thre could be a Common curriculum body, a monitoring system as Institutions are coming up everywhere with no quality assurance.

4.2.6 **Shri Ankur Gupta, IAS, Principal Secretary, Higher Education, Govt. of Haryana** added the following point:

- **Teachers' skill up gradation** is required. Teachers need to keep pace with the speeds with which technologies are changing
- May think of introducing new courses but do **need to ensure that there are adequate teachers** which could be the major focus.
- Need more connectivity between industry and school / college education

- More focus to be given to research as we need to bring innovations. The countries which have progressed are the countries which have done research. Existing colleges are not equipped infrastructure-wise or teachers-wise.
- New institutions are created but need also to **strengthen the existing institutions** as well. Universities should focus on sector specialists.
- Create an environment that students from abroad get trained here and help in betterment of world
- Soft skills are important area we need to focus on. **Soft skills have to be inculcated right from the school education.** In primary school why do we expect to be at the same level? First student learn from the peers then from the seniors then teachers come at the last. Private and government should collaborate but how we need to be thinking of it.
- Existing infrastructure we have great labs in engineering colleges and medical colleges. Once the college closes, explore possibilities of opening **the lab 24 hours.** . **Keep aside funds for PAN India or international exposure also**. We need to **come up with an innovative and different plan**.

4.3 SESSION-III, Shri Sridhar Srivastava, Dean, NCERT presented his views on Education. Important points highlighted by him are as mentioned below:

- Need to think about the outcome from existing educational facilities. **Refer the existing NCF 2005 which is there in NEP as it gives clear idea what exactly is the goal of school education that applies to higher education also.**
- As per Census, 41% of population is up to 19 years of age. **Year 2041 is right time for the demographic dividend for India.**
- Recently an exercise was undertaken regarding projection of **enrolment in school education**. It is surprising that the rate of decrease has started for the primary education from 2011. For the upper primary enrolment also and for the secondary stage enrolment also the **rate of decrease is starting** and needs to be checked The cohort that is available in the school is important. Think about planning for primary education in India but it does not mean that higher education is not to be given importance.
- **NCF 2005 has given a very clear picture that how the school education should move,** kind of teaching approach a teacher is expected to follow. That is the very good framework and **state governments have to take from that**. C**onstructive approach in education** is required as Child has to construct upon knowledge. NCF 2005 also clearly says how collaborative study takes place, how peer learning takes place; how the teacher has to take a concept in the school, If a group of students do not pose a question then we give an answer and ask students that what could be the question to this answer.
- We have the distinctive view about private and government schools in NCR region. The issues of quality education are not different. In totality we should think **how to enhance the quality of education in NCR region**.
- In year 2017, NCERT was involved under the aegis of GOI in a very great exercise , National Achievement Survey. NCERT has been involved in such robust exercise in collaboration of SSA (Sarva Shiksha Abhiyaan). In 2017 exercise one **test was designed for entire country to assess the Learning outcome of children.** Document was printed, the testing was done for competencies of children of both private and government schools. The sample at district level was so scientifically design that no one should hesitate to understand the learning. The test was content free it was to understand only the competencies of the students. We may think that we are going away from the content, but it is not so. But our target is to see the competencies of the children. With this target the teaching learning process has to take place.
- Another initiative by NCERT is that **What should be the learning outcomes or competencies** of a child from class I to VIII in particular concept or domain areas. For example, if a child is learning number system then the teachers or planners should know that what should be the learning outcome of a child. Along with that some processes are there

which teachers need to adopt. These documents are suggestive, teacher can come up with their own learning processes to obtain desire outcome.

- We should **surely plan a short report taking these results from different surveys and if possible**, **we can commission also a qualitative study if NCRPB act permits**. In planning the both quality of infrastructure as well as quality of outcome aree important. Information Technology could be enabler, but the real quality is there in many different ways, the kind of pedagogy teacher is adopting, the kind of learning process that is taking place in an institution is important.
- Suggested that 2041 document should also **have one section on quality what it intends for**. Recently NCERT with the help of GOI has taken up training program for 4.2 million teachers through integrated training program. The module is covering personal social skill through leadership and pedagogy of social science.
- Draft NEP mentions that any **educational institution should be such where every child should be welcomed, providing a sense of vibrancy, simulating environment and safe environment**. This principle statement is important while we are planning for education in NCR.
- **Employers are looking for 21st century skills apart from degree**. Now a person needs to have good communication skill, presentation skill, leadership skill over all we can say soft skill. So, our education system be such that it teaches both the things contents and competencies.

4.3.1 Prof. B.K. Patnaik, Director, School Of Extension and Development School, IGNOU covered the following important points under his presentation:

- **Role of IGNOU in distant learning:** IGNOU is catering to the needs of the ULBs. There are challenges in urban areas. Now is the era of growth and development. Development is a very dynamic concept. Other developments are social and political.
    - IGNOU started in 1985 with enrolment of 4035 students. Now it is more than 3 million students one of the largest in the world and its students range from laborers to civil servants.
    - Age group is from 18 to 90 years. **Age no bar and space no bar**.
    - Have 60 regional centres in almost all the states. Offering Variety of courses,285 programmes in PG, Degree diploma and certification courses.
    - IGNOU has 21 schools, well equipped EMPC delivering 24 hour lecture. Also have Radio programmes. One of the key feature of IGNOU is that it has democratised the education **anybody can pursue education from anywhere in the country.**
- **Urban planning and development course in alliance with urban development in Urban local bodies**
    - Regional plan is long term plan there it should be sustainable. For example, Chandigarh was planned after giving so much of thought. Because of which Haryana developed *Panchkula* and Panjab developed *Mohali* as planned and beautiful city. Another example is Bhubaneswar, earlier capital of Odisha state was Cuttack. *Cuttack* is landlocked city and river on one side.so in year 1973 it was decided to shift capital city to *Bhubaneswar*, as this city can be expanded in all the four directions. We can have peripheral growth around the city. We must have vision while planning or else we may have problem like Andhra Pradesh which intending to have three capital cities
    - IGNOU decided to have diploma course and it covers all aspects of development planning, Urban economy, urban infrastructure, Urban transport, Solid-waste management, urban Management and urban Governance. Role urban local bodies as per the 74th Amendment .

- Besides it has **courses on soft skills; value education; life skills**

- **Issues and Challenges**:
  - In education sector, the low gross enrolment ratio needs to improve
  - Educational infrastructure,
  - **Rankings of the educational system like smart cities.**
  - Inclusive education it is surprised to know that Delhi has around 300 villages so we should think how we can **provide education in the villages and in the urban slums**.
  - Educational finances from the stakeholders, like the Corporate sector, Government, NGOs how they can promote in the education. DDA, HUDCO can also play role in financing education.
  - **Reaching to the unreached, provide quality education, skill and digital education,**
  - **How to attract FDI in education sector.**
  - **How to promote education in the periphery region in the NCR region.**
  - **Integrating the urban education into the total education system. Research and innovation is another area not only scientific research but also social science research.**

4.3.2 **Dr. Renu Batra, Additional Secretary, UGC** who chaired the session covered the following keys aspects in her address:

- As you know **UGC is the only statutory body which regulate the higher education system in the country.** Now we have to look at the education scenario of the 2041. **Apart from UGC ,there are another 13 regulatory facilities for Dental, digital, medical, rehabilitation, agriculture etc**. So it becomes very difficult for each institute to satisfy the need of every regulatory body. Requirement for each regulating authority is different – For setting up of any universities, certain amount of land is required, **AICTE has certain norms, UGC has norms. And some institutions are in Lal Dora they cannot start new courses neither can increase the capacity**.
- What are the requirements of these regulatory facilities? **Can we think of hub areas to set up all the educational institutes starting from the school education to higher education?** Even in **National education policy it talks about multi-disciplinary universities**. They can have **exchange program for students and teachers**. There are many institutions which have got lot of equipment in labs, grounds but then we have institutes which lacks all of these. So, the idea **is can we share the facilities and equipment's for the benefits of the students.**
- Can all **institutions have a common place like playground**? So that we can meet the requirement of regulatory authorities as there is a clause that educational institutes must have play grounds..
- If we look into the landscape of higher education, at present 993 universities with more than 100 institutes of national importance. We have 3.6 crores students and 14 lakh of teachers in our country. GER, it is only 25.6% and if we compare with developed countries which is more than 80%. China has 44%.India is young country with average age of 29 years so can we use this demographic details.
- Another disturbing report is that **80% of students go to Under Graduate colleges and 10% go for post graduate and only 0.1 % for PhD.** These 80% students after completing UG course remain unemployed. Since these youths have nothing to do, they get involve in crimes. So, how can we tap these resources and provide them skills? For that **UGC has come up with vocational education**. UGC also initiated national qualification skill frame work with 60% skills credit and 40% knowledge base curriculum.
- Soft skills are very important. We find that **most of the institutions are not revising their curriculum.** This curriculum is based on teacher centric approach.
- UGC came up with quality mandated with the five objectives and 10 different programmes.
- **At least 50% of the graduates they should either go for the PG or for employable.**

- Learning outcome framework in the non-technical education we come up with the curriculum.
- 21st century skill in which students should have interpersonal skills, leadership skills , analytical skill. But these skill should not be taken as standalone . For example if a students complete 3 year BA programme he should have all these competencies apart from conventional degree. How to **evaluate the students where one has to evaluate the knowledge as well as competencies**.
- We come out with a report on evaluation reforms. In which Continuous evaluation has been given lot of emphasis. Right now institutions have 30% continuous evaluation and 70% external evaluation. The report talks about use of ICT and Data Bank also.
- Good curriculum, good evaluation system we can bring quality in higher education system and Our students can be employable or start their own work.
- Third objective is **use of the ICTE**. Govt. of India has the **Swayam portal.** All the Undergraduate and post graduate curriculum is available on it. UGC has come with regulation that if a student has received 20% then it will be added to the regular credit. Unfortunately, **response from the universities on the UGC reforms are not good, out of 953 only 127 universities has adopted this reform.**
- **Teaching faculty position, around 33% teaching positions are lying vacant even in higher education system.** So the challenge is to attract the teachers and also to retain the teachers. Now it is difficult to motivate younger generation into academics. How the change the mindset of the younger generation and how to motivate them. Even though the salary in 7th pay commission is good for teachers and promotion avenues are also available. So to motivate teachers we have designed 4 months training program which has 10 credit program. These programs talk about pedagogy, higher education, evaluation and also In addition to that GOI has come out with the online output teacher programs .72 centres are there where the teacher can improve and keep themselves updated in their subject area. It has 20% theory and 20% practical. GOI also has a leadership development programme. It's a three week program,two weeks is in Indian institute and one week is out
- We also **need to develop the Academic Administrator**.
- NAAC is accreditation regulatory. It has 8 parameters. **Only 39% of the universities are accredited by NAAC. And 20% colleges are accredited**. So how to improve the accreditation, UGC has come up with **Paramarsh scheme**. Any institutes which has 3.5 grade point rating becomes the mentor and these mentors will mentor the 966 institute to improve the facilities which is required for the accreditation. Private institute has lot of hesitation to come forward for accreditation. This program is to create awareness in the institutes. **DIKSHA programme** for students – we have come up with the guidelines for students who take admission in college but are not able to express themselves. Only six days programme which includes physical activity,ethos of institute, governannce. Trained 1000 teachers to transcend how to take up this programmes.
- **AISHA report says 3 lacs vacancies in teaching faculty.** We have asked all education secretaries to make list of institutes with vacancies. Education is in the concurrent list, UGC cannot force on them.
- Open and distance learning programme – UGC has come out with the **open and distance guidelines**. 122 higher education which is running 1532 programmes . Enrolment is increasing 20 lacs students are enrolled. **Regarding the online programme, only two universities has been given approval – IGNOU and Amity.** Quality is main point. Until school education is good which is feeder for higher education, the quality cannot be maintained. Higher education and school education should work together.

4.3.3 **Dr. Manju Vijay, Joint Director, Education Department, Govt. of Rajasthan** presented her points from rajasthan point of view.–

- NCR Alwar and Bharatpur districts.
- On Medical education, there are seven medical colleges in Rajasthan. Medical colleges should be increased at national level.
- In Alwar district Rs.325 crore has been sanctioned with sharing 60:40 basis but would prefer 100% % disbursement of fund.

- Numbers of students are very less at UG and PG level. Faculty should also be improved. Government colleges should be increased. Private colleges are more but it has its own challenges.

4.3.4 **SESSION-IV**-State perspective on Education started with presentation from Mrs Rita Malik G.B.Pant Institute of Technology, New Delhi who presented on Blending science technology and education for climate change adaptations and sustainable development. Key points included:

- Global Concerns Today
  - Mental Pollution
  - Over population
  - Water Scarcity
  - Food Security
  - Energy Conversion
  - Global warming and Climate change
- Sustainable Development
  - Human ethics , science and technology
  - Environment-- preached the preservation of eco-system
  - Social & Moral-- 'Vasudhaev Kutumbakam'
  - The **Ancient education System had four pillars in Gyan (knowledge), Sabhyata (civilization), Dharmikata (righteousness)and Jitendriyata (self control)**
- Root Cause Of Problems
  - Agyan (ignorance)
  - Anyay (injustice)
  - Abhava (deprivation)
  - Aalasya (lethargy)
- Survival Of Human Race
  - **Integration of modern technology with moral values, will lead to modification and optimization for the benefit of masses**
  - The vicissitudes of modern life are making man a weary traveller in life journey on the planet Earth.
  - Need to assimilate all that is best for the benefit of mankind from present-day cutting-edge technologies to Ethics.
  - **Science and technology can offer food and comfort, Ethics gives soul's nourishment and happiness.**
- Conclusions
  - Contributions made by science to the world economy are ongoing and continuous.
  - Contributions have benefited people in developed nation more than those in the developing nations. This has also led to resource crunch ,hunger ,poverty ,climate change ,global warming and energy crisis etc
  - Principle of non-violence, peace, simplicity and universal cooperation can be preached to the future generations along with scientific knowledge right from childhood in the form of moral and human values.

4.3.5 **Dr. N K Pandey**, District Inspector of School, Uttar Pradesh brought out the following important points with respect to State:

- UP government has brought fee regulation act for private school fee to make it accessible for common and low income group people.
- Private school in Primary education has to take 25% students from deprived group.
- Not more than 10% fee should be increased.
- For those schools they don't have good resources.
- In Gautam Budh Nagar, district has eight universities.
- **Uttar Pradesh Private Universities Regulation bill** for Universities to follow the norms such as how many PhDs can be taken up, when can universities organize the exams, Number of students in PG courses etc.

- Uttar Pradesh Govt. has come up with PPP model where industry in CSR should spend 2% for the welfare of the society.
- Industries have adopted 172 schools with a social measure under the social responsibility and have invested in school education so that government schools can come at par with private schools. (e.g. Haldiram has adopted Govt. Girls Inter College (GGIC) school).

4.3.6 Shri A Srinivas, Director General Higher Education, Govt. of Haryana, brought out various key points w.r.t Haryana during his presentation, which included the following:

- Haryana State of Technical Education Board is a statutory self-sustaining body created by an Act of Legislature in the year 2008 for coordinated development of Technical Education in Polytechnics.
- Board lays down guiding principles for determining curricula and syllabi, prescribes and regulates standard requirements, conducts examinations, award certificates to candidates passing final examination, recommend measures to promote physical, moral and social welfare of students.
- **Major Functions include A**ffiliation; Academics; Examination; Certification; Training & Placement
- Haryana Government enacted an Act No. 18 of 2012, "The Haryana Private Technical Educational Institution (Regulation of Admission and Fee) Act, 2012" for regulation of admission and fee for technical courses run by Private Technical Educational Institutions and for the matters connected there
- **Status Of Technical Institutions In State**
  - 1966: Only 04 Govt. Polytechnics, 02 Govt. Aided Polytechnics and only 01 Regional Engineering College at Kurukshetra with an annual intake of only 1341 students. The present status is as under:
    - **04** State Technical Universities – Approx. 5450 intake capacity
    - **101** Engg. Colleges (04 Govt., 08 State Univ. run, 89 Pvt.) - 27960 intake capacity
    - **192** Polytechnics / D. Pharm. Institutions (37 Govt., 04 Aided, 151 Pvt.) -
    - 40570 intake capacity
    - **07** B**.** Arch. Institutions (02 Govt., 5 Pvt.) - 400 intake capacity
    - **52** B. Pharmacy Institutions (07 Govt., 45 Private) – 3350 intake capacity
- **National Level Institutions In State**
  - **Indian Institute of Information Technology (IIIT) Sonepat:**
    - The project is being established by MHRD in PPP Mode on 48 Acres of land at Village Kilohard, Sonepat
    - Capital Cost of project is Rs. 128 Cr. to be shared in ratio of 50:35:15 by Centre Govt., State Govt., Industrial Partner (HSIIDC & Hartron) respectively
    - Guest classes NIT Kurukshetra w.e.f. 2014-15. Classes shifted to TechnoPark, IIT Delhi Extension Campus, Sonepat from 2019-20
  - **Indian Institute of Management, Rohtak:**
    - State Govt. provided 200 Acres of land at Village Sunaria, Rohtak free of cost
    - Project cost has been borne by MHRD, GoI
    - Guest classes at MDU, Rohtak w.e.f. academic Session 2011-12. Classes shifted to permanent campus at Sunaria (Rohtak) from 2018-19
  - **National Institute of Design (NID) Umri, Kurukshetra :**
    - Project is being set-up by Ministry of Commerce & Industry over 20 Acres of land provide by State Govt. free of cost
  - **National Institute of Fashion Technology (NIFT), Panchkula:**
    - Project is being established on 10.45 Acres of land in Sector 23 Panchkula in collaboration with Ministry of Textiles, GoI
  - **Extension Campus (Faculty Development Centre) of the IIT Delhi:**
    - Established at the Rajiv Gandhi Education City, Kundli, District Sonepat over 50 Acres land provided by State Govt. free of cost

- Another campus being established at Badsha District Jhajjar over 50 Acres land provided by State Govt. free of cost

- **Vision/Proposed Plan of Haryana Sub Region**
  - Need to take harmonious steps to bring about necessary structural changes in higher education by 2041 in NCR.
  - **Special attention needs to be paid to Nuh**. There may be a multidisciplinary State university at Nuh by 2041.
  - Requirement of **more Government Colleges in the next 20 years so as to reach out to girls** who shy away from colleges due to long distances and other societal and religious issues. We have a target of 40% GER of Nuh by 2041.
  - **To increase the GER of Karnal, Jind, Panipat and Palwal upto 55% by 2041.**
  - To increase the **GER of Faridabad, Gurugram, Rohtak, Sonipat, Rewari, Jhajjar, Bhiwani and Mahendergarh by 70% by 2041.**
- **Measures to be undertaken to Achieve the Targets**
  - Opening of **more government colleges at Nuh, Rohtak, Sonipat, Panipat, Palwal and Charkhi Dadri by 2041.**
  - To **encourage private players to set up institutions of eminence either through PPP or privately especially at Nuh, Faridabad, Charkhi Dadri, Jind and Rohtak too.**
  - To **establish a Teachers' Training and Faculty Development Institute**.
  - **Upgradation of 5 Government Colleges at Gurugram, Faridabad, Rohtak, Karnal and Jind into Model Colleges.**
  - Creation of **Centres of Excellence in 5 Colleges and 5 Universities**.
  - To **set up Open and Online University.**
  - All classrooms in the existing universities and colleges will be smart and equipped with latest pedagogical tools.
  - **State of the art hostels for students**.
  - **High end courses with learning outcomes to be started in these HEIs.**
  - Center of incubators in Panchkula
- Suggestions which emerged during discussion included:
  - **NIPA's research on the involvement of the teachers in various activities rather than teaching shows that 1/3rd of the time spent on BLO duties. They should be excluded from such duties**.

  - Efforts being made and achieved in involving Corporate Houses in adopting schools need to be result oriented and monitored possibly through apps

  - Role and efforts of having Starup Incubators under the education sector should also be looked into and supported

5 Conclusion:

Hence, it could be concluded that a lot can be done in the Education sector , with emerging technologies in teaching and changing requirements of both students and teaching institutions. NCR needs to adequately take into consideration the related issues and potential of NCR and address all related aspects keeping the future problems as well as potentials, in mind.

NCR could look to have Education Hub as well. The interrelated aspects of Skill development, involvement of Startups and technology, Corporate Houses etc. well as other private sector, deliberated in detail during workshop, should be considered while drafting the sector related policies for the region. The plan for 2041 need to carefully address all aspects, aspirations and requirements , indicated and brought out for the Education sector and thereby take into consideration views of maximum stakeholders as possible.

List of Participants – Workshop on "Education" was held on 03.01.2020

S. No.	Name, Designation and Organisation
54.	Dr. Sandeep Tambe, Asstt. Director, Rehabilitation Council of India
55.	Dr. Ashok Kumar Baghal, Distt. Education Officer, Distt. Palwal (Haryana), Deptt. Education
56.	Prof. Vinay Sharma, IIT, Roorkee
57.	Shri Rajesh Lawaris, SMSA, Alwar, Rajasthan
58.	Shri Gaurav Jain, Admin Officer, AMDA
59.	Shri T. Sobhan Babu, Assistant Commissioner, Navodaya Vidyalaya Samiti, B-15, Institutional Area, NOIDA
60.	Shri Yogesh Kumar Sharma, Block Education Officer, Muzaffarnagar, UP
61.	Shri Krishan Lal Dhawaria, Asst. Director, CDEO, Alwar
62.	Ms. Abha Agarwal, Associate TCP, TCPO, New Delhi
63.	Prof. B. K. Patnaik, Director, SOEDS, IGNOU
64.	Shri Aslup Khan, AEN, SMSA, Alwar
65.	Shri P Selvadurai, Director, AMDA
66.	Shri Rajesh Aggarwal, Joint Director, Tech. Education, Haryana, Panchkula
67.	Shri Mohit Jain, Accounts Officer, AMDA
68.	Ms. Gurpreet Kaur, AD (CBQT), AMDA
69.	Dr. Anamika Singh, Principal DIET, KP, SCERT, Delhi
70.	Shri A. Sreenivas, Director General, Higher Education and Technical Education, Haryana
71.	Dr. Savita Sachdeva, Dean Research, MRIIRS, Faridabad
72.	Shri R K Arora, Registrar, MRIIRS, Faridabad
73.	Shri Sanjay Upadhyay, Principal DIET, Gautam Buddh Nagar, Basic Education, UP
74.	Shri Tejendra Singh, Principal, Govt. High School, Muzaffarnagar
75.	Ms. Rupamanjari Ghosh,, VC, Shiv Nadar University, UP
76.	Shri Surendra Kumar, PGDAV College, University of Delhi
77.	Shri Ravinder Kumar, DEO, Karual Education
78.	Shri Ishwar Prasad, Principal, Govt. Inter College, Bulandshahr (UP)
79.	Ms. Archana Sharma, Associate Planner, NCR, GZB

S. No.	Name, Designation and Organisation
80.	Ms. Rachana Kharwar, Asst. Statistical Officer, NCR, GZB
81.	Prof. Manoj Datta, IIT, Delhi
82.	Shri Hitesh K. Arora, Dy. Secretary, Deptt. Of Tech. Ed., Haryana
83.	Ms. Neelanjali, DD
84.	Dr. Hemant Verma, Dy. Director, Higher Education, Haryana
85.	Shri Totak Acharya, AD (Planning), AMDA
86.	Dr. B. Saha
87.	Shri Suraj Bhan
88.	Prof. Alka Muddgal, Amity University
89.	Shri Sanjay Dabral Block Education Officer (Basic Education), Shamli
90.	Shri Vinod Thukral, Asstt. Director, Dte. of Higher Education, GNCTD
91.	Shri Sardar Singh, DIOS, Shamli, Secondary Education
92.	Prof. Sridhar Srivastava, Dean (Coordination), NCERT
93.	Dr. Ram Murti Meena, DS, NCTE, New Delhi
94.	Dr. Mohammad Zameer, Principal DIET, Rajender Nagar (SCERT Delhi)
95.	Shri Vijay Kumar Bhatia, Chief Executive, KJB, INC
96.	Shri Gaurav Kumar, Legal Advisor, NCRPB
97.	Shri Vijay Prateek, District Science Spcl., O/o DEO, Nuh (Haryana)
98.	Dr. Nahar Singh, Reader, SCERT
99.	Dr. N K Mohanty, NIEPA, New Delhi
100.	Shri Ved Prakash Gupta, Education Officer, Gautam Budh Nagar
101.	Dr. Rita Malik, I/C, HoD, G B Pant Institute of Technology
102.	Dr. Sanjeev Bansal, Dean FMS & Director ABS
103.	Dr. Amit Kr. Pandey, Professor (Associate), ABS
104.	Shri Animesh Kr. Singh, Asstt. Director (Plg.), MPMR Unit, DDA
105.	Prof. Vineeta Sirohi, NIEPA
106.	Shri Ved Prakash, School Inspector (Phy.), EDMC (HQ)
107.	Shri Neeraj Kumar Gupta, SE, BDA, Bulandshahr (UP)
108.	Dr. Vimal Dimpi, Secretary (se…), Dy. Director (Trg), DTTE, Delhi

S. No.	Name, Designation and Organisation
109.	Shri Devender Kr Tyagi, DTTE, Delhi
110.	Dr. N.K. Pandey, DIOS, Govt. of UP
111.	Shri Punit Kr. Yadav, DOE, Delhi
112.	Shri Mukta Soni, Dy. Director of Education, Directorate of Education, Delhi
113.	Dr. Anil Kumar Teoti, Principal DIET, SCERT, Delhi
114.	Ms. Reeta Meena, North DMC, Asst. Town Planner (T.P.Deptt.)
115.	Shri Karamdeep, Asstt. Director (Plg.), DDA
116.	Shri D.K.Sharma, Asstt. Engineer (C), DDA
117.	Shri Pawan Kankran, Estate Dte of Education
118.	Shri Mukesh Mittal, STP (NCR), Jaipur
119.	Shri N T Krishna, Consultant (Plan), Dte of Education, GNCT
120.	Shri Raman Kr. Singh, Urban Planner, NIUA
121.	Smt. Shobha Mishra Ghosh, Asstt. Secretary General, FICCI
122.	Dr. R.K. Gupta, Principal, PGDAV College (Eve.), Nehru Nagar, Delhi-65, University of Delhi
123.	Dr. Vijay, Joint Director, Medical Education Deptt., Govt. of Rajasthan
124.	Ms. Sumedha Jain, Sec Coord- Urban & Built Env. (Urban Designer), NIUA
125.	Shri Albert Qwiredu Effalu, QS, Student, Ghana (Africa), Passport No.G2334759
126.	Dr. Renu Batra, Additional Secretary, UGC
127.	Ms. Priya Thakur, Joint Commissioner, Acad (I/C)

Annexure-I

EDUCATION
Date: 03.01.2020
Venue Silver Oak Hall, IHC, Delhi

S. No.	Topics	Speakers
Session I: : Inaugural Session		
Chair: Prof. Anil D. Sahasrabudhe, Chairman, All India Council for Technical Education (AICTE)		
1.	Welcome Address	Shri Satish Prashar, Chief Regional Planner, National Capital Region Planning Board
2.	Vision for Secondary Education 2041:	Prof. Biswajit Saha, Director, Central Board of Secondary Education (CBSE)
3.	Education – The Enabler of Tomorrow's Greatest NCR 2041	Prof. Anil D. Sahasrabudhe Chairman, All India Council for Technical Education (AICTE)
Tea Break		
Session II: Challenges & Strategies for Education 2041		
Chair: Shri Ankur Gupta, Principal Secretary, Higher Education, Govt. of Haryana		
4.	Perspectives by Govt. Institutions on Challenges & Strategies for Education	Prof. Manoj Datta, IIT Delhi
5.		Prof. Vinay Sharma, Prof Management IIT, Roorkee
6.	Challenges & Strategies for Education by Private Sector Perspective	Dr. Alka Muddgal, Head Amity Institute of Education
7.		Dr. Sarita Sachdeva, Dean, Manav Rachna International Univ.
8.		Smt. Shobha Mishra Ghosh, Asstt. Secretary General, FICCI
9.	Higher Education in NCR-2041	Rupamanjari Ghosh, Vice-Chancellor of Shiv Nadar University, Uttar Pradesh
10.	Challenges & Strategies for Education	Shri Ankur Gupta, Principal Secretary, Higher Education, Govt. of Haryana
Lunch		
Session III: Perspectives for Education in NCR-2041		

S. No.	Topics	Speakers
Chair: Renu Batra, Additional Secretary, University Grants Commission (UGC)		
11.	School Education	Shri Sridhar Srivastava, Dean, National Council of Educational Research and Training (NCERT)
12.	Distance Education Strategies for NCR 2041	Prof. B.K. Patnaik, Director, School of Extension and Development Studies (SOEDS), Indira Gandhi National Open University (IGNOU)
13.	Perspectives for Education in NCR-2041	Dr. Renu Batra, Additional Secretary, University Grants Commission (UGC)
Session IV: States perspective on Education in NCR		
14.	States perspective on Education in NCR	**Govt. of Delhi**: Smt. Rita Malik, HOD, Science and Humanities, GB Pant Technical institute of Technology
15.		**Govt. of Haryana**: A Srinivas, Director General Higher Education, Govt. of Haryana
16.		**Govt. of Rajasthan**: Manju Vijay, Joint Director, Medical Education Department
17.		**Govt. of Uttar Pradesh**: Dr. N K Pandey, District Inspector of School, Uttar Pradesh
18.	Vote of Thanks	Shri Jagdish Parwani, Director (A&F), National Region Planning Board

Workshop Title: Tourism and Heritage

Date: 06.01.20 (Monday)

Venue: Silver Oak Hall, IHC, New Delhi

Brief Minutes of the Stakeholders Workshop on 'Tourism & Heritage' held on 06.01.2020 at India Habitat Centre, for preparation of RP-2041 for NCR

1) Workshop on "Tourism & Heritage" was held on 6th January, 2020 for Preparation of Regional Plan-2041-for NCR at Silver Oak Hall, IHC, New Delhi The workshop was divided into various sessions to cover the major topics under the subject. The list of participants is enclosed.

2) The major topics of discussion included sessions on Strategies for Intangible Cultural Heritage of NCR & to have NCR as Tourism Hub; **Conservation, Conversion & Creation: The 3 Cs of Tourism** : Conservation of Heritage Sites; Conversion of Local Attractions into Iconic Places; Conversion of Local Attractions into Iconic Places; Creation of World Class Tourist Circuits; Creation of World Class Tourist Circuits ; Conservation, Conversion & Creation, **Capturing the Tourism potential for Greatest NCR:** Infrastructural Requirements; Skill Sets; Options for Tourism & Leisure Hubs in NCR; Options for Tourism & Leisure Hubs in NCR; Creation of World Class Tourist Circuits; Capturing the Tourism potential for Greatest NCR & **Tourism, Opportunities & Strategies for 2041- States Perspectives.**

3) The key contributors to the discussions and invitees included Mrs. Meenakshi Sharma, Director General, Ministry of Tourism; Ms. Nirupama Y. Modwel, Principal Director, INTACH; Shri Kamal Vardhan Rao, Chairman, ITDC; Shri Aman Nath, Chairman, Neemrana Hotels; Mrs. Rupinder Brar, Additional DG, Ministry of Tourism ; Ms. Saumi Roy, Delhi Walks, Ms. Bharti Sharma, Asst. Director General, Ministry of Tourism, Ms. Rajni Hasija, Director, Tourism, IRCTC; Shri Kamal Vardhan Rao, Chairman, ITDC; Ms. Nirupama Kotru, Joint Secretary, M/o. Culture; Sh. M.P. Mall, CMD, IRCTC;, Mr. Stanley Massey, Marketing Head, Kingdom of Dreams; Mr. Pronab Sarkar, President, Indian Association of Tour Operators ; Mr. Vipin Bhardwaj, President, Govt. Approved Tourist Guide Associations; and Shri Ashok Khemka, IAS, Principal Secretary, Govt. of Haryana. The list of Speakers is placed at **Annexure-I**.

4) Session wise proceedings/ record of decisions are as under:

4.1 **SESSION-I** was the Inaugural Session chaired by Mrs. Meenakshi Sharma, Director General, Ministry of Tourism.

4.1.1 Ms. Nirupama Y. Modwel, Principal Director, INTACH presented on **Intangible Cultural Heritage of NCR- Strategies for tourism**. Major highlights are as follows:

- Curiosity to know about other places, people, and to learn about their culture is an important motivator for interest in Heritage & Tourism is to be addressed.
- Arrangements should be in place to enable one to experience the places and activities of a city or a region that authentically represent that area, particularly associated with it and its people
- Cultural Heritage in the NCR
    - The evolving concept of **cultural heritage** renders it dynamic, which means it includes not only **ancient monuments and sites but also historic buildings, social spaces, cultural traditions, local narratives and community lifestyles**.
    - People of a city and their cultural heritage are inextricably linked to the present and future of the city. Hence, if a city or region which is somewhat of a 'Tourist

Hub', and is on the path to becoming a 'Smart Tourist Hub', its heritage should not remain static and frozen

- **Culture should be an inherent part of the concept of 'quality of life'**. The cultural needs of a society thus need to be considered along with economic and social aspirations, especially in the context of tourism, tourists and local communities

- Cultural Heritage Matters
  - **Most visited cities or regions in the world are those which are vibrant and have thriving cultural hotspots not just for visitors but for their own citizens**; so to take the *example of London, you would have Classic London, Historic London, Foodie London, Theatre District, Museum Tours, London for Kids, Day Trips out of London, Secret London, Chinese New Year, Walks, Gardens and so on.* On any given day of the year (whether it's winter or summer) one could find something to do, other than the regular attractions.
  - In Malaysia: Branding it as Truly Asia happened after 1999 on the realization that it cannot compete in the global tourism market merely on shopping, beaches and nightlife; hence the **strategy was to celebrate country's pluralism and cultural diversity**. Campaign results (1999-2010) as tracked and reported by Tourism Malaysia and Pacific Asia Travel Association showed quintupled tourism receipts in Malaysian currency and quadrupled tourism arrivals. As they say, **'realizing the brand through harmonious sharing and preserving of our cultural heritage and celebrating multi-ethnic identities, through the arts and culture, has become a norm.'**
  - The **key is to have an year-round calendar of events, & not just places to see**

- Next Steps should be **to have a comprehensive mapping and inventorying of the cultural, historic and natural resources in the NCR** in order to make them accessible & Easily available information on these
- **Cultural Resources of a Place** would include:
  a. Community Cultural Organizations-Ethno-cultural Organizations (Government agencies, NGOs, Zonal Cultural Centres, University research groups), Educational Institutions
  b. Natural Heritage-Regional/National Park Botanical/Zoological Garden, Lakes, Wetlands, Water bodies River, Ocean, Beach Forests, Sacred Groves , Farms & Orchards
  c. Intangible Elements-Stories, Folklore Customs Oral Traditions Religious Ceremonies Cultural Practices Cuisine Local Healing Practices Traditional , Knowledge
  d. Festivals, Fairs and Events- Seasonal Festivals Fairs Religio-cultural events
  e. Built Heritage-Built Heritage Properties Archaeological Sites Local Monuments, Tanks, *Baolis* or Stepwells
  f. Creative Cultural Occupations-Classical & Folk: Musicians Dancers Actors Singers Folk and Tribal artists Craftsmen, Artisans
  g. Creative Cultural Industries-Art & Craft Initiatives Cottage Industries Agriproducts Self Help Groups (SHGs) Theatre companies or Dance troupes
  h. Spaces & Facilities-Theatres Libraries/Archives Art/Craft Centres Museums Village *Chaupals* Other Cultural Spaces Community Centres

- **NCR: A multicultural smorgasbord**
  - A multitude of diverse communities

- Associated oral traditions, cultural practices, festivals and food ways of these communities
- Abundance of built heritage, grand and small scale—spread across a wide geography
- Artists, both folk and classical genres
- Crafts
- Museums and cultural spaces
- Important to identify **the Stakeholders?**
  i) **Government** (including, importantly, local government bodies) - Conservation, Governance, Information portal, Helpline/Emergency, Education, Electricity etc
  ii) **Private** - Infrastructure, Amenities, Philanthropy, Conservation
  iii) **Institutions/Individuals** -Expertise, Domain Knowledge
  iv) **People/communities** – Visitors, Local communities comprising citizens, students, crafts people, artists, performers, guides, other service providers etc

- Boxes to be ticked for Heritage sites to be part of an integrated management process
  - Quality of infrastructure/services - is it world class?
  - Quality of monument/site – is it best conserved or preserved, protected, and showcased?
  - Quality of **intangibles** - are related histories, stories, performances, events etc. available?
  - Quality of **people** – are the people involved knowledgeable, committed and passionate about what they do?

- Communication, Creativity, Knowledge about Heritage site

  - While infrastructure is one part of the puzzle, **training people and communities at the same time is the other essential aspec**t, especially in soft skills of communication, knowledge of local culture, and creative and innovative approaches to building an appealing 'story' of the heritage site or monument

- **Challenges faced during Promotion and Facilitation cultural and heritage site**
  - How is **promotion of the cultural and heritage value of heritage site/monument** happening?
  - How are **livelihoods for local communities** of these sites being generated?
  - How is **employment being created through active involvement of local communities**?
  - Is **tourism being harnessed enough to address local economic imperatives**?
  - Is **local cultural heritage being integrated** in this scheme?
  - Are **local governments and local communities being involved** effectively?
  - Is **expert knowledge and public opinion reflected** in the projects?

- **Some Possibilities to overcome above challenges**
  a) **Skill development initiatives** should ideally factor in development of local creative, cultural skills and occupations around crafts, performance and oral traditions, and be tailored to local needs and context
  b) **Interpretation Centers**: comprehensive information on cultural heritage, history, arts, crafts, and available resources

c) Maps, Brochures and Publications
d) Cultural events in sync with the local heritage and available cultural spaces
e) Certification for heritage hotels, arts and crafts, Yoga and Ayurveda centers
f) Heritage Volunteering training programs for local guides, university students
g) **Theme-based Heritage walks** by locals
h) Arts, crafts and food workshops for locals and visitors
i) Temporary exhibitions showcasing different aspects of local heritage
j) Temporary *Haats* for crafts
k) Food festivals
l) Chance for locals (skilled or non-skilled categories) to be involved in conservation activities
m) Website with all the above information **Technology in Museums**
   - A virtual experiential museum becomes an immersive experience; especially valuable for showcasing living heritage
   - Through Projection mapping, 3D pop-ups using 3D glasses, touch screen walls, holographic installations, transparent screens, 360 views, augmented reality for visual art, bar-code related or scanning apps
   - Example – **The Banaras Virtual Experiential Museum** located in the historic Man Mahal next to Dashashwamedh Ghat where many of these have been used.

4.1.2 Mrs. Meenakshi Sharma, Director General, Ministry of Tourism – presented the views of Ministry of Tourism. Mai highlights of her presentation were:

- Tourism is very local subject and it can be best delivered at the local level. It supports the economy as **10% of GDP comes from this sector**. It is also a major job creator with almost **9% of total jobs being created** from this sector either directly or indirectly.

- Tourism is not affected by recession though pace of growth could be slow. **Recreation is needed when you are under stress, you are happy, have more money or less money.** This sector can grow jobs at different levels. It is a combination of sectors be it flight services, hotels and restaurants or road connectivity
- Heritage and tourism are interlinked and cannot be separated. In India Heritage is inbuilt in our culture. 60% of Foreign travellers and domestic travellers think India as a tourist destination for heritage.
- India is home to 36 world heritage sites. We can have 100 of world heritage sites if we can keep them well as per the guideline of world heritage. There are more than 4000 ASI protected monuments and there are around 10000 of monuments which are state protected or non ASI.
- These sites attract about 12 million foreign travellers to visit India every year, as per studies.
   - **65% of those travellers visits only 05 monuments** even if they are here for 15days. This needs to be looked into and sites need to be properly showcased.
   - Out of 1.4 billion domestic travellers, 60% of the travellers which makes 48% of total travellers visit religious places. **People don't visit religious places for religious purpose but they visit these sites as monuments**. These religious places are not kept well. We **receive less than 1 % of foreign travellers in these religious places across the world** and that should be a concern

- **Link between tourism and heritage has broken**. Ministry of tourism has website to showcase the monuments and heritage sites of India. But people are not aware of it. Countries like Dubai is showing their shopping festival and everybody talks about it. As for Britain , they are very focused what to show but for India, we do not know what to show?
- As **for NCR Region, we can focus based on connectivity, importance of monuments, good hotel stay near by the heritage site**. A common expectation that if a person is staying for 15 days he can plan for his visits. And there should be an experience sharing too.
- Ministry of Tourism aims at **having a tour calendar** for all the tourist spot and heritage site. Like a good walk, an art and Craft Mela
- **Important points to consider for making a tourist spot more visible:**
    - Connectivity information of the tourist spot
    - Historical Information sharing
    - Right kind of accommodation.
    - Experiences sharing of visitor like Jaipur literature festival & Delhi Haat is a good example of art and craft.
    - Tourist cannot be the focus of a tourist spot its the local people who are living around.
    - City should be welcoming
    - Tourist should not treated as an outsider or novelty.
- **Other important points that emerged during discussions include:**
    - Integration between individual destinations is to be looked into in a regional context
    - Accessibility to technology specifically for Heritage and tourism sector is also important
    - separate pilgrimage from heritage because as they are separate concepts
    - **look at exploring technology more for smart heritage and smart tourism**.
    - **Technology cannot be a replacement for a rich feel**. It is a good introduction though
    - we should not disregard the value of the crafts
    - Benefit of both virtual and real is to be reaped as potentials of both have to complement each other in case of Tourism & Heritage

4.2 **Session II** titled **"Conservation, Conversion & Creation: The 3 Cs of Tourism"** was chaired by Shri Kamal Vardhan Rao, Chairman, ITDC. During the session, Mr. M. Nambirajan, Joint Director General, Archaeological Survey of India shared some of his views in context of ASI as follows:

- NCR region has around 250 monuments which centrally protected by ASI. This includes monuments in Delhi and Haryana and all are governed by the Archaeological and Ancient Monument Act 1958. New Delhi has around 73 monuments.
- **A**ll these monuments are preserved with funding from central (ASI) and as well as CSR activity.
    - Tripartite MoU with central government, state government and corporate sector are undertaken.
    - **Major issues being faced by ASI include: :**
        - Repair of existing monuments.
        - Construction within the prohibited area i.e 300 meters from monument site in National monument authority

- In Delhi lot of urban pressure for allowing these project.
- Authorities not considering the provisions laid down in the Act.
- Thickly populated areas lead to difficulties in carrying out any monument repair work.
- Pressure from civics residing around the monuments.
- **Improper or no Approach road for monuments**.
- Corporate sectors not sparing enough CSR funds for monuments.
- Encroachments over a period.
- Pending Court Cases.
- Legalising unauthorised colonies on or around ASI land/ Monuments

4.2.1 Shri Aman Nath, Chairman, Neemrana Hotels**,** shared his views on **Heritage site and its conservation,** which included the following **:**

- The perception of Tourists is the key
- Responsible tourism is not about business or money alone.
- Both Government as well as private sector need to put best foot forward & work in synergy
- Interdepartmental coordination is required in this sector for better results.
- Heritage properties being developed by private sectors also need support from departments, for simple things like signage, hoardings, accessibility etc.
- Haryana also has great potential , in heritage & tourism sector, with public interested in investing and has got good connectivity
- An atmosphere to encourage private players to enter Heritage & tourism sector is required

4.2.2 Mrs. Rupinder Brar, Additional DG, Ministry of Tourism shared her views on **Conversion of local attraction into Iconic places.** Highlights of her presentation are as presented below:

- Planning for urban heritage places and reconciling tourism and sustainable development is important.
- Developing heritage is important not only from economic point of view but also to **have the ownership of our own culture.**
- India's heritage is rich and ancient and it has so much history for world to see and experience. But, a clear Way Forward.. is missing.
- There is need for an Inter-Ministerial Platform but it is difficult to bring all the ministries under one umbrella.
- In Heritage Conservation & Restoration, the role of people is as important as that of Government. Common citizens need to partner in all government initiative.
- In terms of structural things which make these heritage iconic, there is need for
  - proper cleaning of site,
  - universal accessibility.
  - Delhi heritages like Red fort, Qutub Minar are already iconic & need no advertisement.
  - But need to develop world class facilities.
- Huge potential exists in developing heritage and Recrafting heritage
- Challenges faced include:
  - Balancing of how much development is required and how to make it a sustainable model?

- It is not about government or inter-ministerial, but everybody needs to work together.

4.2.3 Ms. Saumi Roy from ' Delhi Walks' also presented her views on **" Conversion of Local Attractions into Iconic Places"**, which included the following:

- Tourism in Delhi has undergone tremendous transformation in recent years and has emerged as a strong and competitive destination.
- At Delhi Walks they create **methodical and engaging experiences for all visitors** to Delhi by conducting **city walks and deliver full spread of culture, cuisine, history and landscape**.
- Vision is to Co-create popular Delhi itineraries into walking tours & Create local employment opportunities to strengthen tourism dynamics and have sustainability
- Approach is to stimulate interest in the city and create a sustainable long-term model that would increase visitor footprints and involve local public to participate in city based tourism activities.
- If doing something that is good for a community or the environment, share that with whomever is interested.

- Things that influences the Delhi bound Traveller include:
  - Consumer has significant confidence in editorial across mediums, hence PR is a powerful tool
  - Identifying, understanding & becoming familiar, enhances consumer choice of vacation destination
  - Concise and consistent style of messages
  - Advertising that is visual, iconic, bespoke creative designed for specific in market consumption
  - Popular culture through music, celebrity and lifestyle

- Challenges & Hindrances in Delhi
  - Issues related to safety & comfort
  - **Limited hours of experiences,**
  - **limited season to experience**
  - Delhi, a diverse city with multiple visiting experiences, but less time to explore
  - Multi-centre trips remain a standard option, **Delhi becomes a touch-down city**
  - **Fly-drive vacation options in the City are not promoted**
  - Time spent in Delhi is limited, does not show the 'real India' perception of a traveller
  - Offering of platforms like Delhi Walks Built around core values (and not infrastructure) include them involving Communities participation and being Neighborhoods driven; being Age and gender sensitive
  - The three key pivots include Commercially dynamic and flexible , Arts and Culture , Integrating the modern with heritage
- Experience of Delhi visit Thematically involves Visit-Let us connect ; Stay-Bridge differences ; Eat-Gastronomy ; Travel-Hop on Hop Off & Retreat-Walk together

- **Learnings from *Delhi Walks,* include:**

- Capitalize on Delhi's unique Culture and heritage, the fact that it is the national capital
- **Establish a 'hook of attraction'** that will attract the target market
- Check styles of point-of-sale materials in market, e.g., online operators, travel publications, retailers etc.
- Do not be a part of the clutter or create the clutter
- Make Delhi easy for sale by informing customers of where and how they can experience
- Upload consumer testimonials from within international markets, actively seek them out with visitors to Delhi or product
- Creating awareness about lesser known Delhi.
- Social Impact Initiatives like Heritage heroes, Monuments Friends and Water Heritage
- Working on Noida, Gurgaon, Jaipur walks

- **Cross Integration for the Tourist Benefit**
  - a perfect platform for cross promotion of Delhi with related Tourism Boards & Government & Non-Government Authorities.
  - Cross integration of content on various social media platforms. Essence of the website is to share with the world the true experience of being in Delhi.
  - Encourage experiential tourism to engage the senses with memorable, hands-on experiences.
  - Connect with region's heritage & character to encourage dialogues between people & sellers.
  - **Approach should be to stimulate interest in the city** and **create a sustainable model that would increase visitor footprints** and **involve local public to participate**.

4.2.4 Ms. Bharti Sharma, Asst. Director General, Ministry of Tourism presented her views on **Swadesh Darshan Scheme of Ministry of Tourism,** under World Class tourism. Her views included:

- Perspective from Government side for creating better environment for visitors, tourist and others across the country as well as in Delhi.
  - Last decade saw significant increase in the number of foreign tourists visiting India.
  - Challenge to cater the needs of Tourist, include:
    - Quality infrastructure and better
    - Sustainable development
    - Awareness about the tourist spots
  - Initiatives from Ministry of Tourism to overcome these challenges:
    - ***Swadesh Darshan and Prashad Scheme:***

    a. Covering pilgrimage and heritage sites.
    b. Idea was to have proper accessibility, better facility in pilgrimage sites.
    c. Address issues of lack of safety and security, accessibility, awareness, cleanliness to provide open space, to make it more organised.
    d. Examples of Swadesh Darshan scheme included:
       - Heritage circuit in Rajkot (showcases life of Gandhiji),
       - Entire illumination of the pink city,Jaipur,
       - Himalaya Circuit,

- Spiritual Circuit in Padma Swami Temple, Kerala,
- Sikh circuit,
- Ramlinga circuit
- North East Circuit,
- Tribal Circuit, Chhattisgarh, and
- Desert Circuit in Rajasthan.
- Andhra Pradesh under coastal circuit with cottages at Kakinada beach then Marina beach in Chennai.
- Sound and light show in Dal lake, Jammu Kashmir.

- ***Sarwashetha Scheme***

a. For Integrated development of Thematic Circuits.
b. 50 thematic circuits across the country. We have Buddha circuit, North East Circuit, Coastal Circuit, Dessert, Himalayan
c. Around 77 ongoing projects
d. Rationale is to showcase rich heritage of India & to increase footfall of tourists to these places.
e. To bring new tourist destinations and experience variety and lengthen their stay.
f. To bring in more private investment Government is focusing on Connectivity, Interpretation Centres, Security, Infrastructure, More Open Spaces, Haats, organising events to keep visitors engaged during evening and night.

- To have sustainable model, all the infrastructure that are developed are using new technology, Bio toilets, less carbon points, and which requires less maintenance.
- Focus is development of ecosystem in & around the site which directly or indirectly helps the local community.
- Development of Iconic Tourists sites.
  - 17 sites are developed across the country including 3 sites in Delhi (i.e Yamuna, Red Fort, Qutub Minar)
  - looking for overall change in experiences for tourist in terms of infrastructure, facilities, branding, events so that when people spend more time while visiting these places
- Development of Infrastructure
  - Developing **special tourist zones with 300 acres of land** parcels based on smart cities models. State government to come up with proposals for public infrastructures, covering proper electricity, water supply, connectivity, and also bring private investment.

4.2.5 Mr. L Ravikumar, General Manager(Tourism), IRCTC presented on **Developing World Class Tourists Places**. Key takeaways from his presentation included :

- Purpose of developing of IRCTC is to promote, professionalise good catering facilities, development of tourism across the country.
- IRCTC has been operating various packages in popular modes of transport be it rail, road, flights packages and river cruise which we have recently started.
- It has major role in promoting destinations focussed by Ministry of Tourism
- IRCTC has Product ranging from budget package i.e. Rs. 900/day to Rs. 75000 / night (Maharaja Express). IRCTC has got, Bharat Darshan (800 capicity, sleeper class), budget train (capacity 170 passengers) & Luxury Train (84 capacity & stay in 4-5 star property)

- Taken over Golden Chariot train from Govt. of Karnataka (Covers destinations of Karnataka starting from Bangalore, Mysore, Hampi) and launching Luxury sector for Southern India Tamil Nadu and Kanyakumari, Tanjavore, Mahabalipuram, Kerala)
- **IRCTC can and will promote NCR for tourism.** We have infrastructure in Delhi and can extend the infrastructure in NCR area too. **After permission from Ministry of Tourism, IRCTC will announce packages of 2nights, 3 nights, 4nights or 5 nights depending on the destinations.**
- IRCTC will also **be promoting Rewari area** - there is a **steam train, a joy ride and Rail museum and Locomotor shed** with the support of Ministry of Tourism. It will also **promote destinations in NCR as a standalone destination apart from circuits.**
- Others aspects that emerged from discussions included:
  - make a one window clearance for heritage and tourism projects
  - issues between perception and actual information

4.2.6 Shri Kamal Vardhan Rao, Chairman, ITDC spoke about **"Conservation, Conversion & Creation"**, and covered following important points;

- Planning particularly in knowledge areas of heritage and tourism has not evolved much. It involves lot of forecasting and imagination.

- Main three aspects we should undergo for, in planning about Heritage:

  - Physical (how to market and promote the monuments),

  - Spatial : the streets around the heritages, gives the antique aura feeling while walking down the ancient streets. Those spatial arrangements can be learnt from these places. E.g. if one visits One sq. km. around Charminar or Golkunda fort, one can understand and feel how rich is our heritage. Similarly, when one moves around the fort of Jhansi Ki Rani, one can get those feel. The spatial thing should be included in the entire urban planning

  - Economic & Social aspects: Historicity includes the society of that Monuments. Monuments and forts do not exist separately. It is the entire society which has to be remembered.

- The modern architecture which is coming up in Kerala they are incorporating kerala historic architecture. Even the government is finishing the building with kerala architecture which existed 400 -500 years back. This will help new generation planners to incorporate these ideas into the planning and replicate it.
- **Problems of encroachments** are to be tackled
- **Responsible Tourism** is very important while you are planning for heritage conservation. In Kerala heritage circuit we have implemented houseboat facility with 5-star hotel facility. With this set up we have engaged local people for entire development activities like for supply of vegetables, laundry, housekeeping etc.
- **Major reason identified by the economists in development of heritage place is not involving the local people has led to unemployment**. Involving local people helps in mitigating the economic unrest.
- Need to understand as to why only Taj Mahal is wonders of world why not Ajanta and Ellora. There are so many things which can be declared as wonders of the world, If you **create facilities in an around the structure**.

- Delhi Walk is doing wonderful work, Bengaluru we were walking in the Mall but in Delhi walking on the footpaths of Khan Market and CP is a wonderful experience.
- Facilities for footpaths when you are planning, plan bigger footpaths than roads. It is very important that **shopping and residential to be separated**. Zoning is very important,
- **Planning should precede development.**
- **Literature should be published for younger generation**. They should know more about the history. There are **no souvenirs of historical sites even for Qutub Minar or Red fort available**

4.3 Session-III was on Capturing the Tourism potential for Greatest NCR. Mr. Vivek Sagar, Head, Development, Skill Council for Tourism & Hospitality highlighted the following aspects during his presentation:

- Total contribution by travel and tourism sector to India's GDP is expected to increase from Rs 15.24 trillion (US$ 234.03 billion) in 2017 to Rs 32.05 trillion (US$ 492.21 billion) in 2028.
- India was ranked 7th among 184 countries in terms of travel & tourism's total contribution to GDP in 2017.
- **Travel and tourism is the third largest foreign exchange earner for India.**
- Foreign Tourist Arrivals (FTAs) increased 5.20 per cent year-on-year to 10.56 million
- As of 2017-18, 81.1 million **people are employed in the tourism sector in India which was 12.38 per cent of total employment in the country**.
- The Government of India has set a **target of 20 million foreign tourist arrivals (FTAs) by 2020** and double the foreign exchange earnings as well.
- **Restaurants are the largest growth area and will account for 78% of total people employed by 2022**. Hotels are aspirational and will employ 17% of the workforce.
- Additionally, **Facilities Management is going to be one of the largest employer with requirement of over 10 million jobs**
- **Tourism & Hospitality Skill council (**THSC) formed in 2014, is autonomous Society by CII, and hence an Industry body created of and for the Industry, to acts as standard Platform to Connect Industry, Government, Skill Partners and Students.
- THSC works under the leadership and ambit of Ministry of Skill Development and Entrepreneurship. Its Vision is to **create a robust industry aligned eco system by promoting Hospitality and tourism sector skill development**, benefitting millions in India to get respectable employment opportunities for serving the customers and other stake holders
- **Sub Sectors of THSC;** include hotels, tourism, food services, facilities management and cruise liners
- **Benefit working/Collaborating with THSC**
  - Apprenticeship Program under NAPS.
  - Students would get Government Recognized Skill Certificate on NSQF level.
  - Industry approved National Standards (Qualification Packs) and Curriculum.

- Placements Opportunity with best in Industry.
- Training of Trainer (TOT) program aligned to Ministry of Skill Development guidelines and certified by NSDC.
- Assessment through Online application with minimum intervention of the Assessor.
- Employees with no certification can get Skill Certified under Recognition of Prior Learning (RPL). **Recognition of Prior Learning**

- **Benefits to Employer / Establishments**
  - Apprenticeship will **reduce attrition rate** as you Train your staff according to your job role.
  - Apprenticeship **reduces your manpower cost** in long run as it gives you better returns.
  - **No ESI / No PF** obligations for keeping apprentices in your establishments.
  - Once Apprentice is trained, their **future manpower** needs will be fulfilled within organisation.
  - Employer will get **25% of prescribed stipend** subject to a maximum of Rs. 1500/- per month per apprentice to all apprentices with the employers. Online submission of reimbursement is available on portal. Also can avail benefits up-to **7500/- for BTP** per apprentice for fresher candidates.
- Achievement of THSC include:
  - Tourism and Hospitality Skills Council was mandated to conduct India Skills competition from 2016 to promote skills in five trades 1) Cooking 2) Confectionery & Patisserie 3) Restaurant 4) Bakery 5) Hotel Reception
  - The aim is to develop young talent as a skill pan India. This is the only platform on a national level for young generation to get exposed to job opportunities and learn skills required in the hotel and restaurant and hospitality industry.

4.3.1 Shri Raj Singh, Tour Guide, Indian Association of Tour Operators presented on role of tour gKey points highlighted included:

- Tour guides are **bridge amongst the place and visitors**, at times two countries and role starts from place of arrival till place of departure.
- Have responsibility to provide safety , security and correct information to tourists.
- Guide narrates the story of the area/ monument to tourist since its earliest history to colonial period to modern India and hence **Promotion of tourist sites** is done
- Today, although it is believed that Guide represents the monuments, but their role is outside the monument too.
- Although, more consideration is on foreign clients/European clients, but our domestic clients are much more demanding, and we have lot of potential there.

- With the new face of tourism that has come Guides, with the help of Ministry of Tourism and Tour operator, bring in lot of revenues. It will be good in future if we can collaborate with each other.
- Issues include:
    - No clear policy for Guides leads to confusions
    - Facilities like ticketing, toilets at the sites,
    - collaboration with the local authorities is missing.
    - Health issues,
    - Naxalite problem,
    - Improper Communication
    - Continuous refresher courses for tour guides required as often, limited to a site and not beyond the site.
    - negligence from tour operator side,
    - preparations are missing,
    - even the guides need lot of upgradation from the overnment of India, Ministry of Tourism.
    - Tour guides are often last concern in Tourism despite being the mouth piece of country
- Expectations **from Government of India, Ministry of Tourism and Tour operator**
    - Avenues of communication from& to concerned government departments/officials as hardly any information reaches the Guides in true sense.
    - Various sites have basic amenities still missing, no hotels
    - Need a policy which gives stage to tour guides.
    - Responsible tourism must come up in near future as even hawkers, bus operators etc. are the people who help in tourism.

4.3.2 Mr. Gaurav Bhati, Sampoorn Jan Kalyan Samiti presented his views on its **Initiative of Developing Village As Tourist Spot**

- Initiative started in 2015 at Bisrakh (30 kms from Delhi in Sector 1 Noida
- Today looking after 39 villages of Gautam Budh Nagar with objective to change India into Bharat and need to reengineer before development.
- **People come here to see how people from different religious are staying together**. But we are losing our culture. **People don't come here to see our high-rise building**.
- Bisrakh being built as a self-sustainable village. It is based on "**Blossam**" a *Bhagidaari* model derived from public private partnership way. It leases build

operate, sells and maintains with the help of various government authorities. The first authority is Greater NOIDA.

- From tourism point of view, it has Potential of transforming into a best tourism village. A self-sustainable village
    - The 60% of total population is in age group of 15-35 years , is the group which can be imparted some skill based training which will help these youth in employment.

- From Heritage point of view, Bisrakh village has story/ history, that name is after Ravan's father sage Bishrawa and it is believed that the octagonal shivlinga present here is the same where Ravana used to worship lord Shiva. The village attracted attention when the ASI unearthed some relics. It comes under Agra circuit. We are The **Building village around heritage site** which has got history of 10,000-year-old Shivlinga.
    - Within the 25 acres of land we are **creating tourism wall**.
    - **creating Bishrawa park**.
    - Creating this village which has got 10000 year old shivlinga, which is of '*treta yug'.* Under Mahabharata circuit, Rs 2 crore has been given for the temple.

- This largest village in Gautam Budh Nagar has household which can be clubbed with tourism. We **can have home stay to create heritage experience**. Tourism department can identify old buildings.

- **Need to amplify our cultures and the way we live** it will give a rich experience to the tourist.

- **Other environment saving initiative:**

    - started campaign against single use of plastic, save water, set up drinking water pods which can check Ph levels, reviving ponds and facilitating set up STPs, setting up meeting area, sports complexes, skill development centre, etc.
    - ***'Khaat pe Baat'*** for sharing experience about tourism.

4.3.3 **Dr. Jitender Singh, Director, PHDCCI** also gave his views regarding Infrastructural requirements for capturing tourism potential of NCR. The same are as follows:

- PHDCCI has a **Tourism Committee** which aims to promote tourism activities in and outside the country and endeavors to organize various tourism conclaves, roadshows and activities in close cooperation with the Ministry of Tourism, Government of India, State Governments and International Tourism Boards based in India.
- Tourism Committee through its various activities endeavours to identify and bring together on one platform those stakeholders and organizations who will eventually benefit from the tourism industry in India.
- Tourism in its various forms like **Heritage**, **Medical**, **Golf**, **MICE**, **Film**, **Luxury**, **Religious**, plays a critical role in the growth of the tourism industry. Our focus has been to join efforts with the tourism stakeholders for developing an integrated approach and promote the tourism industry.
- **Need of Soft Infra Components** for promotion of Heritage Tourism in NCR
    - Human Resource Development

- Hospitality Training and Development
- Community Support
- **Convergence Models** for Intangible features - oral traditions, customs, folk music, literature, festivals
- **Coherent approach involving stakeholders (**Academic and vocational training community ; Tourism/ hospitality industry associations ; Non-governmental organizations , Government entities)

- **Core Areas-**
  - Vocational training and professional education programs
  - Affordability for rural populations
  - Situational analysis
  - Connect the loop – Customer Relationship Management (CRM) tools

4.3.4 Ms. Rajni Hasija, Director (Marketing and Tourism), IRCTC , also presented her views on Tourism in NCR region.

- Delhi NCR spreads around 55,000 sq.km. has innumerable monuments and heritage sites. Out of these 250 sites, **63 are in Haryana, 3 in Rajasthan, 26 in UP and 160 in NCT.**
- Large numbers of monuments are not protected. For example, Bishrakh village it is not protected by state government.
- **GNCT is in process of getting Heritage building act for preservation of old building which are 100 years old**.
- In NCR , IRCT is promoting **Delhi Mega Darshan project**. We carry 1000 people together in **religious circuit Bharat and Astha Darshan**. In **future we may have Bishrakh Circuits** where we are working in the NCR region are:
  - Faridabad, Gurgaon, Mewad circuits.
  - Sonipat -panipat rohtakCircuits.
  - Jhajhar and Rewari circuit
  - Bulandshehar and Gautam buddh circuit
  - Gaziabad and Bagpat circuit
  - Alwar circuit
- **Rewari is where we are running a steam train** running by **oldest (75 year old engine) loco.** (Delhi to Rewari). It is a **joy steam ride available to locals**.
- Destination in the circuit will also be promoted by IRCTC.

4.3.5 Mr. Pronab Sarkar, President, Indian Association of Tour Operators presented his views on operations of tour guide association:

- Tourism being engine for economic growth be treated as economic activity and not luxury. High taxes levied presuming the sector earns more revenue but foreign tourist spend ranges from 5000 USD to just 10 USD per family to visit our country. About 80USDr visa fees is nothing if we compare the entire amount spent in one visit. Neighbouring countries are giving stiff competition by giving free visa and GST is around 6%. GST should be reduced.
- Need free flow of authentic information regarding new policies and new developments that are required and feedback from ground
- Tourism is the only industry which is privately driven leading to Job opportunities created in every nook and corner of the country. No special degree is required. But

the tourism in rural India in every village there is a tourism. Every river having boat is tourism, every mountain and hill is tourism. There is no end to it.

- We **have to project ourselves in a much decent manner**, as perception of tourist regarding India, abroad matters. E-visa has helped but high **GST(28%) and high visa fee are issues**.
- Infrastructure is important. (closing of Jet airways has not helped as, air fare has gone up). Going Bangkok is cheaper with no visa fees, so tourist would often fly to Bankok than to India.
- **Air connectivity is a big hurdle**. But efforts like Spicejet, Vistara getting international licenses, Udaan scheme of GoI where small cities are integrated, are of great help.

- **Major hurdles.**
    - Security and safety issue news goes international.
    - Pollution in northern India.
    - Competing on the segments of **cleanliness**, any tourist wants to visit **clean & hygienic places**. **Hygienic rest room facilities on highways of** international standards
    - **Informative Signages** are big problem, Signage should be proper so that it gives confidence to tourist that he is being taken to right destination.
    - **Bridge the gaps of difference in internationally iconic Sites and those in India in terms treatment of areas around** iconic site of Eiffel tower and Taj Mahal. No beautification done in and around the monuments and tourist spots. Some marshals need to be in place.
    - **Crowd management (**There is footfall of 80,000 people visiting Taj Mahal but 50,000 people waiting outside because we are not able manage the public). Placing of infrastructure like ticket counter, railing is to be done intelligently.

- **Tourism is pleasure, entertainment, enjoyment, relaxing all these combined.** Idea is about seeing the new things, meeting new people. Dissemination of information in the right way. **Satisfied tourist creates positive image bringing in more tourists**. **Tourism leisure hub in NCR region can be thought of.**
- Small countries like UAE who were no completion for India 10 years back, are today surpassing India.
- Focus to be ‘ how to increase the number of days a tourist stay in India, even once it lands here, so that the revenue increases.
- Should have our own entertainment hub which will attract not only foreign tourist but the domestic tourists.
- The effort of Fastags is welcome, but foreign tourist have habit of fast transfers, but speed limits and frequent stoppages even on highways & expressways is a negative aspect.
- Private sector should be encouraged to enter the sector

4.4 Session-IV was dedicated to views of the NCR states on the sector of Tourism & Heritage. The session was chaired by Shri Ashok Khemka, Principal Secretary, Govt. of Haryana. Mr. Banani Bhattacharya, Govt. of Haryana presented the States, covering the following views:

- Haryana : one of most culturally vibrant regions where Punjabi flamboyancy, the Rajasthani variegation and Gangetic serenity blend with one another to give birth to a distinct socio-cultural phenomenon. This **land has been highly praised for being the cradle of civilization**. It bears testimony to the district's glorious past, much of which is quite shrouded in obscurity.
- **Objectives of the Heritage Tourism Policy are to position Tourism as a State priority** and identify it as a growth engine for employment generation. Cultural Heritage is a major economic activity and a catalyst for employment generation and is projected to grow even faster in the 21st Century.
- State aims at harnessing the direct and multiplier effects of tourism in employment generation in an environmentally sustainable manner. The **effort would be to promote untapped areas of Heritage, Ecological, Rural Tourism** in order to promote large scale employment opportunities while protecting environment and culture.
  - Broadly, the policy document attempts to provide constructive value in diverse fields such as to :
    - Promote Heritage tourism as a major engine of economic growth and capitalize potential of sustainable tourism for economic and employment generation.
    - Promote Haryana as a tourist destination to take advantage of the global travel exchange and to develop untapped potential of Haryana.
    - Acknowledge the critical role of private sector in development of tourism with government working as proactive facilitator and catalyst.
    - Enhance the infrastructure of heritage in grass root level i. e. emphasis on local art, craft, ethno archaeological traditions to involve local community, artisans, and professionals.
    - Enhance professional excellence in training human resources and providing infrastructure for Human Resource Development.
    - Developing sustained and effective marketing strategy and plan.

- The Department of Archaeology & Museums, Haryana has an array of sections that sustain and promote the archaeological heritage of Haryana. State protected monuments are being maintained under "The Punjab Ancient Historical Monuments and Archaeological Sites and Remains Act, 1964."
    - Department has 6 plan schemes that include

- **Archaeological Excavation/Exploration Programme**
- **Publication/Publicity Programme** (Site information brochures, Collection catalogues and similar souvenirs that can be used as promotional media and education aids for different groups, plan to publish Atlas of Harappan sites in Haryana, Coffee table book on Heritage Sites in Haryana and research related books that will cater to researchers, tourists, students, educators and academicians alike)
- **Protection/Preservation & Development of Ancient Monuments/Sites**
- **Preparation of Plaster Casts and Antiquities** (objects carefully selected from the collection of artefacts representing the vast history of art of Haryana and replicas are made manually with great skill. Beside this the **replicas are prepared for display in exhibitions and to give to other museums and different DC offices in free of cost**.Department has proposed **creation of Heritage Corners in various Schools** across the State in order to sensitize youth to the Precious Heritage that is irreplaceable**)**
- **Setting up of Archaeological Museum (**ongoing projects include Site *Museum and Interpretation Centre at Rakhigarhi; State Archaeological Museum, Panchkula***)**
- **Setting up of Zonal Museum**

- The Department is also initiating the project to upgrade the Museums under its protection. At present there are six zonal museums namely (a) **Jahaj Kothi, Hisar**; (b) **Jayanti Archaeological Museum, Jind** ; (c) **Guru Tegbahadur Samarak Museum, Barh Khalsa, Rai, Sonepat** ; (d) Guru Govind Singh Martial Art Museum at Kapalmochan, Yamuna Nagar ; (e) **Deen Bandhu Sir Chhotu Ram Smarak Museum, Rohtak** ; (f) **Battle of Panipat Museum, Panipat.**

- Vision for 2041 : ***save our Monuments, save our Culture, save our Heritage.*** This will culminate through establishing Haryana as ***the cradle of Indian Civilization****; e*stablishing Haryana as the *important Tourist destination for Archaeological Heritage.* ; To **setup a *well-equipped organization with sound professional staffs under strong leadership and teamwork.***

4.4.1 Shri Ashok Khemka, Principal Secretary, Govt. of Haryana further added the following points:

- Heritage Tourism started in Haryana in 1970s, with the concept of **highway tourism**, as we have very good amenities alongside the highways. E.g travel from Delhi to Ambala, one finds shops at Murthal Dhaba, which are often frequented by people from Delhi

- Haryana has now **moved from highway tourism to heritage tourism**. **Krishna circuit** is being looked after by Kurukshetra Development Board. (place with circumference of 48 *kose with visitors taking* parikrama of these sites) . Area can be developed as **Mahabharata circuit** as it is the place where epic battle of Mahabharata was fought on the land of Haryana.

- Tourism Department and Department of Archaeology & Museums are into development of **Saraswati river valley civilization** where **paleo channels are visible in satellite imageries** whereas earlier due to tectonic movement river shifted the course. The point is called ***Aadi badri* counterpart of Haridwar**. *Saraswati River* flows from Himalaya to Haryana towards Rajasthan and falls to Arabian sea. It is

believed that sages use to do meditation here and wrote all the four *vedas*. Archaeology excavation are going on alongside of the river and many antique pieces has been excavated and are kept on display in national Museum. *Rakhigarhi* and *Kunal* are two such sites in Haryana.

- For **Development along the heritage sites,** state expects cooperation from Government of India. The farther we move from capital city the more conscious people are of their heritage
- **Accessibility is a problem. Government is planning to build regional connectivity at Hisar which is hub of heritage site.**
- Few more rail Lines are planned in PPP mode with partnership with Indian railways and Government of India. Accessibility would bring more footfalls. Efforts should be made to make NCR region -a tourism hub of Asia.

4.4.2 Ms. Gurjeet Kaur, Additional Director, Tourism, Govt. of Rajasthan presented the views of the state which included the following:

- The Rajasthan is Land of Plenty tourism products Diverse tourism products that offer everything except sea/beaches
  - Colourful Art & Craft o Cultural Fairs & Festivals
  - Delicious Cuisine o Dances & Music
  - Lakes & waterfalls
  - Wildlife: The Tiger, migratory birds
  - Rich built heritage: Forts, Palaces, Temples
  - Luxury Trains
  - Colourful & vibrant desert

- Rajasthan Tourism Scenario
  - Foreign Tourist Visits (2018)- 17.54 Lacs
  - Domestic Tourist Visits (2018)- 502.36 Lacs
  - Share of Trade and Tourism in State GDP- 14.02%
  - Number of classified & unclassified Hotels & PG Houses (as on 31.03.2019)- 3296
  - Number of Total Rooms (as on 31.03.2019)- 65,902
  - New Tourism Projects approved in 2018-19- 167
  - Forts & Palaces-19
- Luxury Train- Palace on Wheels (POW)
- Fairs & Festivals- 13 Internationally known festivals- Pushkar Fair, Desert Festival ,Holi Festival, Kite Festival, Camel Festival
- Time bound
  - **Single Window Clearance** for **Film Shooting** under Rajasthan Film Shooting (Amendment) Regulations, 2016
- Heritage Hotels in Rajasthan
  - **Old palaces converted by owners into Heritage Hotels** as early as later part of 1950's (Rambagh Palace Hotel in Jaipur, Lake Palace in Udaipur and Umaid Bhawan in Jodhpur were the first of these hotels)
  - Conversion of **old Forts, Palaces and Havelis into Heritage Hotels** on a large scale began in 90's . Strengths of Heritage Hotels:

        - Quality accommodation and Royal experience to tourists
        - Theme Wedding Destinations
        - Exotic sets for Film Shooting
        - Every Heritage Hotel is a Unique Experience
        - Ethnic Culinary Experience
    - Diverse Experience – **Safaris, Eco Tourism, Heritage Walks, Local Culture, Traditional Art forms** etc.
    - Marketing - Major Activities
        - Advertising and Media Campaign
            - Preparation of Creative and promotional material - TV Commercials, Radio Jingles, Print / Outdoor ad Creatives, Digital Banners
            - Selection of Media, Preparation of Media Plan and Execution of Media Campaign
            - Release of Advertisements related to Fairs and Festivals through SAMVAD (DIPR)
            - PR and Media Coordination
            - Social Media Promotion
        - Participation in Travel & Tourism related Exhibitions, Marts, Road Shows
            - Each year Deptt. participates in about 40 Domestic and 6 - 7 Overseas Travel Marts
            - Coordination with Trade Associations like IATO, FICCI, CII, HRAR, RATO, ADTOI, IHHA, HAJ, FHTR and others for events such as **Great Indian Travel Bazaar** (GITB), Rajasthan Domestic Travel Mart (RDTM), etc.
    - With respect to NCR part of Rajasthan, a Bharatpur Tourist Circuit covering the bird sanctuary as well, the Siliser lake of Alwar, should be looked inti

4.4.3 Mr. Hemant Kumar Awasthi, Curator, Bharatpur Museum, Rajasthan also gave his views with respect to rajasthan districts of NCR i.e Alwar and Bharatpur. His vies included:

- Bharatpur has 15 monuments and tourists spots out of which 08 has been curated
    - Challenges:
    - Permanent **staff at monuments**.
    - **Proper Connectivity and signages** should be there towards monuments.
    - **Anti-social elements** should be prohibited.
    - **Local administration be responsible for monuments to avoid situations where monuments are used as Dumping site by local municipalities.**
    - Wheelchair **facilities should be there for differently abled people**.
    - **Encroachment** is another major problem.
    - There should not be pollution along with monuments like **dust coming from stone crusher.**

4.4.4 Shri Shiv Pal Singh, MD, UP State Tourism Corporation presented the UP State's perspective. Highlights of his presentation included the following:

- Two very important **rivers Ganga and Yamuna** in the district of UP and they **have lot of cultural value**. They are linked to cultural heritage and ecological and natural beauty. Ganga is lifeline of whole North India while Yamuna is contributing to it.
- This landscape has **protected areas Hastinapur sanctuary and Surajpur wetlands could be areas in UP** NCR where lot of tourist activities can take place.

- Need to have clear rules and regulations for private sector entry into Tourism & Heritage
- Need to have a robust **transport system focussing more on public transport and less on private transport.**

4.4.5 Ms. Manisha Saxena, Secretary, Urban Development, GNCTD , presented her views on Tourism in Delhi. Her views included the following:

- Historic city of Delhi within it has many cities (Qila Rai Pithora. Ramparts of Qila Rai Pithora near the Qutab Minar, Mehrauli with the 72-metre Tower of Victory, the Qutab Minar; Siri Fort; Tughlaqabad with its Tughlaqabad Fort; Firozabad with Firoze's own tomb lying at Hauz-Khas; Shergarh with its . Shergarh Fort & Shajahanabad.
- Delhi has best of hotels. Road network is there. Connectivity is good. Basic infrastructure are available. Delhi is **hub for medical tourism** and it is also **hub for conferences wise tourism**.
- Despite all this, studies indicate that people visit only 5 of the spots at most and spent 4 to 5 days only. Maximum visited spots are Red fort, Qutub Minar or India gate. And third Humayun tomb

- **Challenges** :
  - how does one get people who are coming to Delhi to stay and spend some time, Not just foreign tourists and but domestic tourists as well.
  - Even people who are resident of Delhi have not visited Qutub Minar or Red fort for that matter. So how do we make our domestic tourist to visit lesser known monuments
  - Have 1000-1500 monuments in and around Delhi. Zahaaj Mahal Jharna Mahal has got 1000 years of History, but not getting enough visitors
  - To **create enough itineraries for Delhiites along with neighbouring state** so that they can spend some time during their weekend.

- Delhi Tourism Department is focusing on this aspect by **initiating series of festivals**. Idea is to tell stories of lesser known monuments and create spark so that more people visit these places.
- List of festivals organized include
  - *Mehrauli* as *Phool Walon Ki Sair* it started in18th century during *Mugals t*ime.
  - *Jahaaz mahal* beside beautiful lake *shamshi lake*.
  - In Mehrauli, we have Dargah of Sufi *hazarat kutubdin mukhtyar kakib* ,the first sufi saint who visited the Delhi
  - Mohammad Qutub sahib's dargaah then *Hazrat Roshan chirag* at Chiraag Delhi
  - Dargah of *Hazrat Nizammudidn*.
  - *Mehruli Mansoon festival* which includes cultural program, arts and craft mela and heritage walk. And **Archival walk** which displays many information about
  - *Shahpur Jat festival*, Shahpur is a designer village. It has got lot of boutique.it is a Khilji and Tughlak era places
  - *Hauz Khas festival* is in pipeline
- Other **initiatives** taken up by Delhi Tourism Department are as under:

- To **popularise Neighbourhood monuments** so that neighbourhood community can be benefitted by it.
- To have **food joints with local delicacies**.
- We are also working on **reviving Hop on Hop Off** (HOHO) service.
- Concept of **adoption of monument**. Corporate entity is taking care of one monument and they have interpretation centre.
- **Walk guide for *Mehrauli* and archaeological park**.
- Involving local community in local eateries, old houses are also open for visits as they have collection of little things like coins etc. (similar arrangements existing in old Delhi which is run by few NGOs)
- **Parks and garden are used as cultural programme for raga performances**.
- **"MLA fund for cultural performances"** MLAs has been given a fund of Rs. 25 lakhs to organise cultural programmes of their preferences or as per the desire of the people of respective constituency.
- Delhi Tourism department has **extensively conserved many lesser known monuments which were encroached by local people**.
- In Delhi Archives, a lot of information and photographs of all the famous monuments and lesser known monuments are available. All this information is available on website and can be browsed by any interested person.
- **Mobile based app to be launched soon** where people can have information about any monument, and it will have inbuilt calendar about the events that Tourism department has planned.
- **Darashaw libaray has been conserved** and plans to have archaeological Museum as we have many artifacts to display. Even railway department in Malkhana has many things to display
- **Museum of partition** in line with museum of partition of Amritsar is another project Delhi Tourism is working on.
- **Major initiatives taken by Department of Archaeology, GNCTD regarding conservation of Monuments included:**
    - Baoli at sector 12, Dwarka
    - Tomb & Enclosure Wall (behind Mehrauli Bus Terminus)
    - Azimganj Sarai, Delhi Zoo
    - Gol gumbad
    - Chemical Cleaning at Tomb of MOHD. Quli Khan
    - Bara lao ka gumbad
    - Bijri Khan's Tomb
    - Mutiny Memorial
    - Tomb Lado sarai

5 Conclusion

Hence, it could be concluded that the NCR needs to adequately take into consideration the vast Tourism & Heritage potential of NCR and address all related issues so that NCR can become a Tourist /Heritage Hub of not only India but Asia as well. The interrelated aspects of Skill development, cleanliness, involvement of local community as well as private sector, were deliberated in detail, and should be considered while drafting the sector related policies for the region. The plan for 2041 need to carefully address all aspects that were highlighted

during Regional Plan 2021 review as well as the subsequent workshop and deliberations thereafter, thereby take into consideration views of maximum stakeholders as possible.

List of participants - "Tourism & Heritage" was held on 06.01.2020

S. No.	Name, Designation and Organisation
1.	Dr. J.K.Nayak, Associate Professor, IIT, Roorkee
2.	Shri C P Yadav, Rajasthan Tourism
3.	Dr. Gunjeet Kaur, Addl. Director
4.	Ms. Sunita Meena, Asstt. Director
5.	Shri Anil Rathore, Dy. Director
6.	Shri Hemendra Kumar Avasthi, Curator Govt. Museum, Bharatpur (Rajasthan)
7.	Shri Rudan Singh Meena, Deputy Town Planner, Town Planning Deptt. NCR-Rajasthan
8.	Shri Ravi Kiran Manager, Delhi Tourism & Transport Dev. Corp.
9.	Ms. Manisha Saxena, Secretary, Tourism, Govt. of Delhi
10.	Shri Vijay Pal, PPRO, National Crafts Museum, Pragti Maidan
11.	Dr. Pawan Gupta, Indian Inst. of Tourism & Travel Management (IITTM), Ministry of Tourism, GOI, NOIDA
12.	Shri Mohit Jain, Accounts Officer, AMDA
13.	Shri Banani Bhattacharyya, Dy. Director, Deptt. of Archaeology & Museum, Haryana
14.	Ms. Snigdha Bisht, National Programme Officer, UNESCO
15.	Shri Aditya, Assistant Archaeologist, Archaeological Survey of India, Agra Circle, Agra
16.	Shri D Rama Sarma, Director, National Science Centre, Delhi
17.	Shri P Selvadurai, Director, AMDA
18.	Ms. Kanika Singh, Co-founder, Delhi Heritage Walks
19.	Shri N Ramdas Iyer, Senior Omator, National Science Centre, Delhi
20.	Shri Gaurav Jain, Admin Officer, AMDA
21.	Shri Vikas Maloo, HOO (Archaeology), Deptt. of Archaeology, GNCTD
22.	Shri Raj Singh Taxak, GATGA, Delhi
23.	Shri Sanjay Garg, HOO (Archive), Delhi Archives, GNCTD
24.	Ms. Uttra Das Gupta, Ey. Aerocity, Delhi
25.	Shri Aman Nath, Chairman, Neemrana Hotels

S. No.	Name, Designation and Organisation
26.	Shri Saurabh Vashisth, Zoo Ranger, National Zoological Park, New Delhi
27.	Shri Saurav Yadav, Graphic Designer, India City Walks
28.	Dr. Sudhir Lall, Project Director, Indira Gandhi National Centre for the Arts (IGNCA), New Delhi
29.	Dr. Sonia Sharma, Asstt. Prof., IGNOU, New Delhi
30.	Shri Hemant Sharma, DM-Sales, Balmer Lawri & Co. Ltd.
31.	Dr. Soumi Roy, Delhi Walk
32.	Shri Shrawan Dinchwadkar, Delhi Walk
33.	Shri Narender Kumar, Asstt. Dir. (Tourism), Tourism Deptt., GNCTD
34.	Ms. Neelanjali, DD
35.	Dr. Renu Gupta, AD, Medical Health, Meerut, UP
36.	Shri Gaurav Saini, Dy. Secretary, Deptt. of Tourism, Govt. of NCT of Delhi
37.	Ms. Gurpreet Kaur, AD (CBQT), AMDA
38.	Shri Vijay Kumar Bhatia, Chief Executive, VJB Inc
39.	Shri Jagannath Kashyap, Inc Hastinapur
40.	Shri Varun Saini, Assistant Director (LS), DDA
41.	Shri Arvind Mishra RFO, Divisional Forest Office, GBN
42.	Ms. Malvika Bajaj Saini, INTACH
43.	Shri Rajinder Sharma, Liaison Officer, Haryana Tourism, New Delhi
44.	Shri Rajesh Kumar Sharma, Delhi Tourism & Tpt. Dev. Corp., New Delhi
45.	Ms. Indra Chaudary, CTP (NCR), Rajasthan
46.	Shri Vivek Saggar, Head, Skill Competitions, THSC
47.	Shri Totak Acharya, AD (Planning), AMDA
48.	Ms. Nerupama Y. Modwel, Principal Direcctor, INTACH
49.	Ms. Anshula Menon, Research Asst., NIUA
50.	Dr. Ravi Pandit, Vica President, ITDC
51.	Dr. K K S Deori, Director (C&A), National Museum
52.	Shri Kamal Kant Pant, Principal, IHM, Pusa
53.	Shri Lalit Siwach, IAS, Director, Archeology & M-Haryana

S. No.	Name, Designation and Organisation
54.	Shri S C Gaur, CCP, NCR Cell, UP, Ghaziabad
55.	Shri Sikander Fazal, Forest Department, NOIDA, UP, Okhla Bird Sanctuary, Gautam Budh Nagar
56.	Shri Pramod Kumar Tomar, SEFS/ PWD, GNCTD
57.	Ms. Anju Chaudhary, RTO, Meerut/ Saharanpur Div.
58.	Ms. Meenakshi Pawar, DDA
59.	Ms. Nina Rao, Retd. DU Prof.
60.	Shri Gaurav Bhati, CEO, SJKS.in
61.	Dr. Jyoti Tokes, Curator, National Gallery of Modern Art, Delhi c/o NGMA, Jaipur House, India Gate Circle, New Delhi 110003
62.	Ms. Archana Sharma, Associate Planner, NCR, GZB
63.	Shri Uday Kumar, Computer Operator, NPP, Shamli
64.	Ms. Prerna P. Parida, PMC, M/o Tourism
65.	Shri Ashok Khemka, IAS, Principal Secretary, Deptt. of Archives, Haryana
66.	Ms. Nishi Singh, Planning Assistant, DDA
67.	Shri Jacob Manohar, Associate TCP, TCPO
68.	Shri Rahul Kumar, Dy. Director, CCRT, M/o Culture, GoI
69.	Shri Moolchand, JE Civil, NPP Shamli, Muzaffar Nagar
70.	Shri Pronab Sarkar, President, IATO
71.	Ms. Suchi Gupta, Landscape Architect, DDA
72.	Shri B P Singh, Sr. Manager, GNIDA
73.	Shri Uttam Sinha, Jt. Director, National Gandhi Museum
74.	Shri Rupinder Brar, Addl. DG, M/o Tourism
75.	Shri M. Nambitajun, Jt. DG ASI
76.	Shri N K Pathak, RD (Northern Region), ASI
77.	Dr. L Ravi Kumar, General Manager, IRCTC
78.	Shri G Kamal V Rao, Chairman & Managing Director, ITDC
79.	Shri Shiv Pal Singh, MD, UPSTDC
80.	Shri Rupinder Brar, ADG, M/o Tourism

S. No.	Name, Designation and Organisation
81.	Ms. Shilpi Madnawat, Research Associate, MPMR Unit, DDA
82.	Dr. Venkatesh BG, CMO, EDMC
83.	Ms. Ruchi Gupta, Sr. Coordinator, NIUA
84.	Ms. Sumedha Jain, NIUA
85.	Ms. Deepanshi Singh, Student, Masters of Architectural Conservation
86.	Ms. Ruby Kaushal, Secretary, Delhi Urban Art Commission
87.	Shri S S Dhariwal, MEA
88.	Shri Ashok Kumar, Programmer, DTTDC
89.	Ms. Rajni Hasija, Director, Tourism, IRCTC
90.	Shri Shubhratna, ADG, Culture
91.	Dr. Jatinder Singh, Director, PHDCCI
92.	Ms. Sulagna Ghosh, Dy. Secretary, PHDCCI

Annexure-I

TOURISM & HERITAGE

Date: 06.01.2020

Venue: Silver Oak Hall, IHC, Delhi

S. No.	Topics	Speakers
Session I: Inaugural Session		
Chair: Smt. Meenakshi Sharma, Director General, Ministry of Tourism		
1.	Welcome Address	Shri Satish Prashar, Chief Regional Planner, National Capital Region Planning Board
2.	Intangible Cultural Heritage of NCR-Strategies	Smt. Nirupama Y. Modwel, Principal Director, INTACH
3.	Strategies for Tourism Hub-NCR 2041	Smt. Meenakshi Sharma, Director General, Ministry of Tourism
Tea Break		
Session II: Conservation, Conversion & Creation: The 3 Cs of Tourism		
Chair: Shri Kamal Vardhan Rao, Chairman, India Tourism Development Corporation (ITDC)		
4.	Conservation of Heritage Sites	Shri M Nambirajan, Joint Director General, Archaeological Survey of India
5.	Conservation of Heritage Sites	Shri Aman Nath, Chairman, Neemrana Hotels
6.	Conversion of Local Attractions into Iconic Places	Smt. Rupinder Brar, Additional DG, Ministry of Tourism
7.	Conversion of Local Attractions into Iconic Places	Ms. Saumi Roy, Delhi Walks
8.	Creation of World Class Tourist Circuits	Ms. Bharti Sharma, Asst. Director General, Ministry of Tourism
9.	Creation of World Class Tourist Circuits	Shri L Ravikumar, General Manager, Tourism, Indian Railway Catering And Tourism Corporation Limited
10.	Conservation, Conversion & Creation	Chair: Shri Kamal Vardhan Rao, Chairman, India Tourism Development Corporation (ITDC)

S. No.	Topics	Speakers
Lunch		
Session III: Capturing the Tourism potential for Greatest NCR		
Co-Chair: Dr. Jatinder Singh, Director PHDCCI		
11.	Infrastructural Requirements	Dr. Jatinder Singh, Director PHD CCI
12.	Skill Sets	Shri Vivek Sagar, Head Development Tourism, Hospitality Skill Council
13.	Options for Tourism & Leisure Hubs in NCR	Shri Pronab Sarkar, President, Indian Association of Tour Operators
14.	Options for Tourism & Leisure Hubs in NCR	Shri Raj Singh Taxak, Tourist Guide Association
15.	Creation of World Class Tourist Circuits	Smt Rajni Hasija, Director, Indian Railway Catering And Tourism Corporation Limited
Session IV: Tourism, Opportunities & Strategies for 2041- States Perspectives.		
Chair: Shri Ashok Khemka, Principal Secretary, Govt. of Haryana		
16.	Tourism, Opportunities & Strategies for 2041	**Govt. of NCT Delhi**: Smt Manisha Saxena, Secretary, Tourism
17.		**Govt. of NCT Delhi :** Shri Vikas Maloo, Head of Office, Department of Archelogy
18.		**Govt. of Haryana**: Shri Ashok Khemka, Principal Secretary, Govt. of Haryana
19.		**Govt. of Rajasthan**: Dr Gunjeet Kaur, Add Director, Tourism
20.		**Govt. of Uttar Pradesh**: Shri Shiv Pal Singh, Special Secretary, Tourism Govt. of UP
21.		**Govt. of Uttar Pradesh:** Smt. Anju Chaudhary, Regional Tourism Officer, Meerut, UP
22.	Vote of Thanks	Shri Jagdish Parwani, Director (A&F), National Capital Region Planning Board

Workshop Title: **Economic Growth and Income Generation**

Date: **08.01.20 (Wednesday)**

Venue: **Jacaranda Hall, IHC, New Delhi**

Brief Minutes of the Stakeholders Workshop on 'Economic Growth & Income Generation' held on 08.01.2020 at India Habitat Centre, for preparation of RP-2041 for NCR

1) Workshop on "Economic Growth & Income Generation" was held on 8th January, 2020 for Preparation of Regional Plan-2041-for NCR at Jacaranda Hall, IHC, New Delhi. The workshop was divided into various sessions to cover the major topics under the subject. The list of participants is enclosed.

2) The main topics discussed during the Stakeholder's Workshop includes (i) Economic Growth and Income Generation: The Prime Movers for NCR 2041 (ii) Strategies for Economic Growth (iii) Challenges & Options for Thriving Economy in NCR 2041, and (iv) Perspectives of NCR States.

3) The Workshop had speakers & participants from different Central & State, International Agencies, Practitioners & Consulting Organizations, Industries, Knowledge Institutions, NGOs, etc. Some of the major speakers & participants includes Special Secretary, Ministry of MSME, Govt. of India; Principal Economic Adviser, Department of Economics Affairs, Govt. of India; Economic Advisor, Ministry of Corporate Affairs, Govt. of India; Addl. Director General, Foreign Trade, M/o. Commerce & Industry, Govt. of India; Deputy Director General, Society of Indian Automobile Manufacturers; Shri Rajiv Chawla, Chairman, Integrated Association of Micro, Small and Medium Enterprises of India (IAMSME); Sr. Director, PHDCCI, Director, PwC; Shri Ravi Chauhan, JLL; Dy. Director KVIC; Director, Planning Department, GNCT Delhi; Secretary, Finance, Govt. of Haryana; Senior Regional Manager, RICO; Dy. Director, Economics & Statistical Department, Govt. of U.P., etc. amongst others. The list of Speakers is placed at **Annexure-I**.

4) Session wise proceedings/ record of decisions are as under:

5.1 **SESSION-I** was the Inaugural Session chaired by Shri R.M. Mishra, Special Secretary, Ministry of Micro, Small & Medium Enterprises, Govt. of India.

5.1.1 **Shri Sugata Sen, Deputy Director General, Society of Indian Automobile Manufacturers (SIAM):** Major highlights are as follows:

i) **Overview of Indian Automobile Industry**

a) Turnover : Rs 820,000 Crores (approx.)
b) Exports : USD 27.5 Billion (approx.)
c) Direct Employment: 8.5 million
d) Indirect Employment: 29 million
e) Globally India stand as:
- Largest TWO WHEELER manufacturer
- 2nd Largest BUS manufacturer
- 3rd Largest HEAVY TRUCKS manufacturer
- 4th Largest CAR manufacturer
- 7th Largest COMMERCIAL VEHICLE manufacturer
- Ranked 4th in Production of Vehicles - Global Ranking as per OICA 2018 Statistics

ii) **Growth Potential- Indian Automobile Industry**

a) 2000-01: manufactured around 6,40,000 passenger vehicles
b) 2018-19: exported 676,193 passenger vehicles
c) Almost 100,000 commercial vehicles are also exported
d) India is now the largest two wheeler manufacturer in the world – surpassing China.
e) In 18 years our production of PVs grown by over 6.2 times from around 6,50,000 to over 4,026,000.
f) One of the highest revenue earner for Government – more than 11% contribution to GST
g) Provide support to a large number of India's population – 37 million

iii) **Vision for AMP (Automotive Mission Plan) 2016-26**

a) By 2026, the Indian automotive industry will be among the **top three** of the world in **engineering, manufacture and export** of vehicles and components, and will encompass **safe, efficient and environment friendly** conditions for **affordable mobility of people and transportation of goods** in India comparable with global standards, growing in value to **over 12% of India's GDP,** and generating an additional **65 million jobs**"
b) AMP 2026 envisages a 3 – 3.5x growth in volumes

iv) **Visible Market Trends**

a) Indian automobile industry's growth story continues, slight impact on demand in recent past.
b) Increasing share of utility vehicles in passenger vehicle segment
c) Increasing share of M&HCV in commercial vehicle segment
d) Increasing market for scooters in two-wheeler segment. However, slight drop in sales in 2018-19
e) Increase in penetration of cab aggregators and use of shared mobility services
f) Increasing use of safety features and technology products in vehicles
g) Movement to BS VI emission norms from April 1, 2020
h) Development happening in electric vehicle space, especially electric 2W and electric 3W.

v) **Trend in infrastructure**

a) Development of a better public transportation system
b) Development of road infrastructure
c) Increasing use of railways, inland water ways and coastal shipping for domestic transportation

vi) **Future of Mobility in India**

a) Connected - AIM at Reducing Fatalities, Safer Communication and Addressing Environmental Concerns
b) **Three Step Approach**
   - Study of World Wide Approach (ITS)
   - Formation of National Committee/ Body- Central body
   - Incorporating Inputs of Key Stakeholders (SIAM/ Industry)

c) Three **Working Groups Formed**
   - ITS Capacity-Building and Awareness
   - ITS Institutional and Regulatory Frameworks
   - ITS Standards, Security and Innovation

d) Cleaner- Fuel Cell, BS VI, CAFÉ Norms, Electric Vehicles, HEVs
e) Safer- Safety Standards implemented recently or in implementation
   - Crash Standards
   - Speed Alert system
   - Seat belt reminder
   - Manual override
   - Prohibition of Child Safety Lock
   - Driver Airbag
   - Vehicle reverse gear sensor
   - Emergency button
   - High Security Registration Plate
   - ABS

f) Sustainable - **Cleaner Technology**
   - CNG
   - LPG
   - Hybrid Vehicles
   - Electric Vehicles
   - Electric

g) **Improving Infrastructure - High Speed Trains Development of waterways**
   - **Shared -** Ride sourcing, Ride-Splitting, Micro- transit, Car-sharing, Ridesharing (Carpooling And Vanpooling), Courier Network Services, Bike/ Cycle Sharing, Scooter Sharing, Car-sharing
   - **Electric -**
     - *Central Government Incentive*
     - FAME Benefit based on battery size for
       - electric 2Ws and 3Ws
       - electric, PHEV and strong hybrid commercial vehicles
       - taxi segment in passenger vehicles
     - Lower GST at 12%
     - Charging Infrastructure building
     - *State Government Incentive*
     - NIL or low road tax and registration charges in many states
     - No parking charges
     - Dedicated policy in many states for electric vehicle manufacturing
     - Charging infrastructure and providing electricity at lower rate

vii) **Automobile Industry in NCR**

a) NCR has emerged as a modern hub of automotive industry.

b) Country's largest car manufacturer Maruti Suzuki India chose Gurgaon and Honda set up a car plant in Greater Noida

c) Hero MotoCorp has set its two-wheeler plants in Gurgaon and Manesar, Honda a two-wheeler plant in Tapukhera and Yamaha a two wheeler plant in Greater Noida

d) NCR produces over 30% of the cars and 50% of two-wheelers in India

e) It is unlikely that this share might fall in the near future because of the new and emerging hubs in other states like Gujarat, Maharashtra and Tamil Nadu

f) **Main attraction for auto manufacturers is availability of manpower** – both skilled and shop floor workers has been easily available since the region has large number of engineering colleges with Uttar Pradesh taking the lead

g) Total registered Motor Vehicle in Delhi as on 31st March 2016

- **Transport: Buses**- 43,723; **Taxis**- 91,073; **Light Motor Vehicles**- 198,137
- **Non-Transport: Two-Wheelers**- 6,104,070; **Cars** - 2,986,579

5.1.2 **Shri R.M. Mishra, Special Secretary, Ministry of MSME**. Govt. of India was of the following viewpoints:

i) NCR is a diverse place. Unlike Chandigarh which is homogenous, Delhi is different. There is variety in development of Delhi and it has planned as well as large number of sizable villages within planned areas like Pallangi village in Sarojini Nagar. While envisioning for a longer period, planning should not be focussed on one layer only, rather it should be holistic and integrated.

ii) If possible the time frame of NCR Planning should be considered slightly on hire side to achieve the long terms goals and instead of RP for 2041, it should be for 2051.

iii) Many a time, it is difficult to enforce, if people do not follow the Plan, even after doing lot of exercise. Therefore, different scenarios should be built so that the implementation can be smoother.

iv) Infrastructure is core component in driving the growth. Many a times, small companies, those don't have much space, Common facilities can help in a better way and lead for income generation. Some villages where women can stitch can be formed into group and linked to market. Various such layers should be envisioned.

v) Private sector should be encourage while building public support system. Private sector should participate and collaborate in the projects. Investing everything need not be on public infrastructure alone. There are lot of enterprises who are willing to make contribution and such enterprises should be promoted.

vi) In micro enterprise, there are two parts - one is **livelihood** and second is **services**. Apart from services, it also has manufacturing.

vii) There are many IT companies in NCR. Their presence should be recognised and all necessary support should be thought and planned for these. There are limitation of spaces for expansion. *For example,* 1000 sq. yds. places was provided at Bawana which now cannot be expanded and alternate spaces may has to be provided.

viii) Land-use system and the permission to approve should be automatic.

ix) Regional Plan can strongly recommend that policies for sustained economic growth and inclusive income generation should be adopted by the NCR participating States

5.2 SESSION-II was related to Strategies for Economic Growth in NCR 2041which was chaired by Shri Sajeev Sanyal, Principal Economic Adviser, Department of Economics Affairs, Govt. of India. The brief of the discussions is as under:

5.2.1 **Shri Sajeev Sanyal, Principal Economic Adviser, Department of Economics Affairs,** highlighted the following:

i) **Flexible Plans are the requirement of the hour**. Example: Germany- 30 years ago had one factory of MSI and low rises, but explosive growth which happen due to industry changed the city scape. Despite the growth of internet, cities changed everywhere in the world.

ii) Plan should recognise the reasons due to which people are moving to Delhi from villages. Returns on investments have increased in cities, which lead to gain of some economic value. Even the internet companies do not work in remote areas but only where there is face to face interaction which exists in cities.

iii) Cities infrastructures like shopping mall & other day to day convenience facilities encourage people to migrate and stay in the cities. Activities of people has diversified many folds.

iv) It was suggested that in next 30 years there might not be any requirement of roads as humans may be flying on the drones. However, considering current situations the **walkability & last mile connectivity is a major concern and it should be addressed accordingly**.

v) **While widening the roads creation of walking system should be kept on priority**. It is not about creating footpaths but creating security, safety, over bridges in a hi-tech way. Walking can be very hi-tech activity.

vi) **There are things we need to protect and conserve,** like Heritage buildings, Aravalis, Water Bodies, etc. NCR is a city system and it should be planned inclusively keeping in mind protection & conservation of natural & heritage areas, safety & security, sanitation, etc. As Sabarmati area has now become clean because people use it. Flood plans behind the Red Fort were also used earlier. Similarly, Aravali should also be used. Similarly Damdama lake can be used for creational purpose. Heritage sites even in old Gurgaon can be utilised.

vii) Create spaces for skilling centres. Make sure new spaces for education are connected from urban space around. NCR should be prepared for the world to upscale and reskill life.

viii) Chandigarh is the best planned city in India and Singapore in the world. If we compare what Chandigarh use to look like in 1965 and Chandigarh now, we will find that it is more or less same. But Singapore is different, in 1965 Singapore was so poor. **Singapore is an example of adoption and management of transition**. Lessons should be learned from Singapore and iconic spaces should be created.

ix) The planning have a role to play for continuous adoption of land-use.

5.2.2 **Shri Neeraj Singhal, Vice-President, Indian Industries Association (IIA),** presented the followings:

i) Need / Demand in context of Regional Plan 2041

a) Smart industrial estates must be developed likewise smart cities in NCR. Basic and much-needed amenities like common Effluent Treatment Plants, water pipelines, wastage management system and transportation should be provided, along with labour

houses in smart industrial estates. This model can be replicated for the existing industrial areas of NCR.

b) PNG must be available on cost-effective price in NCR to reduce pollution.

c) Flatted Factory/Complex or industrial land with excess FAR region-wise for NCR.

d) Policy for decentralization of raw material & business in NCR must be incorporated to avoid people rushing to Delhi.

e) Single Window System for all permissions from government must be setup for NCR Zone.

f) Easy Exit Policy for relocation of polluting units from NCR.

g) Policy should be incorporated for encouraging non-polluting projects e.g. Bottling Plants or Water Extraction Plant etc. in the area where water is easily available like nearby Ganga river /canal.

h) New schemes should be rolled out for promotion of MSME and Employment Generation in NCR–

   - One District One Product.
   - Entrepreneurship Development
   - New Skill Development Center at regional and sub-regional level
   - Schemes for Eco-friendly non-polluting industries
   - Incentive schemes for Food Processing Park &IT Park at sub-regional level.

i) Accountable Incubation Centers should be set up for NCR.

j) Special Marketing Areas and centers in the form of Multi Store or Mall should be setup for different products in NCR.

k) New Common Facility Center for MSMEs should be established at regional and sub-regional levels and previously established CFC Centers should be improved so that SME can be benefitted.

l) Loan should be easily available for MSMEs of NCR.

m) The exemptions given to the industries in NCR under various schemes should be given at the time of starting unit/lease deed and linked with bank account.

n) New industrial estates should be developed in undeveloped/ sub-regional areas like Modinagar, Baghpat, Loni, Meerut, etc. so that the people rushing to Ghaziabad & Delhi may be averted.

o) Industrial estates based on agriculture should be setup on agriculture land which can support food processing units. Also, the non-polluting industries migrating from Delhi should be established in sub-regional areas, which has ample land.

p) Planned development should be done around sub-regional areas e.g. Modinagar and planned development be promoted on connecting roads to Meerut, Hapur and Baghpat, etc.

q) Railway station of Partapur, Meerut should be fully developed (as per last RP-2021)

r) Tourism projects must be promoted in sub-region e.g. Hastinapur, Karnal, Shukrtal, Gurugram, Noida, etc.

s) **Regional Secretariat must be set up in NCR for solving NCR's issues**.

t) Facilitation council for MSME in North-East-West-South (NEWS) of NCR.

u) Recycling Plants for Plastic, Waste, Paper, etc. should be established in NCR and policy for safe disposal of old vehicles and waste residue should be incorporated in the Plan.

ii) Aspiration / Expectation of MSMEs for NCR RP-2041

a) GST must be identical for all industries in NCR. An administration should be made for NCR bylaws.

b) Bylaws of building must be identical for NCR.

c) Micro, Small & Cottage Industries in Villages of NCR should be promoted with provision of rebate, less obligations and statutory requirements.

d) As RRTS is going from Delhi to Meerut, it should provide connectivity at regional level as well as at sub-regional level in NCR. If it is laid out with establishment of commercial activity centers / hubs for Small Scale Industries & Residents, this may help growth engine thus generating income & prosperity.

e) **Air Taxi must be started in NCR**.

f) **Regional Exhibition Center** should be established in every sub-region based on local products, with easy commutation and connectivity to Railways, Metro and National Highways.

g) **Warehouses** should be established in every sub-region, based on local products, with easy commutation and connectivity to Railways, Metro and National Highways.

h) **Sub-Region wise Container depot** should be established in NCR, along with it, Freight Corridor should relate to the sub-container depot.

5.2.3 **Shri Mohit Bhasin, Partner, KPMG gave following viewpoints:**

i) Economic Growth & income generation in context with NCR is very complex matter. There are three States and NCT Delhi, having different Governments and more than six crore population.

ii) There are **two elements** i.e. economic activities and social activities which should be kept in mind while planning for such a vast region.

iii) Cyber hub is a place where we can go for food, shopping and it is also an economic hub. *E.g.* Dubai Expo in 2018 has seen 130 million footfall and generated profit of 600 million dollars. Parking is free there. But at Cyber Hub parking is the problem. Planning along with smart execution is needed for such economic hubs.

iv) Planning from the investment perspective is required to be done and for this the DNA/ character of the city is required to be understood. Accordingly, economic and social activities around the economic hubs/ cities should be reinvented/ planner.

v) RP 2041 should incorporate suitable policies to develop tourism sector for economic growth. Also, parking issues should be addressed.

5.2.4 **Dr. S.P. Sharma, Sr. Director, PHDCCI,** highlighted the followings:

i) According to the recent report of world organisation perspective 2018, Delhi is projected to become most populated city.

ii) Role of States have become crucial for overall growth projector of the nation because States have different potential, different strength and weakness. Some States are good in agricultural production.

iii) Growth does not come from the comfort zones. China was at around 26% urbanised in 1980 now China urbanisation is more than 52%. India was also at a similar stage but now unable to grow much in the urbanisation. India have managed to reach only at the level of 32%. **Growth comes from the growth of infrastructure**, hence, NCR should plan for all short of required infrastructure to address future needs.

iv) For income generation for people, state, nation, well synchronized areas should be identified. Sometimes reforms are undertaken at the centre level and states are not implemented. The reforms undertaken by the centre must be implemented at the states and reforms undertaken by the states should be implemented by the districts.

v) **Growth of the food processing sector** – we are agrarian economy but we are able to contribute only 30-40 billion dollar. Dairy products can contribute substantially, next to IT sector. **Land is available in NCR so food parks can be developed here**.

vi) In terms of exports, Delhi is dry hub. There is lot of potential in Punjab and Haryana. Delhi can be a facilitator. Delhi has potential to become innovation centre. Start ups are contributing significantly. There must be more focus on the incubation centres. And substantial concentration is required on the tourism activity. Tourism facilities are not that good in the region, these should be improved.

vii) Modern technology with safety may create income and employment.

5.2.5 **Ms. Swati Aggarwal, Director, PricewaterhouseCoopers Pvt. Ltd (PwC)** presented the followings:

i) India is currently a 5 trillion economy. It includes 10 sectors:

1. Health Care,
2. Education,
3. Financial Services,
4. Agricultural,
5. Manufacturing,
6. Retail,
7. Power,
8. Urbanisation,
9. Digital Connectivity &
10. Physical connectivity.

ii) Current life expectancy is 66 years and if we want to achieve better life expectancy we need additional 3.5 million hospital bed required, additional 3 million doctors.

iii) In traditional approach there is requirement to increase in capacity of power from 245 GW to 700 GW. Transmission & distribution losses has reduced from 24%.

iv) In terms of financial services 4,00,000 new banks branches required in traditional approach.

v) **International experience**

a) Large Infrastructure

- Tokyo and Seoul are investing into large infrastructure projects
- Seoul's Pangyo Techno Valley and Tokyo's planned autonomous public transit system

- Attracted talent and enhanced their residents' quality of life

b) Efficient transport and digital infrastructure

- Key to agility of many European cities, including Munich, Berlin, Copenhagen and Edinburgh.
- In Paris, investment into one of the world's largest infrastructure projects, the Grand Paris cross-city, multi-mode transport network

c) Social infrastructure

- In Amsterdam and Berlin, strong social infrastructure that manages the affordability of real estate and the pace of development is emerging as a critical element
- Cities such as London, Toronto, Sydney, Melbourne and Edinburgh have some of the world's most transparent real estate markets
- Bridging economic inequity among citizens

d) Education infrastructure

- Singapore's robust education system and high levels of government spending on research have established it as a center for high-tech innovation
- It is also home to the regional headquarters of several world-leading technology companies
- Development of talent attracts investment and growth

vi) **NCR is growing at a phenomenal growth rate relative to India and other States.** At the same time its population is exploding, leading to huge stress on its resources.

vii) NCR needs to overcome challenges to sustainable growth and future proof itself to manage and sustain its economic growth momentum.

viii) **Issues related to NCR:**

a) overstressed infrastructure

- Impact is on reduction of overall service quality.
- Observable change is 250% increase in Delhi's peak power demand since 2002
- Delhi facing a potential housing shortage of 20 lakh units
- Avg traffic speed on 13 arterial roads 50% lower than design speed

b) Environmental degradation

- negatively impacted air quality, raising health concerns
- Observable change- According to a 2018 Niti Ayog report, Delhi is among 21 Indian cities that is poised to run out of groundwater by 2020
- Parts of Delhi NCR are categorized hazardous with respect to air quality

c) Affordability concerns

- Impact is Widened economic inequality among citizens
- Observable change is Real estate prices in Delhi NCR have grown at ~11% CAGR
- Almost 15% of Delhi NCR population is still categorized as below poverty line

ix) **Suggestions** - Certain areas would require razor focus to create and sustain economic growth:

a) **Sustainable Infrastructure**- Invest in development of infrastructure capable of adapting to population growth while maintaining high quality of life

b) **Sustainable Environment**- Use of smart technologies to map areas prone to higher degrees environmental degradation to achieve more sustainable urbanization

c) **Social Inclusiveness**- Strategy to allow for more community engagement and equitable redevelopment

d) **Embrace Technology**- Develop strategy to adapt to and leverage changing digital ecosystem led growth

e) **Education**- Leverage educational institutions to develop and attract talent for next wave of digital led growth

f) **Build Circular Economy**- Develop strategy to achieve circular economy led by reuse-recycle-replenish of materials consumed

5.2.6 **Shri Ravi Chauhan, Jones Lang LaSalle (JLL) – *views on Delhi-NCR Brownfield Redevelopment* (*Case Study Discussion) are as under:***

i) **Proactive Redevelopment including:**

a) Rationale
- High-land prices reduce viability of select industrial uses
- Changing market trends introduce new concepts that are not tracked in organized manner
- Reduces pressure on greenfield land in Delhi-NCR that can be used for green zones

b) Potential Districts
- Delhi – Okhla, Badli
- Haryana – Faridabad, Bahadurgarh
- Uttar Pradesh – Ghaziabad, Modinagar, Meerut

c) Select Successful Initiatives
- Phoenix Mills - Mumbai
- Distillery District – Toronto
- Canary Wharf – London

d) Challenges
- Identifying suitable relocation options
- Buy-in of agencies, land owners, employees, residents
- Incentivizing investors
- Financing strategy to help in land conversion/approvals • Transparency and efficiency in implementation • Redevelopment plan for existing districts

e) Local Opportunity
- Out of ~1,30,000 units in Delhi, only ~30,000 part of organized industrial estates (Delhi Master plan 2021)
- High residential population across Delhi-NCR necessitates less polluting and more vibrant uses of land.
- Historical industrial towns such as Faridabad and Ghaziabad have now given way to modern commercial centres in Gurgaon and Noida. Large land parcels lie unutilized/underutilized in these hubs. Faridabad alone has >60 million sqm of industrial land.

ii) **Draft Delhi-NCR Industrial Redevelopment Policy Inputs**

a) Rationale
- Old existing industrial areas/regions acquired and established in 1960-70's → outside municipal limits.

- High growth of civilian pollution in Delhi-NCR in previous 3 decades around such industrial areas → large / medium industries cannot function due to pollution/hazards.
- Rapid increase in land prices with urbanisation → Profit running industrial units have negative net-worth once land prices are capitalized.
- Deteriorating common infrastructure in existing industrial units → need for upgrades.

b) Advantages Social & Infrastructure Improvement

- Better use of such estates more suited to needs of surrounding catchment.
- Slow development on Greenfield areas around Delhi-NCR.
- Monetization of land parcels which have been underutilized/shut for a decade or more.
- Live-work-play environment and more inclusive development with the surrounding districts.
- Increase in employment/entrepreneurship.

c) Commercial Advantage

- Higher revenues for government in the form of transfer fee / conversion charges / property taxes / direct and indirect taxes because of economic activity on unutilized land parcel.
- Efficient financial planning for land owner by utilizing underutilized land plots for alternate uses.

1. **Identification of Land Parcels** *[Only Previously Existing Industrial Land/Estates in Delhi-NCR]*

   a) Large land parcels under non-conforming zones or surplus land within existing industrial units.

   b) Sick/underutilized land parcels for functional industrial units.

   c) Large vacant land within jurisdiction of state industrial development corporation/authority.

2. **Buy-in of Stakeholders** [Demand Led for Existing Land Owner]

   a) Incentives to industries moving from above industrial estates to invest in economic generator.

   b) Alignment of authority and government expectations from social and commercial aspects.

3. **Redevelopment Planning** [Alignment with Sustainable Principles]

   a) Conversion of existing industrial land (change of land use/freehold).

   b) Oversight in implementation to balance concerns of authority and land owner.

   c) Align with framework of sustainable development principles.

4. **Fund Management** [Incentives through Escrow Account]

   a) First stage release in favour of land owner for investing in new industry / shifting to new industrial area.

   b) Partial funds to be released to government / state for redevelopment assistance/conversion.

   c) Balance fund, if any, to be released to land owner after successful establishment of industrial units.

5. **Responsibilities** [Balanced Policy with Stringent Oversight]

   a) Government/ state – facilitate rehabilitation, identify industrial hubs outside city center areas, oversight in implementation.

   b) Land Owner – file relevant applications, identify industrial activity/location for transition, and carry-out redevelopment process.

   c) Acquisition vs Private Sector Partnerships

   - Partner with Land Owner for Redevelopment
     - Potential options and partnerships
     - Running units with surplus land – ensure only surplus land is put to better use
     - Units under non conforming zone – Rehabilitate to new zone
     - Sick units – provide option to provide alternate economic activity
     - Congested areas – provide land pooling options

5.2.7 **Shri Rajiv Chawla, IAMSME highlighted the followings:**

i) The four things having impact on business are **globalisation**, **technology**, **sustainability** & **scalability**. Many businesses have extinct, *for example* Kodak. Any mobile is 1000 times more powerful than the super computers of 1970s. All the gadgets are now not required. Changes are happening very fast.

ii) In case of automobile sector, now the electric vehicle are becoming the priority. Study says that India has 22 cars per 1000 people. If we compare to the BRIC countries, China has 179, Brazil as 360, Russia has more than 300 cars. If we change the fuel from diesel / petrol to electric, in a normal car there are 2000 parts which would become redundant, in electric vehicle/solar vehicle there are only 18 parts. Balance components would not be required. Lot of other industries which are not related will have to be close down. Therefore, alternatives for such industries need to be planned.

iii) 3D printing is another thing which is happening even at homes. You can do 3D print for Jewelleries too. These are the changes industry is looking at. Technology would not replace entrepreneurs but entrepreneurs who use technology will replace entrepreneurs who does not use it.

iv) There are new opportunities that are coming up one of which is defence production, aerospace sector in India.

v) Future of mobility has changed energy efficient products and green technologies, service skilling, etc.

vi) Products for women, millennial, finance and health, these are new age requirements. Fintech, data analysis, artificial intelligence are amongst others.

vii) In NCR only environment friendly business should be allowed like green buildings and green technologies. NCR require entire new age skills.

viii) Change of land-use should be made easier.

5.3 SESSION-III was related to 'Challenges & Options for Thriving Economy in NCR 2041' which was chaired by Shri Hardeep Singh, Addl. Director General, Foreign Trade, M/o. Commerce & Industry. The brief of discussions is as under:

5.3.1 **Shri Ajay Kumar, Director, Khadi & Village Industries Commission** (**KVIC)** highlighted the followings:

i) KVIC is running some good schemes for self-employment and Khadi is a growing sector.

ii) Another part is village industries which is very important component of KVIC. Rs. 20,000 crores turnover from village industries component. It is being decentralized.

iii) Village industries are very much important. KVIC is granting licenses to village industries like rice mill, cotton, and jiggery. Authenticity can be checked on the spot only. This is missing in Delhi because there are limited rural areas. Main policy of KVIC is giving employment.

iv) Skill up-gradation is another aspect being taken care by KVIC. If we are producing at local level involving local people, it will contribute to local economy and in turn preserve thriving economy.

v) Challenges so far is mainly environment, health and migration, this should be tackled. People are looking towards big cities for fortunes. Migration incurs huge cost. **Decentralisation of economic activities** is the answer for it.

vi) **Village tourism is good fundamental things** which is happen. *For Example:* Lohagarh and Pratapgarh promoting/ preserving village tourism. NCR should give villagers the opportunities instead of getting rent revenue, give them tourism revenue.

vii) Villages in NCR should be taken into account. In case of Chandigarh, one can find that villages are maintained in it. It can also be studied that how Chandigarh has preserved their regional infrastructure.

viii) Another issue is Water deficit even though India is geographically rich. **NCR should harvest water in form of rain water harvesting or other way**. Same as the way sunlight is being harnessed into solar.

5.3.2 **Shri Rajesh Rawat, Joint Director, Export Promotion Council for Handicrafts (EPCH)** highlighted the followings:

i) Handicrafts - cluster based activities predominantly hand based. Some machines are also involved. There are about over 70 lakh artisans involved in the production of handicrafts.

ii) India is exporting to tune of 3.28 billion USD. But the share is 1-2% only. Major competition is from China and Vietnam. As far as challenges for the handicraft sector is concerned it is to encourage entrepreneurship in the sector.

iii) There is a lack of networks of industrialists in the field. EPCH is trying very hard to encourage such people.

iv) EPCH is setting up incubation centres to inform that document involved, from where finances are available, etc. in Moradabad. Saharanpur is coming up. EPCH have lot of factories in Noida, Greater Noida and parts of East Delhi. Fair is being organised at Greater Noida. Four exhibitions were organised and business of over 3,000 crores transacted in every exhibition.

v) There is a demand for fashion jewellery and need a plating plant. There is requirement of design centres to exporters.

vi) EPCH also having 3D printing facility which will help proto-type developments. In major reform, there is continuity in that.

vii) As far as skill development is concerned, EPCH created standards.

viii) There is lack of placement. NCR should focus on certain sectors in this regard.

ix) Government is trying to do revamping of entire skilling system. There has to be some sort of convergence with related department.

x) Technology is a very important aspect. China and Italy have mass products which are all machine made items. They hold 1/3rd of the share. We need to have technology innovations in handicrafts sector as well.

xi) Challenge is to produce goods at the faster rate with good design. Sustainability is very important aspect. There is a scheme called Vriksh running for the last 5 years and around 600 exporters are associated with it.

xii) With respect to education, there should be one subject of moral science after nursery and LKG before going to the Class I.

xiii) There is need to have good public transport system, parking spaces and walk from home options.

5.3.3 **Shri Hardeep Singh, Addl. Director General, Foreign Trade, M/o. Commerce & Industry,** highlighted the followings:

i) NCR region is contributed largest in the GDP even more than Mumbai. Now NCR connectivity has enhanced due to KMP and EPE Expressways.
ii) Scheme - *Niryat Bandhu*.
iii) Focus should essentially be on execution and timely execution. This will ultimately ensure economic growth of the region.
iv) For industrial development in region focus needs to be made on the infrastructure.
v) Only few projects in the food processing sector comes to Ministry for grant. We need to have a proper infrastructure in place.
vi) Ministry of Food Processing has lot of schemes for setting up of labs; entrepreneurs should take advantage of it.
vii) **There is lot of scope of tourism in NCR**. Planners should focus on the same. Lot of employment can be generated. We need to introspect with the economy of the region.
viii) Focus should be on employment, skill development, training for the states which are neighbouring like Haryana, UP and Rajasthan. The economic development of the region cannot be seen in isolation. Scrutiny should be done to address that.
ix) Both entrepreneurs and government need to work together to bring out the issues and challenges.

5.4 SESSION-IV was related to 'Perspectives of NCR States' which was chaired by Smt. Sofia Dhaiya, Secretary, Finance, Govt. of Finance. The brief is as under:

5.4.1 **Ms**. **Manju Sahoo, Jt. Director, Planning, GNCT of Delhi - *views on Sustainable economic growth and income generation – Delhi perspective:***

i) **Delhi Economy :Present Trend & its Features**

a) **Rate of Growth of GSDP**: Indicates performance of Economy - Growth Rate of GSDP of Delhi is 8.61% during 2018-19, while it is 6.8% at National Level.
b) **Per Capita Income**: Delhi has highest Per Capita Income in the Country and for the year 2018-19, it is Rs. 365529/- against Rs. 126406/- at National level. Annual rate of growth is more than 12%.
c) Delhi contributes 4% to the National Economy though its population share is only 1.4%
d) Delhi's Economy grew at 8.36% annually in the last 07 years, whereas the same is 7.1 % at All India Level (Base Year 2011)

ii) **Major Contributors & Strength of Delhi's Economic Growth**

a) Delhi is a major trading hub in the Country

b) Delhi scored 100 in the index on SDG 9 : *"Industry Innovation & Infrastructure"* by NITI AAYOG in its SDG India Index 2.0 released on 30th Dec'2019
c) Excellent public Infrastructure & Communication facility for promotion of Business
d) Education Hub and multicultural city
e) Consistent good fiscal health, around 90-95% of GNCTD Budget is financed from its internal resources
f) Service Sector contribution is the highest to Delhi's Economy i.e 84.12 % in 2018-19.
g) **Major contributions** of different service sectors activities to Delhi Economy in 2018-19 as per Advance Estimates: **Professional Services & Real Estate (28%), Transport, storage & Communication (14.70%), Financial Services (13.79%), Trade, hotels & Restaurants (12.44%),** etc.

iii) **Future Perspective 2030: Targets of some Growth Indicators**

a) **Target of Economic Development Indicators**: Annual Growth Rate to increase from 7.54 % in Base Year 2016-17 to 9.85% upto 2030
b) Per Capita Income to consistently Grow Sector at the annual growth rate of 7.95% from present level.
c) Access to Formal Credit to increase to 40 % in 2030 from 4.03 % in 2016-17
d) Share of Formal sector Employment to Total Employment to increase to 50 % in 2030 from 4.25 % in 2016-17
e) Unemployment Rate to decrease to 2.5% in 2030 from the 3.06 % in 2016-17
f) Females in NEET (Not in Education, Employment, or Training -15 to 29 Years) : to be reduced to 20% from present 40%
g) Males in NEET (Not in Education, Employment, or Training -15 to 29 Years) : to be reduced to 2% from present 7%
(as envisaged in draft Delhi Vision 2030 under SDG Framework)

iv) **Challenges for Accelerated Economic Growth**

a) Land as resource, not available with GNCTD
b) Multiple Authorities in the Governance System and lack of convergence in development of future plan
c) Lack of Coordinated planning for city, Metropolitan Area and NCR
d) Incompatibility in regional policies of NCR States and Institutional framework
e) Migration and mushrooming of slums exerting pressure on civic services
f) Unorganized Labor Market

v) **Strategies to Accelerate Economic Growth**

a) **Productivity of the work-force**

➢ *Current Scenario:*

1. High labour productivity in sectors such as electricity, water and gas, finance, real-estate and communications. However, other sectors witness modest to low productivity.
2. Low productivity results in low wages and thus low individual consumption impacting the GSDP negatively,
3. Workforce Participation Rate (WPR) in Delhi has declined continuously through the period 2011-12 to 2015-16. Female WPR in the 15+ years age group is significantly lower than the male WPR.

4. A significant proportion of the work force is employed for long hours but they produce and earn little. Low WPR implies low per capita savings and thus low standards of living.

➢ *Strategies*:

1. Formalization of informal sector activities, to ensure disbursal of benefits to all workers who are eligible for the government's labour welfare programmes.
2. Establishment of Plug and Play manufacturing zones complete with basic infrastructure facilities (power, water, sewage, roads, security) for the in-house industries as well as housing, skill development and healthcare for workers
3. Promotion of females in the workforce by ensuring equal pay for equal work at all levels. Also making work spaces gender sensitive, and including day care centres within these spaces could foster female inclusion.

b) **MSMEs**

➢ *Current Scenario:*

1. The Industrial Policy (2010-2021) underlines preparation of strategies to make Delhi a hub of clean, high technology and skilled economic activities by gradually changing its industrial profile to a high-tech and high-skill one. However, majority of MSMEs are still dependent on low-skill workers in the informal sector,
2. MSME units are growing in number (8.74 lac in 2013 to 9.36 lac in 2016) but employment per unit is declining (3.45 in 2013 to 2.45 during 2013-16),
3. Access to formal credit for MSMEs is very limited and a lot of MSMEs are in the informal sector,
4. A serious fall in demand as many micro-industries cannot cope with the changing consumer preference,
5. Many units close down as they are unable to repay their debts.

➢ *Strategies:*

1. To decrease the cost of production in MSMEs, the government should ensure smooth and constant supply of power and water to these units. Constructing plug and play complexes to accommodate MSMEs could ensure an efficient supply chain for inputs.
2. Ensure the availability and wide disbursal of formal credit to micro enterprises along with credit schemes focused on female entrepreneurs.

c) **Unemployment**

➢ *Current Scenario:*

1. Proportion of the unemployed in Delhi is the highest among youth with school education only (58.7% in 2017). Graduates and Diploma holders constitute to about 29% of the total unemployed population.
2. Around one-fourth (24.4%) of the youth in Delhi are NEET, which in absolute proportions is high. The proportion of NEET females is at 47%, which is almost seven times that of males, which stands at 7% in Delhi.

➢ *Strategies:*

1. World Class Skill Centres, Schools designed with specific curricula to teach crafts like handloom and handicrafts.
2. Push for innovation and entrepreneurship right from the school level,
3. Extending the purview of opportunities for the youth by focusing on industries such as waste-management, tourism etc.
4. To create world class skill centres, schools designed with specific curriculum, so far innovation and entrepreneurship to counter unemployment.

5. Increasing Government Capital Expenditure in total Budget: Mostly in Housing and Infrastructure Development
6. Private Investment be encouraged through PPP Models
7. Government need to automate the Ease of Doing Business processes
8. MSME Sector, Start-ups to be promoted through government Incentives to boost Employment
9. IT , ITES, Tourism, Solar power sectors be promoted
10. Creation of Jobs through industry linked skilling, up-skilling & Re-skilling and apprenticeship programmes
11. Adoption of the Industry 4.0 standard for adopting latest technological advancements for inter-connecting products, value chains and business models. Development of industries that produce key building blocks of industry 4.0 (E.g. smart manufacturing, smart factory, digital sensors, drives, communication systems) could be incentivized.
12. Provide cheap credit and marketing facilities to micro, small and medium enterprises and Start-ups. Provide incentives to female entrepreneurs. Provide incentives to MSMEs for up-skilling, re-skilling of their workers for increasing their productivity, improving working conditions and wages
13. Specialized training courses in technical education programmes on 'smart manufacturing' to address the shortage of high-tech human resources.
14. Promote and accelerate the sustainable development of new industrial manufacturing clusters/ Knowledge Park for boosting employment and income.
15. Simplification of Labour Laws: implementation of Minimum Wages Act, the Government should bring some policy to make mandatory Aadhar based payment to the workers
16. Promote Land Bank for better land management, industrialization and economic growth, and also generate revenues
17. Promotion of Science and Technology Park and establishing industry-academia linkage for furthering application of laboratory findings into commercial propositions
18. Promoting sunrise sectors like fintech, tourism etc.
19. Introduction of Entrepreneurship Curriculum in Education System to produce future entrepreneurs
20. Special University for Skill Development as is done by Delhi
21. Promoting Khadi and Handloom as priority industries to create employment for relatively low-skilled persons. School Uniforms for Govt. and Govt. aided schools could be mandatorily stitched out of Khadi fabric.
22. Linking Khadi and handloom with the fashion and design industry to yield high value and marketability
23. Map existing training and institutional resources to link up with the National Skill Development Mission and the Delhi Skill Development Mission
24. E-waste treatment and recycling plants could be set up side-by-side.
25. Cost-effective and bio-degradable packaging; ensuring last-mile delivery and provision of warehousing support to factories.
26. Promotion of skill based, high technology and non-polluting industries and cluster based approach for MSMEs.

vi) **Way Forward**

a) For inclusive growth & Development, vision of constituent states under Sustainable Development Goals have a definite impact on NCR Economy; mainly SDG 8, SDG-9 directly and Goal 3,4,7 indirectly.
b) Theme of SDG development agenda " No one should be left behind" should be central idea of RP 2041
c) Economic growth should be inclusive, qualitative aligned to uplift the marginalized section in terms of employment, income generation
d) Integrated approach and close coordination among DDA, Local Bodies, NCR States for creating a level playing field
e) Policy prescriptions by NCR States to be convergent and supplement to overall growth and development process in Industrial and infrastructure development s
f) Efforts for combating pollution, solid waste management are the joint responsibility of all the stake holders.
g) RP 2041 to be outcome based and some sort of Mechanism for regular monitoring be done in terms of measurable indicators. Because quality monitoring will give momentum to development process by taking appropriate corrective measures. " What gets measured gets done".

5.4.2 **Mr. M.K. Sardana, Coordinator, BIPP, Haryana – views on Haryana advantage and investment opportunities:**

i) All policies are in place for cost and ease of doing business. Haryana is placed at number 3 as per World Bank ranking. GDP of Haryana is 6%, GSDP is USD 75.3 billion, Growth rate 11.79% and Per capita 2963 USD.
ii) Surrounded by industrial corridors:
   a) Delhi - Mumbai Industrial Corridor (DMIC)
   b) Amritsar Kolkata Industrial Corridor (AKIC)
   c) Kundli-Manesar-Palwal Expressway (KMP)
iii) Strategic factors such as **proximity to market and manufacturing zones** making Haryana an obvious choice to setup Logistics hubs and Warehouses
iv) **Key developments**

1. Panchgram City development across KMP Global Corridor;

a) Government of Haryana to **develop five new cities in an area of 2.5 lac hectares** as part of **'Panchgram' vision**
b) Each city to accommodate on an average **~15-18 lac people**
c) **Core group constituted** to develop these five new cities around Kundli-Manesar- Palwal corridor
d) **Panchgram authority vested with required powers** so as to expedite and fast track the project completion
e) Boundaries of the new cities to be towards Delhi and UP borders
f) Planning of the '**Panchgram**' based on the **trends of rapid urbanization**

2. Global City at Gurugram

a) Located in Delhi NCR as part of the Manesar Urban Development Complex
b) 1000 acres of land in the Haryana sub region of Delhi-Mumbai Industrial Corridor
c) Approx. 30 km from the Indira Gandhi International airport (New Delhi)
d) Proximity to the Delhi-Jaipur rail line, NH-8 and KMP Peripheral road
e) Allowable Built Up Area of 12.17 million Sq mt
f) High Density with Mixed Land use – More than 5 Lakh people turning up at peak, 785 person / acre

g) Dominant manufacturing, and service hub of Gurgaon in proximity
h) Investment Potential – US $ 15 billion (Rs. 1,00,000 crore)
i) Implementation mode- Joint venture of HSIIDC and DMICDC- SPV incorporated DMIC Haryana Global City Project

3. Integrated Multi Modal Logistics Hub

a) To be developed as the largest logistics hub in North India over 1200 acres at Nangal Chaudhary, Narnaul
b) Envisaged Investment of about INR 5000 crore
c) 260 crore fund has been approved by Union Cabinet and it will soon be released to the SPV
d) Has the potential to reduce the goods movement time from 14 days to 14 hours
e) To be implemented as a 50:50 joint venture between HSIIDC and DMICDC/DMIC Trust – DMIC Haryana Multi Modal Logistic Hub Project Limited
f) Site abutting the Delhi Mumbai Dedicated Freight Corridor passing through Haryana

4. Integrated Aviation Hub, Hisar

a) Integrated Aviation Hub is being developed over 4200 acres of land
b) Six Lane Controlled access Highway from Delhi to Hisar
c) Rapid Rail Connectivity is under construction (to be extended up to Airport)
d) MoU signed with Spice Jet
e) Great opportunities for logistics sector
f) **Phase I-** Regional Connectivity Scheme (RCS) Airport inaugurated on 15th August 2018 and MoU signed with Spice Jet
g) **Phase II-** 9000 ft. airstrip and 3 hangars to be developed and Fixed base operations (FBO) and MRO Hub
h) **Phase III**- International Airport and Aviation University & Training Centre and Aerospace Manufacturing

5. Connectivity Augmentation: extending opportunities beyond Gurugram

a) Metro connectivity between Faridabad & Gurugram
    - Route Length 30.38 km (Elevated)
    - Number of Station: 07 (Elevated)
    - Expected Date of Completion: 31 March 2021
b) Metro connectivity between Narela to Kundli
    - Route Length : 4.86 km
    - Number of Station: 03
    - Expected Date of Completion: 31 March 2021
c) Metro connectivity between HUDA City Centre to Sector – 21, Dwarka
    - Route Length 11.96 km
    - Number of Station: 07
    - Expected Date of Completion: 31 March 2021

5.4.3 **Ms**. **Sophia, Secretary, Finance, Govt of Haryana**:

i) Two things that we need to do.
    a) First is to move away from the traditional and have a paradigm shift in way we plan and move forward in economic growth.
    b) To integrate behavioural aspect and social aspect with economic growth.

ii) Haryana is important contributor to NCR and the entire country. As per FY 2018-19 report, it contributes around 3.32% to the GDP of the country.
iii) Haryana is third in ease of doing business and doing pretty well on economic front. *For example,* Gurugram which is the original hub of the automobile industry of the country since Maruti 800 launch. Gurugram is now Transitioning into IT hub.
iv) Need to integrate on social part.
v) Government of Haryana has followed Macro approach:
    a) Focus on fiscal reforms and digitisation.
    b) Pre-budget sessions with stakeholder for discussion on budgetary reforms.
    c) Trying to build an accurate database which will be linked to the services that are to be delivered to the public in a most efficient manner.
    d) Chief minister's good governance association which is in charge of implementing specific reforms in a particular district.
    e) Generally most government schemes are working for BPL. On the same line government of Haryana has initiated new scheme. This is an example of paradigm shift in Haryana.
    f) Govt. of Haryana has tried to bring social security in delivering of our scheme which is called Mukhyamantri Parivar Samridhi Yojana. Pension and Insurance to the beneficiaries who are below the poverty line. It is being integrated with the central schme Jeevan jyoti suraksha yojna ,Jeevan jyoti bima yojna. In Mukhyamantri parivar samridhi yojna,unlike central scheme government of Haryana is contributing the beneficiary's share.

vi) Focus area for Haryana:
    a) Important factor - social parameters. **Govt. of Haryana is not great on social part as we are on economic part**. Sex ratio in Haryana is poor which was below 800. Only in last five years Haryana has improved on sex ratio. Need to see through Gender lens of economic growth and how to move forward.
    b) Haryana need to mainstream the women empowerment. But in Haryana even though the sex ratio is bad but women are contributing a lot to the economy. Primarily their contribution is in the field of agriculture.
    c) With improvement in social status of women along with the literacy rate they have started going out in the job market especially middle class. But there are still lot of constraints for women which we have to factor in. **Study by UNDP shows that women hesitate to take up better job outside their district even if the remunerations are good. Reason is mobility and security**. There should be handholding support by the employer.

vii) MSME **sector in Haryana –**
    a) As per the report, there are more than 1 lakh registered MSMEs contributing to about 20,000 crore of investment and providing employment to 10 lakhs of people.
    b) The problem is ease of business, conducive eco-system for growth, statutory flexibility and land-use that is what planning side need to look deeply.
    c) People are now becoming more and more enterprising, but capacity levels are not good especially in legal side and taxation side. For example, GST, lot of small traders had to face day to day problem while adopting GST.
    d) The Time period, we need to look and plan for 50 years rather than 20 years. In the developed countries, they plan for 50-100 year even though their population has stabilised.

5.4.4 **Mr. Aditya Sharma, Regional Manager, RIICO, Rajasthan** – views on Opportunities for Investment in Rajasthan:

i) Rajasthan's sub-region forms 25% of the total NCR. Rajasthan has second largest rail route, 3rd largest in national highways, 7 airports, multi-model logistics park in Neemrana, producer of zinc, largest producer of marble / granite, second largest producing state mineral and crude

oil, highest potential for solar energy, 2nd largest producer of milk, one of the most preferred tourist destination.

ii) GAIL gas grid is going through many districts of Rajasthan and there are more proposed lines as well. Various sectors that can use gas as a primary fuel.

iii) Skilled manpower
   a) National level awards for Skilling Initiatives 3 years in a row
   b) Emerging National Hub - Higher Education Highest number of Universities (83)
   c) Only State with 2 dedicated Skill Universities
   d) Around 1/3rd of Chartered and Cost Accountants in India from Rajasthan
   e) 1909 ITIs, 152 Polytechnics and 117 Engineering colleges in the State

iv) Effective Governance
   a) Allowing entrepreneurs to start their businesses by filling self-declaration form
   b) Exemption from inspections from various departments for first 3 years
   c) Clearly defined land allotment processes
   d) All requisite business clearances granted online in defined time
   e) Peaceful labour relations
   f) Excellent Law & Order situation across the State
   g) As per DIPP, Govt. of India, 2017- Rajasthan among top States in India in'Ease of Doing Business' Reforms, 2017 with an implementation score of 95.70%
   h) As per SKOCH Awards, 2017- Single Window won SKOCH Smart e-Governance Award in Gold Category

v) RIICO Infrastructure
   a) **Robust infrastructure:** Roads, storm water drainage, electricity network and streetlights, water supply, dumping yards etc.
   b) All **environmental clearances (ECs) acquired** with due care as per the Central and State Government Regulations.
   c) **Holistic development of industry** with supporting commercial, social, institutional and residential infrastructure (in a few places).

vi) E-Auction
   a) Plots in RIICO Industrial areas are sold through E-Auction.
   b) For Online Participation in e-auction, bidder can view the advertisement as well as the relevant information published in Print Media / Website of RIICO.
   c) The registered bidder shall also be required to upload requisite KYC documents and fill the project profile in Project Profile Form, the bidder can also download the project profile form and after filling, he can upload the same.

vii) Potential Sectors for Investment
   a) **Resource based -** Mines & Minerals; Petrochemicals; Food Processing; IT / ITeS
   b) **Market based (Rajasthan and north India) -** Textile & Apparels; Auto, ESDM; Leather & Footwear; Pharmaceuticals
   c) **Geography based –** Logistics, Solar and Tourism
   d) **Others -** Gems and Jewelry, Defence and Chemical

viii) **Enabling Policy Framework**
   - Rajasthan Investment Promotion Scheme - 2014
   - Rajasthan Solar Energy Policy, 2014
   - MSME Policy 2015
   - Mineral Policy 2015
   - Rajasthan MSME (Facilitation Of Establishment And Operation) Act 2019

- Start Up Policy 2015
- Tourism Unit Policy 2015
- Bio-Technology Policy 2015
- E-Governance, IT & ITES Policy 2015

ix) **Way Forward**

- Industrial Policy, 2019
- Integrated Industrial Zone around Petrochemical Refinery
- Rajasthan Investment Promotion Scheme, 2019
- Flatted Factory Complexes
- PPP mode Industrial Parks
- EV Policy

5.4.5 **Dr. Shoaib Ahmad, Dy. Director, Director of economics & statistics U.P:**

i) Uttar Pradesh - 7 districts out of 75 in NCR.
ii) Meerut - all types of musical instruments and sports goods are manufactured. Recently introduced pink ball in cricket is also made in Meerut.
iii) To connect Meerut with Delhi work of Rapid train project has started. However there are certain issues within the city of Meerut like:
   a) No parking spaces
   b) No traffic system
   c) Infrastructure issues
   d) Drainages are uncovered
iv) Way Forward
a) Cities which are proposed to be connected in NCR, the entire district should be included.
b) Projects are planned without giving much thought about the background of the project as to whether it will remain active in future or not. *For example*, when we propose to convert any state road into National Highway the best thing that we do is cutting down of trees on both the sides. Though these trees were there from past 60-70 years. Suggestion is why can't we keep the trees intact and make the lane adjacent to tree covering area.
c) There are 22 cars per 1000 persons in India. It is suggested that the development in NCR should not be compared with car. The indicators of measuring development should be defined for NCR-2041.

5.4.6 Shri **Anand Singh Bhal, Sr. Economic Adviser, Department for Promotion of Industry and Internal Trade:**

i) Planning is an evolving process. In the entire planning process the importance of measuring data should be understood and sanctity of data process should be taken care.
ii) Suggestions for Regional Plan-2041:
   a) Reinforce the data collection everywhere.
   b) The chain is as important as its weakest link.
   c) Data Authenticity is important.
   d) We collect lot of data from WPI, which is not as strong as it used to be.

5.4.7 **Ms. Nandita Mishra, Economic Advisor, Ministry of Corporate Affairs***:*

i) Increasing number of cars is not a solution. How we move people is the theme? Plan need to include dreams of the most vulnerable people. *Jodhpur university example – 40 km. from the city and they do not get faculty and the example of London school of economics University*. Issues related to infrastructure gap especially regarding safe, reliable and faster transport network should be addressed in case of NCR.
ii) How to develop iconic spaces in cities? If we can develop Yamuna river front, Aravali could also be developed.

iii) On sustainable infrastructure, how GDP could be enhanced. On the number of field development, how we can re-create. Fund management through Escrow mechanism. Challenges to achieve thriving economy should be identified and well addressed. The infrastructure outcome, tourism and Handicraft centre, expo-centre at GNIDA, etc. should be integrated in overall development along with the perspective from the NCR States.

iv) Data is the new oil. India has emerged as major global centre. Be it women, finances, entrepreneurship, India is now one of the fastest growing economy in the world. A good data repository would be an advantage for NCR long term planning.

v) Enormous GDP contribution from NCR. Ministry of Corporate Affairs has focussed towards promoting sustainable business and inclusive growth. The new Companies Act 2013 was implemented in view to keep the present corporate scenarios which include corporate governance and responsibility to respect environment and society.

vi) Apart from Company Acts, Ministry also introduced insolvency and bankruptcy code. This protects the interest of creditors and respects their rights over the dues. Ministry is also continuously working towards promoting business and to be responsible and recently Ministry released national guidelines on respectable business conduct. Initiatives are bringing about greater transparency in corporate to enhance safe land marked initiative.

vii) India has improved from 77 rank in the world bank. India has improved in ease of doing business. There has been continuous improvement. In 2019 recovery rate of defaulted debt has increased to 26.5 % to 71.6% in current year. Time taken has also improved4.3 years to 1.6 years.

- **Initiatives by the Ministry Of Corporate Affairs**

viii) Introduction of forms which called integrated incorporation form, we have simplified proforma for 8 different services into a single form, it is called SPICE form.

ix) Decriminalisation of technical and procedural violation under companies act was implemented which reduces the burden. It is implemented by shifting 16 offences into monetary penalty.

x) Government re-engineering by introducing RUN- reserve unique name which is a web service for the Re engineering process, name of companies private limited, allotment of DIN-director identification number, zero MCA fee for turnover of 15lacs.

xi) Competition Commission of India they have automatic system of approval. Govt. has set up central registration centre at the Indian Institute of Corporate Affairs at Manesar. 16 ROCs have been centralized. The first national CSR awards were instituted selecting companies for their outstanding contribution to CSR. Ministry has started a module for GST.

6 Conclusions

Suitable economic & fiscal policies and strategies should be evolved to accelerate economic development of NCR. Cross-regional and sub-region specific actions should be incorporated in the Regional Plan. NCR Economy should be seen in a regional context bridging the imbalance within and outside the central NCR and the reaming portion with a particular reference to the role of housing (FSI, Low income and institutional development including education & health sector), corridor development, agricultural productivity and marketing facilities. Policies & strategies for cohesion of potential economic sectors like housing, real estate sector, corridor development, cluster development, informal sector, etc. should be

adopted to generate income, employment, affordable housing etc. especially to address the need of economically backward/ informal sector households.

Logistics hubs, circular economy, Industrial clusters & potential sectors (like automobile, MSMEs, etc.), Tourism, IT & ITES, Food processing, warehousing, etc. can be considered as priority sectors for economic growth & income generation. Additionally, skill development initiatives would enhance the economic capacity of NCR. Also, effective implementation and convergence of various initiatives & policies of the Central Govt. and of the NCR State Govt. may yield good economic results for NCR. NCR Regional Plan should act as a road map for economy development & growth for 2041.

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List of participants - "Economic Growth & Income Generation" was held on 08.01.2020

S. No.	Name, Designation and Organisation
1.	Shri Kamla Prasad, Dy. Commissioner (Admn.) Commercial Tax, Muzzaffarnagar, UP
2.	Shri Veerendra Singh Bankawal, Commissioner, DMIC, Rajasthan
3.	Shri Manvendra Singh, Jt. Director, DC Office, Bharatpur
4.	Shri Kunapal Sen Sharma, Economics Advisor, D/o Promotion of Industry & Internal Trade, Govt. of India
5.	Shri Devendra Domale, Research Fellow, NIPFP
6.	Shri A K Saxena, Sr. Regional Manager, RIICO, Bhiwadi-I
7.	Shri Man Singh Soni, Dy. Director, Deptt. of Economics, Statistics Bharatpur (Rajasthan)
8.	Shri Debarpita Roy, Fellow, ICRIER
9.	Shri Mohit Jain, Accounts Officer, AMDA
10.	Shri Rishi Kumar Sharma, JE, BBKDA, Baghpat
11.	Shri Abhishek Mehra, EO, CII
12.	Shri Umesh Kumawat, Dy. Director, M/o Statistics & PI
13.	Shri Gaurav Rajpal, DGM/Systems/HRIDC, HRIDC
14.	Shri T R Gupta, C/o FIMI, Okhla, N. Delhi
15.	Ms. Swati Agarwal, Director, PwC
16.	Shri Viresh Goel, General Manager (LT), RITES Ltd.
17.	Ms. Gurpreet Kaur, AD (CBQT), AMDA
18.	Shri S. Sen, SIAM, DDG
19.	Shri Vinayak Sharma, DSTO, Hapur
20.	Shri Rajeev Srivastava, Asstt. Director, Directorate of Economics & Statistics, Rajasthan
21.	Ms. Sofia Dahiya, Secretary (Fin.), Govt. of Haryana
22.	Shri Gaurav Jain, Admin Officer, AMDA
23.	Shri Himanshu Gautam, Dy. Manager, Delhi Financial Corporation
24.	Shri Tushar Anand, Research Fellow, National Institute of Public Finance & Policy, New Delhi

S. No.	Name, Designation and Organisation
25.	Shri Basu Dev Thakur, Sr. Executive Officer, Indian Machine Tools Manufacturers Association
26.	Shri Aditya Kumar Sharma, Senior Regional Manager, RIICO Ltd., Alwar
27.	Shri Ajit Singh, ACTO, O/o Dy. ETC (ST) Snp.
28.	Shri Vijay Kumar Bhatia, Chief Executive VJB, Inc
29.	Shri K. Srinivasan, Secy. Gen. AMAI
30.	Shri Shiv Tej Singh, Distt. Statistical Officer, Bhiwani
31.	Shri P Selvadurai, Director, AMDA
32.	Shri Rakesh Kumar, Advisor , CCI
33.	Shri K K Dhawan, Manager, DFC
34.	Shri S S Shukla, Jt. Development Commissioner, NSEZ NOIDA (D/o Commerce)
35.	Shri M V Rao, AGM, PNB, HO New Delhi
36.	Shri Manoj Panda, IEG, Delhi
37.	Ms. Nandita Mishra, EA, M/o Corporate Affairs, 8th floor, Lok Nayak Bhawan, New Delhi
38.	Shri Aayush K., ASSOCHAM
39.	Ms. Sonal Jaitly, SIDBI
40.	Ms. Manju Sahu, Jt. Director, Plng. Deptt., GNCTD
41.	Shri R M Mishra, Spl. Secretary, Min. of Micro Small & Medium Enterprises
42.	Ms. Anjali Pancholy, Associate TCP, TCPO
43.	Shri Nikhil Raj, Theme Leader-M&E, PSIG-SIDBI
44.	Shri Gaurav Sahdev, Deloitte India
45.	Ms. Archana Sharma, Associate Planner, NCR, GZB
46.	Ms. Rachana Kharwar, ASO, NCR
47.	Shri M K Sardana, Coordinator, BIPP, Haryana
48.	Shri B. Ramesh, Section Officer, Industries Deptt., GNCTD
49.	Shri V. Srikanth, Jt. Director, M/o Labour & Employment, GoI, New Delhi
50.	Shri Totak Acharya, AD (Planning), AMDA
51.	Shri Vinod Kumar, Dy. Com. (INDS), GNCTD

S. No.	Name, Designation and Organisation
52.	Shri Sanjay Waghamare, RIICO Ltd., Jaipur
53.	Shri Ashok Kumar Singh, Bulandshahr & Khurja Development Authority
54.	Shri Sachin Jain, Assistant Commissioner, MSME & Export Promotion, GoUP
55.	Ms. Ruchi Gupta, Sr. Coordinator, NIUA
56.	Ms. Nutan Chandnisana, Sector Coordinator, NIUA
57.	Shri Abhik Banerji, Research Associate, NIUA
58.	Dr. Banwari Lal (Aei) IIC, Muzaffarnagar (Shamli), IIC
59.	Dr. Mukesh Sharma, Asstt. Director, MSME-DI, Agra
60.	Shri Saleem, ADSO, Nuh, Haryana
61.	Shri Mohit Bhasin, Partner, KPMG
62.	Shri Kundan, DSO, Nuh
63.	Shri Dharmendra Kishan, Ad. St.o Mzn
64.	Shri Neelam Seth, JD, AEPC
65.	Shri Achyut Shankar, CII
66.	Shri Kushagra Joshi, Sr. Executive, ASSOCHAM
67.	Shri Ashok Kumar, Director (Planning), Delhi Govt.
68.	Shri Sanjeev Sanyal
69.	Shri Jaya Kumar, Dy. Director, Nasswn
70.	Shri A K Goel, Asst. Director, UD, GNCTD
71.	Shri Neeraj Singhal
72.	Dr. S P Sharma
73.	Dr. Rita Malik, GBPIT, Govt. of NCT of Delhi
74.	Ms. Neha Lal, Urban Development, World Research Institute Delhi Office
75.	Shri D K Sharma, AE(C), DDA
76.	Shri Sanjay Garg, AE(C), DDA
77.	Shri Manoj Kumar Singhal, ADM (F), Bulandshahr
78.	Shri Suresh K. Bhandari, Spl, Secretary (UD), GNCTD
79.	Shri Munish Mehta, Planner India

S. No.	Name, Designation and Organisation
80.	Shri K K Sehrawat, DCA, Urban Deptt., GNCTD
81.	Shri Somvir Singh, ATP, O/o DTP, Jhajjar
82.	Shri Rajiv Chawla, Chairman, JAMSME
83.	Shri Atul Sharma, Dy. Manager (Inv.) RIICO Ltd.
84.	Shri Ravi Chauhan, JLL
85.	Shri Sita Ram, DCA, Deptt. of UD, GNCT
86.	Shri Krishan Jindal, Advisor, DHAN Foundation
87.	Shri Abhay Negi, SDGM/ 74E, RITES
88.	Shri Rishi Dangi, DDPO, Ch.Dadri
89.	Shri Mukesh Mittal, STP, Jaipur
90.	Dr. Subir Sen, IIT Roorkee
91.	Dr.Suhaib Ahmed, Dy. Director , Economic & Stats Deptt., Govt. of UP
92.	Ms. Megha Kaul, Ecconomist, PHDCCI
93.	Shri Ritu Raj Vyas, Town Planner
94.	Shri Sachin Gulaty, Senior Director and India Head-Valuations, JLL
95.	Shri Ajay Yadav, Chairman-(AIBPC)
96.	Shri Jaya Srivastava, AVP (AGICL)
97.	Shri Karamdeep, Asst. Dir. (Plg.), DDA
98.	Shri Arvind Gupta, AE (Plg), MPMR & NCR, DDA
99.	Dr. L K Pandey, Chairman-Delhi Chapter, IIA
100.	Shri Puneet Kumar, DESTO, DES, UP
101.	Shri Jatin Lohmuih, Manager, PwC
102.	Ms. Harsha Sanyukta
103.	Ms. Madhu Prabha, Labour Enforcement Officer, Shamli, UP
104.	Shri Ajay Dahiya, Dy. Director Incharge, KVIC, SO Delhi
105.	Shri Rajesh Rawat, JD, EPCN
106.	Shri Hardeep Singh, Addl. DGFT

Annexure-I

ECONOMIC GROWTH AND INCOME GENERATION
Date: 08.01.2020
Venue: Jacaranda Hall, IHC, New Delhi

S. No.	Topics	Speakers
Session I: Economic Growth and Income Generation: The Prime Movers for NCR 2041		
Chair: Shri R.M. Mishra, Special Secretary, Ministry of Micro, Small & Medium Enterprises		
1.	Welcome Address	Shri Satish Prashar, Chief Regional Planner, National Capital Region Planning Board
2.	Economic Growth and Income Generation: The Prime Movers for NCR 2041	Shri Sugata Sen, Deputy Director General Society of Indian Automobile Manufacturers (SIAM)
3.		Shri Rajiv Chawla, Chairman, Integrated Association of Micro, Small and Medium Enterprises of India (IAMSME)
4.		Shri R.M. Mishra, Special Secretary, Ministry of Micro, Small & Medium Enterprises
Tea Break		
Session II: Strategies for Economic Growth in NCR 2041		
Chair: Shri Sajeev Sanyal, Principal Economic Adviser, Department of Economics Affairs		
5.	Strategies for Economic Growth	Shri Sajeev Sanyal, Principal Economic Adviser, Department of Economics Affairs
6.		Shri Neeraj Singhal, Vice-President, Indian Industries Association (IIA)
7.		Dr. S.P. Sharma, Sr. Director, PHD Chamber of Commerce and Industry (PHDCCI)
8.		Shri Mohit Bhasin, Partner, KPMG
9.		Ms. Swati Aggarwal, Director, PricewaterhouseCoopers Pvt Ltd (PwC)
10.		Shri Ravi Chauhan, Jones Lang LaSalle (JLL)
Lunch		
Session III: Challenges & Options for Thriving Economy in NCR 2041		
Chair: Shri Hardeep Singh, Addl. Director General, Foreign Trade, M/o. Commerce & Industry		

S. No.	Topics	Speakers
11.	Challenges & Options for Thriving Economy in NCR 2041	Shri Ajay Kumar Dhaiya, Dy. Director Incharge, Khadi & Village Industries Commission (KVIC)
12.		Shri Rajesh Rawat, Jt. Director, Export Promotion Council for Handicrafts
13.		Shri Hardeep Singh, Addl. Director General, Foreign Trade, M/o. Commerce & Industry
Session IV: Perspectives of NCR States		
Chair: Smt. Sofia Dhaiya, Secretary, Finance, Govt. of Finance		
14.	Perspectives of NCR States	**Govt. of Delhi**: Shri Ashok Kumar, Director Planning Department
15.		**Govt. of Delhi:** Smt. Manju Sahoo, Joint Director, Planning Department
16.		**Govt. of Haryana**: Smt Sofia Dhaiya, Secretary, Finance
17.		**Govt. of Haryana:** Shri M K Sardana, Coordinator, Bureau of Industrial Policy & Promotion
18.		**Govt. of Rajasthan**: Shri Aditya Sharma, Senior RM, RICO, Alwar
19.		**Govt. of Uttar Pradesh**: Shri Suhaib Ahmed, Dy. Director, Economics and Statistical Department
20.	Closing Remarks	Smt. Nandita Mishra, Economic Advisor, Ministry of Corporate Affairs
21.	Vote of Thanks	Shri Jagdish Parwani, Director (A&F), National Capital Region Planning Board

Workshop Title: **Sports, Skills and Social Support System**

Date: **10.01.20 (Friday)**

Venue: **Jacaranda Hall, IHC, New Delhi**

Brief Minutes of the Stakeholders Workshop on 'SPORTS, SKILLS AND SOCIAL SUPPORT SYSTEM' held on 10.01.2020 at India Habitat Centre, for preparation of RP-2041 for NCR

1) Workshop on "Sports, Skills and Social Support System" was held on 10th January, 2020 for Preparation of Regional Plan-2041-for NCR at Jacaranda Hall, IHC, New Delhi The workshop was divided into various sessions to cover the major topics under the subject. The list of participants is enclosed.

2) The sector specific stakeholder's workshop was organised by NCRPB on 10.01.2020 to discuss and deliberate various aspects of Sports, Skill & Social Support System for NCR. Concerned senior officers from all NCR States; Central Ministries including various Skill Development Councils of India, & other Departments of Govt. of India; NGO's, Knowledge Institutions; Industries; eminent Sports personalities; Experts, Field Officers from Districts, Authorities and other concerned stakeholders attended the workshop and presented their views for NCR-2041. Some of the major speakers & participants includes Additional Secretary, Ministry of Skill Development & Entrepreneurship, Govt. of India; Senior Adviser, Ministry of Skill Development and Entrepreneurship, Govt. of India; MD, National Skill Development Council; Dr. Imtiaz Ahmed, Mission Director (Age Care), HelpAge India; CEO, Construction Skill Development Council; Head, Industry Alliances, Automotive Skills Development Council; CEO, Media & Entertainment Skill Council; CEO, Beauty & wellness Sector Skill Council; Head Standards, Domestic Workers Sector Skill Council; CEO, Rubber Skill Development Council; Shri Vijay Yadav, Cricketer; Shri Chetan Sharma, Cricketer; Director, Traditional Sports & Games Federation; President, Football Delhi; DDG, Rural Business, Deptt. of Posts, Govt. of India; Director, Social welfare & women child development, GNCTD; Regional Sports Officer, Meerut, Govt. of UP etc. amongst others. The list of Speakers is placed at **Annexure-I**.

3) The main topics discussed during the Stakeholder's Workshop includes (i) Skilling Strategies for Sustaining the Greatest NCR 2041 (ii) Strategies for NCR as a Sports Hub and (iii) Perspectives of Governments of NCR States on Sports, Skills and Social Security System.

4) Session wise proceedings/ record of decisions are as under:

4.1 SESSION-I was the Inaugural Session chaired Ms. Juthika Patankar, Additional Secretary, Ministry of Skill Development & Entrepreneurship, Govt. of India. The brief of discussion is as under:

4.1.1 **Dr. Imtiaz Ahmed, Mission Director (Age Care), HelpAge India –** *views on "Need for Social Security" are as under:*

I) **Ageing: Global & India**

a) Envisaging elderly friendly cities for Delhi NCR by 2041. Within a decade, there will be one billion elder persons worldwide.

b) By 2050, nearly 80% of the world's older persons will live in developing countries i.e. China and India

c) Population ageing is both an opportunity and a challenge, therefore, concerted multi-stakeholder & multi-sectoral action needed

d) 110 million elderly in India today; 30 million of them estimated to be living alone; 90 percent of them work for livelihood and about 12 million are blind.

e) Expected to increase to 173 million by 2026. Between 2000 – 2050 general population will grow by 60% but elderly population will grow by 360%

II) **Global Age Friendly Cities – WHO**

a) In an age-friendly city; policies, services, settings and structures support elderly by:

- **Anticipating and responding** flexibly to ageing-related needs and preferences
- **Respecting** their decisions and **lifestyle choices**;
- **Protecting** those who are most **vulnerable**;
- Promoting their **inclusion in and contribution** to all areas of community life.

b) Cities should be Age Friendly Cities, Affordable, Accessible, Safe, Participation/ Inclusion.

III) **Suggestions for Elder Friendly Planning & Construction**

a) **Outdoor Spaces and Buildings**

i) **Green spaces and walkways:**

- **Well-maintained and safe green spaces**, with adequate shelter, toilet facilities and seating that can be easily accessed
- **Pedestrian-friendly walkways** are free from obstructions, have a smooth surface,have public toilets and can be easily accessed

ii) **Outdoor seating**

- **Outdoor seating is available, particularly in parks, transport stops and public spaces, and spaced at regular intervals; the seating is well-maintained** and patrolled to ensure safe access by all

iii) **Elder Friendly Parks**

- **Often** older adults feel not welcome in parks that are primarily designed for younger populations.
- **Initial** findings of the survey by HelpAge India in Delhi reveals that 35% of older persons journeys in Trilokpuri area included visiting a local park.

iv) **Pavements**

- **Even** level with anti-skid tiles and wide enough to accommodate wheelchairs with low curbs that taper off to the road
- **Pavements** Are clear of any obstructions (e.g. street vendors, parked cars, trees, dog droppings, snow) and pedestrians have priority of use

v) **Buildings-** Buildings should be accessible and have the following features:

- Elevators
- Ramps
- Adequate signage
- Railings on stairs

- Highlighters on the stair case
- Stairs that are not too high or steep
- Anti-skid flooring
- Rest areas with comfortable chairs
- Sufficient numbers of public toilets

b) **Roads**

- Roads with adequate non-slip, regularly spaced pedestrian crossings
- Roads with well-designed and appropriately placed traffic islands, overpasses or underpasses, to assist pedestrians to cross busy roads.
- Pedestrian crossing lights allow sufficient time for older people to cross the road and should have visual & audio signals
- Elder friendly **Amenities**
  - Barreier free walkway in flats
  - Lift upgrading in HDB flats
  - Accessibility enhanced in MRT stations
  - Step free buses
  - Ramps connecting building such as bus interchange and train stations.
  - Barrier free pedestrian for wheelchair
  - Extended green man timings for senior citizen.

c) Age Friendly Housing

i) Design

- Sufficient space to enable older people to move around freely & equipped to meet environmental conditions (heat, rain, pollution)
- Even surfaces, passages wide enough for wheelchairs, and appropriately designed bathrooms, toilets and kitchens

ii) Ageing **in place**

- Affordable & close to reach services are provided to enable older people to remain at home, to"age in place".

iii) Community **integration**

- Housing design facilitates continued integration of older people into the community.

d) **Public toilets**

- Public toilets should be clean, well-maintained, easily accessible for people with varying abilities, well-signed and placed in convenient locations.
- 51% of **homeless older people in Delhi defecate outside (HelpAge India)**

e) Transportation

i) **Travel destinations**

- Public transport availablilty for older people to reach key destinations - hospitals, health centers, public parks, shopping centers, banks and seniors'centres.

- All areas should be well-serviced with adequate, well-connected transport routes
- Transport routes should be well-connected – inter & intra.

ii) **Age-friendly vehicles**

- Vehicles should be accessible, with floors that is lower, with low steps, and wide and high seats
- Vehicles should **have clear signage** indicating the vehicle number and destination.

iii) **Transport stops and stations**

- Designated transport stops be located in close proximity to where older people live, are provided with seating and with shelter from the weather, are clean and safe, and are adequately lit.
- Stations be accessible, with ramps, escalators, elevators, appropriate platforms, public toilets, and legible and well-placed signage.

f) **Age-friendly social participation**

i) **Day Care Centres**

- **Promotion and awareness of activities**
  - Activities and events are **well-communicated to older people**, including information about the activity, its accessibility and transportation options.
- **Addressing isolation**
  - Personal invitations are sent to promote activities and **encourage participation**.
  - Makes efforts to engage isolated seniors through, for example, personal visits or telephone calls.
- **Fostering community integration**
  - Community facilities promote shared and multipurpose use by people of different ages and interests and foster interaction among user groups.
  - Local gathering places and activities **promote familiarity and exchange** among neighbourhood residents.

IV) **HelpAge Support**

- HelpAge India is the largest national NGO working for the cause of the elderly for the last 40 years with significant knowledge and expertise on the need and care of the elderly
- HelpAge can help & support the National Capital Region Planning Board in making Delhi & NCR elderly friendly in the following ways:
  - As a **Knowledge Partner** who can contribute significantly during the town planning process
  - **Advice customisation** and changes in the current infrastructures & facilities
  - **Train human resource** (govt. & pvt.) on elderly issues, challenges and how to address it
  - Help run few facilities and showcase it as Model Facilities for other cities and regions to replicate with NCRPB, become a benchmarking agency showing way and create a network for other Age Friendly Cities

4.1.2 Shri Manish Kumar, Managing Director, National Skill Development Council (NSDC) - *views on Sports, Skill and Social Support System for NCR-2041:*

I) The Union Cabinet **approved as a PPP body** on 15 May 2008 for coordinating/ stimulating private sector initiatives in skill development. Conceived as **"private sector led"**, driven by market needs and impart world class skills

- **Envisioned Mission**- Open up the "Skills Economy" to make it market led, by initiating a comprehensive change process by innovative approaches for skill development in terms of outreach, throughput, flexibility, labour, market relevance and transparency
- **Envisioned Objectives**-
  - Mobilize and manage funds for Skill Development
  - Establish, manage, run/promote skill development institutes
  - Role of a "market maker" bridging demand – supply asymmetries
  - Stakeholder management and linkages
  - Employability skills, competencies and standards establishment
  - Role of a "multiplier**"**

II) **NSDC – A Public Private Partnership**

- NSDC works closely with Ministry of Skill Development & Entrepreneurship and private sector
- Private sector shareholders include 10 business chambers and industry associations with 5.1% shareholding each
- Public (49% share capital) and Private (51% share capital)
- NSDC was envisioned to be private sector led body driven by market needs

III) **Role of NSDC**

- SSC Governance
- Financing
- National Govt. Schemes
- Capacity building
- Industry Connect Apprenticeship
- CSR led Skilling
- NSQF (Standards, quality, courseware)
- Technology enablers (SMART, SDMS)
- Market Analytics
- International collaborations
- Knowledge and Advisory Services
- Assessment, certification

IV) **Incubation of Sector Skill Councils**

a) **Primary Sector**- Agriculture

b) **Services Sector**- Coating & Painting, Plumbing, Media, Logistics, Beauty and wellness, Sports, Healthcare, Lifesciences, Retail, Domestic workers ,IT-ITes, Tourism and Hospitality, Telecom, BFSI, Food processing

c) **Manufacturing Sector-**Construction and Infrastructure equipment, Apparel, Textile and Handlooms, Mining, Iron and Steel, Electronics and Hardware instrumentation, Strategic Manufacturing and capital goods, Automotive, Rubber chemical and petrochemical, Gems and Jewelries, Furnitures and fittings, Power, Leather

d) **Cross-Functional Sectors-** Green Jobs a for person with disability

e) **Skill Financing**

- **Entities Financed-** Corporates, SMEs, Trusts, NGOs for creating of Skill Development Capacity
- **Project Financing Model-**
  - Debt at subsidized rates (6%)
  - Up to 75-85% of the project cost
  - Loan tenure of 7 years (incl. principal moratorium of 3 years)
  - Special focus on underrepresented sectors and geographies

V) **NSDC Achievements under Market Led Model**

- Candidates - 1.31 Cr+ under NSDC Partnerships
- Private Sector Funds - INR 1,400 -3,000 Cr
- 609 Training Partners and 11,000 Training Centres
- 52 Lakh placed (Incl. Self-employed and up skilled)
- INR 1,769 Cr sanctioned as debt
- INR 1,201.5 Cr disbursed
- Incubated 37 Industry led bodies (SSC)
- Presence across 650+ districts

VI) **Pradhan Mantri Kaushal Kendra (PMKK)**

NSDC is working towards creation of a multi-sector training centres demonstrating aspirational value for training in every district of India ensuring the coverage of the Parliamentary Constituencies (PCs)

- A secured loan of up to 70 lakhs per PMKK at a subsidized interest rate for set-up of lab equipment, machinery, training aids, etc.
- Training mandate under Pradhan Mantri Kaushal Vikas Yojana (PMKVY)
- 812 PMKKs allocated covering 707 districts and 540 PCs*
- 709 PMKKs established covering 628 districts and 507 PCs
- Loan Sanctioned: INR 258.21 Cr

VII) **Implementation of Government Schemes**

- Pradhan Mantri Kaushal Vikas Yojna
- Udaan
- National Apprenticeship promotion scheme
- STT,RPL, Special project
- Vocationalization of school education

VIII) **Capacity Building of States**

- Technical and Operational Support- PMKVY
- Supporting State-funded Schemes
- Institutional Capacity Building

- Citizen Engagement
- Industry Outreach and Advocacy
- Knowledge Advisory
- Presence in 26 states and UTs through a team of State Engagement Officers
- Dedicated States Technical Assistance team in Delhi

IX) **Apprenticeship Promotion**

a) **Flexibility-** Can engage apprentices up to 15% of its workforce. 5% reserved for fresher apprentices & skill certificate holder apprentices

b) **Futuristic-** Over 500 trades available. In addition, industry has flexibility to Design own Courses in line with their Technologies / Future requirements

c) **Inclusive-** Now Service sector mandated to engage apprentices. Besides Degree/Diploma/ITI Certificate Holder, apprenticeship opened for all including STT trained Candidates

d) Convenient- Automated Process through the Portal – https://apprenticeshipindia.org/

- Can conduct Basic Training in-house, file for reimbursements online

✓ Apprentices Engaged (Contracts)- 54,455

✓ Active Establishments- 1,827

✓ Opportunities created by Establishments- 1,68,803

X) **Industry Connect - Private Led Skilling**

XI) **CSR and Industry Partnerships-** Industry can contribute through Infrastructure and machinery, Sponsoring and facilitating training, Lending technical expertise, Undertaking RPL for employees, Supporting World Skills, etc.

XII) **Commitment & Targets**

a) Total Commitment of *INR 263 Crores*

b) 149,315 Target Beneficiaries

c) 86 Projects from over 48 Corporates

XIII) **Skill Enablers -** Standards, Curriculum & Learning Resource and Technology

a) **Technological Platforms-**

- Aadhaar Integration, verification & 100% digital payments
- All centers registered through 1-stop online process and verified physically. Continuous online monitoring
- Dashboards for States and Management
- Integration to multiple Online Learning platforms
- Mobile App based Assessment management with Geo-tracking
- Workflow Portals for all stakeholders

b) **On-ground Impact of NSDC (PMKVY)**

- 1.8 times more likely to get employed ,Trained and certified candidates vs comparison group (STT)
- 15% higher average monthly income Trained and certified candidates vs comparison group (STT)
- Increase of 25% in income for RPL candidates in their before training and current levels

- 79% report increased confidence in finding better job upon doing RPL

XIV) **Demand Side Analytics -** Estimating Incremental Labor Demand

a) **Objective -** Estimate Incremental Labour Demand for the year 2018-19

b) **Approach -** Past data on Investments (CMIE), Bank Credits (RBI) and Employment (NSS) are modelled to predict demand for 2018-19

c) **Result -** Estimated labour demand for 2018-19 in India is 2.5 crores at district level

d) **Estimated Demand in NCT of Delhi : 28.2 Lakh**

e) **Top sectors:** Transport & Logistics, Retail, Healthcare, Media & Entertainment, and Telecom

XV) **Supply Side Analytics –** In India, female labour force participation (23.3%) is considerably lower as compared to Male labour force participation (75.8%) for persons aged 15 years & above

For **NCT of Delhi-**

- Employment rate – 90.6%
- Female labour force participation rate – 14.3%
- Unemployed persons in the age-group 21-30 years – 3.04 lakh (about 83% of these are men)
- Male Population – 4,005 Lakh
- Female Population – 3,932 Lakhs
- According to PLFS 2017-18, states with the most number of unemployed persons are (in decreasing order)- **UP, Tamil Nadu, Maharashtra, Bihar, West Bengal, Kerala, MP, Rajasthan, Karnataka, and Telangana**.
- 61% of the unemployed persons are in the age-group 21 to 30 years

XVI) **Supply Side Estimations-**

- About 5.9 crore youth (aged 15-30 years) are expected to enter the labour force in India by the year 2023 (19.6 Lakh in NCT of Delhi)
- A total of **7 crore additional number of individuals in the working-age (15-59 years)** are expected to enter the labour force in India by the year 2023, out of which **5.9 crore belong to the age group 15-30 years**
- **Uttar Pradesh, Maharashtra, Madhya Pradesh, Bihar, Tamil Nadu and Karnataka** together **account for 50%** (about 3 crore) of the new entrants during 2019-23
- **50%** of the youth entrants belong to the age group **15-20 years**

XVII) **International Collaborations**

a) **Capacity Building**

- **Singapore:** TOT/ TOA, industry 4.0, future of skills
- **Germany:** curriculum, dual TVET (Technical and Vocational Education and Training)
- **Empaneled experts**
- **UNEVOC** {United Nations Educational, Scientific and Cultural Organization (UNESCO) – International Center for Technical and Vocational Education and Training)}
- **UKIERI** (UK India Education Research Initiative)

- **World Bank, DFID (**Department for International Development-UK**), IFC (**International Finance Corporation)

b) **Technical Assistance**

- **Africa – PASET countries** (Partnership for skills in Applied Sciences, Engineering and Technology)**, South Africa**
    - **MENA region** (Middle East and North Africa)

c) **Benchmarking**

- **Standards**: Australia UK, UAE

d) **Global Mobility**

- **Japan:** Technical Intern Training Program (TITP)
- **UAE:** Blue collar, DTIs, Highly Skilled
- **Sweden:** IT Professionals,IISCs (7000+ Phase 1, annual capacity of 35,000

e) **Training Infrastructure**

- **Singapore:** Singapore Enterprise
- **Japan:** JIMs (Japan-India Institute for Manufacturing)
- **Germany:** Dual TVET
- **PIOCCI** (People of Indian Origin Chamber of Commerce and Industry), **USISPF** (US-India Strategic Partnership Forum)

4.1.3 Ms. Juthika Patankar, Additional Secretary, Ministry of Skill Development & Entrepreneurship (MSDE) - *views on skill planning & development.*

i. Mandated to train youth in skills to give them employment. Main institutions are Ministry are Directorate General of Training and NSDC.

a) Ministry looks at long term skill training which is imparted by Directorate General of Training with support of States.

b) Ministry looking at curriculum of skill training. CSTARI (Central Staff Training and Research Institute), NIMI (National Instructional Media Institute) Chennai develops course material which is largely used in ITI in different languages

c) Training of Trainers.

d) Training ranges from 1-3 years.

e) Skill trainings in health, hospitality, beauty and wellness sector.

f) Short term training is looked after by NSDC.

g) Other institutes helping entrepreneurship are – NIESBUD (National Institute for Entrepreneurship and Small Business Development) in NOIDA and NIPA.

h) International cooperation division in the Ministry to help Indians migrating to abroad to improve their skills and competencies.

i) NCVET (National Council for Vocational Education and Training) also - a regulatory body.

j) Target of skill training of one crore youth/ annum through apprenticeship, skill training labs in schools & promoting entrepreneurship through YUVA programmes.

k) World Bank assisted programmes – **STRIVE** (Supported Training and Rehabilitative Instruction in Vocational Education) long term training and

SANKALP (Skills Acquisition and Knowledge Awareness for Livelihood) is short term training program.

ii. **Facets of skill training** –skills should be aspirational. Skills are beyond livelihood. It must fulfil the physiological needs. People must get into mobilising.

iii. **Skill development of the disadvantaged group** - skill training of elderly, social disadvantaged groups, women, transgender, etc.

iv. People without higher education, need to be given skill training - as a viable and attractive option. It should be packaged attractively to fulfil the aspirations of the students.

v. Soft skills are most important. People are not employable if they are not having soft skills like communication, presentable, articulate.

vi. Link skill training with employment and keep youth engaged fruitfully. Society would improve if people are trained. .

- **Challenges:**

a) **Right Framework** - Best use of people to enhance productivity. Dropout students and even PG students who are not getting job can take/ should be encouraged for skill training.

b) **Convergence & Decentralisation** - Convergence and decentralisation is important. Possibilities should be looked at district level to dovetail trainings. For decentralisation - district skill committee to prepare **district skill plan** which may have derivative of state skill plan. District skill plan is complicated exercise. The functionaries of districts should be aware fully about all aspects that is not now happening.

c) **Migration** - very important factor to be included and District skill committee may set up a sub-committee for this aspect.

d) **Resources** - availability of resources is another major aspect. Ministry (MSDE) is working on it aspect. Gram Panchayat should prepare **Gram Panchayat Plan** which should be integrated in the district skill plan.

4.2 SESSION-II was related to 'Skilling Strategies for Sustaining the Greatest NCR 2041' the viewpoints are as under:

4.2.1 Shri Anand Kumar Singh, CEO, Construction Skill Development Council – views on **'**Perspectives by Construction Skill Development Council'**:**

i. **Skilling needs** - employment, quality, cost, wastage/ environment, life of the asset, technology adoption, service quality and safety.

ii. Skilling strategies are required for construction and maintenance in residential, commercial areas and infrastructures like transport, water, electricity, educational, sports and quality life support and disposals.

iii. Strategies/ Focus areas

- Existing Construction Skills
- Equipment Operation
- Traditional Skills (Heritage etc.)
- Technology Interventions
- Future Skills

iv. **Sector (<u>Construction</u>) overview:**

- 2nd Largest employer. Workforce likely to increase from 594 lakh at present to 765 lakh by 2022
- Highly unorganized. Only 20% workers are currently registered
- 83% / 95% of current workforce is uncertified
- 47% of workforce is less than 30 years age
- 36% of India's migratory workforce is in construction
- 35% of Indian workforce working in Gulf countries are in construction sector

v. **Skill Gap analysis**

- Estimated Skill Gap for fresh training – 171 lakhs in five years (2017 till 2022)
- Estimated Skill Gap for fresh training - 32.5 lakh per annum
- Capacity Available - 5 lakh per annum
- Effective Skill gap for fresh training – 27.5 lakh per annum
- 50% of existing work force to be certified in next five years
- Effective RPL certification requirement– 47.5 Lakh per annum

vi. **Challenges**

- Highly unorganised Sector, migratory workforce
- Youths are unwilling to join as workforce in the sector
- Uncertified & informally trained workforce
- Lack of Training Infrastructure
- Lack of investment in training / training infrastructure
- Most of workers are uneducated/minimally educated
- Getting Industry on board for skilling is difficult due to:
  - Lack of Regulations for training & employment of skilled workforce
  - Lack of Labour(Workforce) management Information System

vii. **Strategies for NCR-2041**

1. Skill Need Analysis
2. Infrastructure for Skilling for Construction Sector
3. Regulations for Employment & Wages
4. Incentivisation to youth to join the sector as career
5. Skilled Workers Management Information System for the Sector
6. To make skilling aspirational
7. Future Requirement Planning
   a) Technological Needs
   b) Material Needs
   c) Management Needs

4.2.2 Mr. Dharmendra Sharma, Head-Industry Alliances, Automotive Skills Development Council (ASDC) views on 'Perspectives by Automotive Skills Development Council':

i) Automotive sector contributes to almost 4% of the GDP and is the largest employment sector.

ii) ASDC is promoted by SIAM (Society of Indian Automobile Manufacturers) and supported by Ministry of heavy industry, Ministry of Road transport & highway, and Ministry of skill & entrepreneurship.

iii) Focuses areas are:

a) To create value addition and skill aspirations.

b) Skill competition throughout country at state and district level.

c) To create the qualification packs (QPs) along with our partners.

d) Affiliation with industry partners who do the skilling. And Training partners.

e) Conduct assessment and certification to give support to the industry and to provide skill manpower to the industry.

f) Provide placement opportunity also to the candidates NSQF (National Skills Qualifications Framework).

g) More credible - new kind of assessment with TCS where assessor goes to the location and assesses candidates and submits the report to ASDC. Videography of the candidate doing the work is being done. Person sitting anywhere in the country can assess the candidate. ASDC take 10% of total batch to assess.

h) ASDC have created e-learning content. Most of the people can use app with the help of our centres of the manufacturers and dealers.

i) ASDC creating job listing platform to get the opportunity to place suitable students in the industry. Almost 50 government job melas have been organised. Placement ratio is high in terms of independent.

j) In RPL (Recognition of Prior Learning), ASDC focussing on the automotive component manufacturers. RPL also contributes upskilling of the candidates.

k) As per skill gap study, in manufacturing R&D side, ASDC have 05.82 million candidate requirements. Out of which currently 4.1 million are available. In the manufacturing side, additional requirement is 1.66 million by 2022.

l) In NCR, ASDC have manufacturing in Manesar and Faridabad. ASDC need to sensitise people and manpower to join automotive sector.

m) In the sales and service also, ASDC have additional manpower of 0.37 million requirements in authorised services. Most requirement is in driving side around 6 million additional, as Swiggy is hiring almost 30,000 drivers. Mostly two-wheeler drivers.

n) ASDC have been participating in the skill competitions internationally since 2011.

4.2.3 Shri Mohit Soni, CEO, Media & Entertainment Skill Council – views on ‘Perspectives by Media & Entertainment Skill Council’:

i) Media and entertainment growth rate is exponential; currently it is expected to grow at CAGR of 14.3%. It will reach to 3.07 lakhs crore by 2024.

ii) Skilled workforce required in M& E sector is growing at CAGR of 13% to reach 6.5 lakhs by 2024.

iii) Broadband & Public WI-FI rollout of 4G:

- **S**mart Phone & Tablets with Estimated : 690 Million Subscribers by 2021

iv) 2nd Largest Television market after China: **E**stimated: 174 Million Households by 2021

v) 5000+ Newspaper and Publications: **C**ontinues to grow at CAGR of 7.3%

vi) Worlds largest producers of Films: 1500-1800 Films produced every year

vii) AIR largest media organisation: **R**egional & Digital Radio is the next big thing

viii) 110+ feature films are produced in north India film Industry. Numerous short films, videos, web series and full-fledged films are being shoot in north India.

ix) Over 30000 students are being trained in M&E sector across various training institutes every year. Infrastructure like Film city with single window clearance and industry friendly policy are needed. We also require skilling and upskilling of students to have better opportunity in the industry.

- **Suggestions for NCR**

a) **Surajkund -**Build and develop new infrastructure to provide centralized services to regional filmmakers and attract other domestic and foreign filmmakers to shoot films in North India. Invest in building film cities with state-of-the-art facilities for film shooting and post-production.

- With the Blue Hills of Aravalli in the background, Surajkund is an old reservoir located around 8 kilometers South of Delhi.
- Most famous aspect of this tourist attraction is the annual fair by the name of the 'Surajkund International Craft Mela' that is held here every year.
- Unutilized for 11 month a year and may be turned into a Film City
- Well connected to other parts of India through Rail, Road and Air.
- Ideal place for Film Making Facilities

Success Story of RAMOJI FILM CITY

- World's Largest Integrated Film Studio Complex
- Popular tourism and recreation center, containing both natural and artificial attraction including 2 budget and one 5-star hotel
- Filmmakers' first choice as it offers over 500 set locations, over 50 shooting floors, 20 International and 40 Indian films can be produced simultaneously in the complex.

4.2.4 **Ms. Monica Bahl, CEO, Beauty & wellness Sector Skill Council,** *views on 'Perspectives by Beauty & wellness Sector Skill Council':*

i) Beauty & wellness has following seven sub-sectors:

a) Wellness
b) Slimming
c) Rejuvenation
d) Alternative therapies
e) Fitness
f) Beauty products
g) Yoga

ii) **Global Beauty and Wellness Industry**

a) The global beauty and wellness industry is growing at a CAGR of 15% annually over the last five years
b) The top five growth beauty and wellness markets are China, Brazil, USA, India & Indonesia

c) The rise in world's leading health problems (obesity, hypertension & cardiovascular diseases) contribute to the demand for wellness-related products & services

d) The list of other fast growing sub-sectors include acupuncture, naturopathy, Ayurveda, meditation, biofeedback & yoga

Data Source: Skill Gap Study (2013-2017, 2017-2022 (KPMG/NSDC)

iii) **Indian Beauty and Wellness Industry**

a) The beauty and wellness industry in India is growing at a CAGR of 18.6%

b) The sector is thriving on the increasing section of affluent and middle-class population that has started considering beauty and wellness as a necessity

c) Increased emphasis on a holistic wellbeing with people's desire to look good and young are other motivators for the industry

d) The rejuvenation segment is no longer perceived as a mere luxury service but it is now acknowledged as an essential tool to de-stress

iv) **Workforce distribution by Education (2013)**

a) Workforce Distribution by education indicates towards opportunity for increased penetration of vocational education in the sector.

b) Segments such as salons, beauty & fitness and slimming are demonstrating increased acceptance of candidates with vocational education than others.

v) **Demographic characteristics of workforce**

a) **Gender Distribution:** Over 65% of the workforce among salons, slimming & rejuvenation sub-sectors are women. However, men are increasingly gaining interest, especially in hair styling. Sectors such as fitness & counter sales continue to be dominated by men.

b) **Socio-economic Background:** Transitional changes are being observed in the economic profile with candidates from mid-income households taking to the sector in urban areas. In rural areas, the workforce continues to be constituted by people from lower socio-economic background.

c) **Nativity of the workforce:** Employees are usually sourced locally. Workers from Kerala are preferred for rejuvenation services of the Ayurvedic therapy while those from the North-Eastern states are preferred for generic services. There is an emerging trend of migrants from the North-Eastern states, West Bengal & Nepal entering the sector.

vi) **Industry Trends**

a) Increasing level of personal spending: According recent reports, expenditure on wellness products and services remains steady, riding on increasing share of discretionary spending

b) Changing consumer psyche towards beauty and wellness: Customers are willing to pay a premium for a beauty and wellness 'experience'. Spending on beauty and wellness is no longer considered a luxury

c) Emerging Unisex beauty and wellness centers: Unisex beauty and wellness centers are increasingly finding acceptance among young. Several leading brands in the organized segment offer unisex services

d) Expansion beyond tier 2 cities/towns: Rising income, increasing awareness among consumers in tier 2 and 3 cities and low rental/manpower costs are some drivers for expansion into hitherto untapped regions

e) Advent of international beauty brands: Increased penetration of organized retail augurs well for the sales of foreign brands in India

vii) **Incremental Human Resource Requirement (2013-2022) -** In various segments such as beauty and salon, beauty products and sales, fitness segment, slimming segment and rejuvenation requirement of human resource has increased tremendously 14.2 lakhs to 142.7 lakhs

viii) **B&WSSC - At a Glance**

a) Standards & QA

- 24 Governing Council Members and 31 General Members
- 60 QRC Cleared Job Roles since inception
- 46 Handbooks (Trainee, Trainer & Vernacular)
- 16 Books for Vocational Courses in Schools in collaboration with PSSCIVE & NCERT
- 57 Curricula since inception
- 5 Job Roles under National Apprenticeship Program Scheme

b) Trainings

- 2242 Trainers Certified
- 502 Assessors Certified
- 4,83,576 candidates trained under various Govt. & Non-Govt. schemes
- 1,39,973 candidates assessed under Recognition of Prior Learning (RPL)

c) Placements

- 2.531 Lakhs candidates placed as self-employed / under wage employment/ free lancers.
- 110 Job Fairs since inception
- Exclusive Online Job Portal "AJEEVIKA" for B&W professionals

d) Global Footprints

- Dual Certification with CIDESCO for Beauty Therapist job role
- Dual Certification with Singapore Spa Institute for Spa Therapist job role
- Association with China for Yoga Centre Accreditation, Affiliation, Assessment and Certification for Yoga Instructor job role

ix) **Initiatives undertaken (2019-20)**

- Initiated B. Voc (Bachelor of Vocation) in Universities & Colleges across India
- Developed syllabus for vocational studies for ICSE, in Beauty Therapy (2020-21) for Classes IX-XII
- Alignment & Content Development of vocational syllabus of Yoga for CBSE (Class XI)
- Addition of School assessments; Rashtriya Madhyamik Shiksha Abhiyan (RMSA) Schools of Odisha, Gujarat, Meghalaya & J&K, Punjab - (Total 21 states + 4 UT)
- Launch of Yoga booklet on the International Day of Yoga, June 21
- Desktop Yoga training conducted for NSDC, MSDE officials
- 23 colleges under UGC currently running the B. Voc program & being assessed by the Council (Assam-2, Jammu-2, Punjab-9, Maharashtra-3, Tamil Nadu-2, Haryana-2, Chandigarh-1, Jharkhand-1, Andhra Pradesh-1)
- MoU signed with Indra Kumar Gujral Punjab Technical University, (IGPTU) Jalandhar
- Conducted Assessors Orientation programs for adoption of best practices
- MoU signing with Industry Partners

x) **Central Ministries & State Govt. Projects - (**skilling projects to train special communities for a positive turnaround in their lives & economic status)
   - LGBT Community
   - Scheduled Caste & Scheduled Tribe
   - Safai karamchari & Manual Scavengers
   - Widows & War Widows
   - OBC & Nomadic Tribes
   - Army Wives & Wards

xi) **Special Projects -** (skilling initiatives for upliftment & creating livelihood opportunities for these target groups)
   - Drug Addicts & Their Dependents
   - Dowry & Rape Victims
   - Acid Attack Survivors & Burn Victims
   - Domestic Violence Victims
   - Alcoholics & Their Dependents

xii) **Formation of Sub-Committees** - six sub committees namely HR and Training, Assessments, Standards, Finance and Legal, Industry engagement and placements, India Skills and world skills.

xiii) **Till date 6,23,549 candidates have been trained in various job roles** - Average salary drawn by the trained candidates is between 6500 to 18000 per month across region/states in various sectors. Trained candidates have been placed in 27 different companies.

xiv) **Way Forward**
   a) Initiation of Beauty & Wellness **courses in more Universities** across India such as VIT, Manav Rachna, Kaziranga University, Nagaland University, Apex University
   b) **9 Handbooks** under development along with Facilitator's Manual
   c) **e-content** being developed for 10 Job Roles / Modules
   d) Special focus on **generating apprenticeship contracts** with Training Partners. Three MoU's already signed under NAPS with VLCC, Enrich & O2 Spa
   e) Projected **Training of Trainers – 500**
   f) Preparations for **WorldSkills 2021**, Shanghai
   g) **Merging Qualification Packs** for improving their robustness
   h) Identifying **new job roles** basis demand aggregation
   i) Getting **Aesthetic Skin Care** job roles NSQC cleared
   j) Get preventive **Ayurveda & Nutrition** job roles under the fold of B&WSSC
   k) Establish **Centre of Excellence(s)** with support of Industry Partner
   l) Appointment of **Internal & External Auditors**
   m) Establishing **Regional Presence**
   n) Initiation of **Skills on Wheels** concept
   o) **YOGA - a special focus sub-sector:**
      - Trained around 1 lakh candidates for Yoga job roles under various schemes
      - MoU signed with Indian Yoga Association
      - Introduction of Yoga as a skills trade for IndiaSkills 2020
      - Special emphasis on Yoga through RPL - (Total Yoga candidates trained till now- 94,413)

xv) **Nirvana – (project outline)**
   - Identification of budding entrepreneurs (skilling under PMKVY, through skill training institutes)
   - Selection of deserving candidates through a competitive process

- Factoring diversity into the selection process
- Selection of a viable idea that must generate employment for 1.5-2 people soon
- Transform candidates into entrepreneurs through intensive coaching, re-skilling and mentoring

xvi) **IndiaSkills 2020 & WorldSkills 2021: -** 23 states are participating in beauty therapy and 21 states are participating in hair dressing.

xvii) Key Initiatives:

- Expert Mentorship Program – Building Trainers Capacity including States through TOT's
- Jury Certification Program - (Regional & National)
- Boot Camps - (Regional & National)
- Yoga & Fitness Training – (Stress Management)
- International Competition Acclimatization – (Participation in International Competitions).

4.2.5 Shri Sumit Garg, Head Standards, Domestic Workers Sector Skill Council (DWSSC) views on 'Perspectives by Domestic Workers Sector Skill Council':

i) 'Domestic worker'- *means, a person who is employed for remuneration whether in cash or kind, in any household through any agency or directly, either on a temporary or permanent, part time or full time basis to do the household work, but does not include any member of the family of an employer.* (Source: National Draft Policy on Domestic Workers)

ii) **Sector Overview**

a) Domestic work is the fastest growing sector of employment for women in the country
b) It's unique because both employer & employee are from unorganized sector
c) As per estimates of Ministry of Labour & Employment, there are 20 million domestic workers, mostly women; whose services go unrecognized
d) As per the NSDC-KPMG Report 2017, there is additional demand of 7.79 million domestic workers in India in 2017 which would go up to 10.88 million in 2022

iii) **Skill gap study**

a) The domestic worker sub categories include general domestic help, cook, Gardner, office assistant and babysitter
b) Estimated growth of domestic workforce will increase from 6 million in year 2013 to 10.88 Million by year 2022

iv) **Domestic work sector presents a three pronged vulnerability-:**

a) migrants
b) women which poses them to the risks of being trafficked or physical and sexual exploitation
c) nature of work is limited to the private space of household

v) **Legal Framework**

a) The domestic work sector in India operates in absence of a legal framework protecting the welfare and rights of the workers.
b) The agencies involved in the recruitment process need to ensure that the rights of the migrant workers are protected at source, transit and destination.

vi) **Expectations of domestic workers**

a) Training.
b) Security of job.

c) Opportunity for career progression.
d) Better income prospects.

vii) **Stakeholders of DWSSC**: Ministry of Social Justice and Empowerment; Ministry of Women & Child Development; Ministry of External Affairs; Ministry of Rural Development; Ministry of Labour & Employment; Ministry of Skill Development & Entrepreneurship; State Skill Development Mission; NGOs, Trade unions; Care providing institutions and services; App based service provider, Placement services, and RWAs.

viii) **State-wise Awareness Events and Workshops -** To sensitize the stakeholders on the need for skill development of DWs and the opportunities open for them to get dignity of their services to the society.

ix) **Presence in & Engagement with the States**
a) Interaction with 24 State Missions and Training ongoing in 25 states.
b) CEOs interaction with State MDs and Secretaries.
c) Organized Major Seminars in Delhi, Guwahati, Ranchi upcoming in Chennai.
d) Conducted DWSSC sponsored workshops with State Missions and TPs in Rajasthan, Orissa, MP, Gujarat, Tamil Nadu and West Bengal.

x) **Opportunities and Aspiration With DWSSC**
a) Employment in Japan & Gulf
b) Trainings through Master Trainers from Philippines
c) Trainings in Academic Institutions; Opportunity for B.Voc
d) Aspirational Job Roles -:
- Elderly Caretaker
- Child Caretaker
- Household Multipurpose Executive
- Home Cook
- Private Tutor/Governess
- Household Supervisor
- Supervisor- Day Care/Old Age home/Special Needs home
- Tiffin Service Provider

4.2.6 **Ms. Meghna Mishra, CEO, Rubber Skill Development Council, views on '**Perspectives by Rubber Skill Development Council':

i) Rubber industry has rubber sector and CPC (Chemical and Petrochemicals).

ii) India is the world fifth largest producer and second largest consumer of the rubber with around **6000** unit manufacturing, **35000** rubber products. **52%** of the rubber products used in the automobile industry.

iii) Indian Rubber Industry plays a core sector role in the Indian economy with tyre industry turnover of **Rs. 63,000 crore**.

iv) India is Third in Natural Rubber Productivity and area under rubber plantations in **India is ranked 5th globally. Kerala** is the largest rubber producing state in India accounting for **78% of total NR production (2017-18)**. The major traditional natural rubber growing regions are- **Kerala and Tamil Nadu** and in the **North East comprising of Tripura, Assam** etc. Non-traditional rubber growing regions are- **Arunachal Pradesh, Manipur**, and lower reaches of hills of **Meghalaya, Mizoram and Nagaland** in the country.

v) More than 12 lakh planters are involved in Natural Rubber (NR) plantation sub-sector in the country.

vi) Natural Rubber (NR) and Synthetic Rubber (SR) production was 1,025,221 tons and the consumption (NR & SR) was 1,746,185 tons in 2017-18.

vii) Rubber manufacturing industry is typically classified as tyre and non-tyre segments, with two-third of Indian rubber industry cater auto industry demand.

viii) Product wise segments of Rubber Industry (2017-18):
   a) Auto tyres and tubes-68%
   b) Cycle tyres and tubes-6%
   c) Camel back- 5%
   d) Footwear -7%
   e) Belts and Hoses- 4
   f) Latex foams-3%
   g) Dipped Goods-4
   h) Others-4%

ix) Existing Work Force & Skill Gap Till 2022
   a) Tyre - skill gap(2017-2022)- 1,52,415
   b) Non-Tyre - skill gap(2017-2022)- 3,70,855
   c) Tyre Service & Maintenance -skill gap(2017-2022)- 11,03,745
   d) NR Plantation -skill gap(2017-2022)- 2,20,000

x) Current Employment and Forecasting of Human Resource
   a) Haryana - Increment (2017-2022 Forecast)- 124818
   b) Uttar Pradesh - Increment (2017-2022 Forecast)- 259717
   c) Delhi - Increment (2017-2022 Forecast)- 32604
   d) Rajasthan - Increment (2017-2022 Forecast)- 128610

xi) High Demand Job Roles are:
   a) Junior Rubber Technician
   b) Mill Operator
   c) Injection Molding Operator
   d) Compression Molding Operator
   e) Material Handling & Storage Operator
   f) Building Operator Footwear
   g) Pneumatic Tyre Molding operator
   h) Tyre Retreading
   i) Tyre Fitter & Maintenance

xii) Major Achievements
   a) Developed 116 Qualification Packs for manufacturing job roles (for Tyre, Non-Tyre & Tyre Service segments) and 32 QPs for Natural Rubber Plantation Segment. Post rationalization manufacturing Job roles have been reduced to 69 in number
   b) Skill Gap Analysis conducted across 21 states in Manufacturing and Plantation sectors
   c) E Learning Simulated Content is being developed for 5 Job roles
   d) Bachelor in Vocational Studies (B. Voc) in Rubber Technology and Dual Certification courses across 11 colleges & universities.
   e) MOU signed with 13 State Governments, along with National Backward Class Finance & Development Corporation and National Scheduled caste Finance & Development Corporation
   f) RSDC has developed exclusive Job portal for rubber industry employers to hire RSDC's certified students and also launched Mobile App for easy access to updates about skill development activities. Currently we have 118 Employers and Approx 1300 candidates registered on Job Portal

g) Quarterly Magazine "Rubber Skills Time" and E Newsletter to create awareness amongst the industry members regarding the various activities undertaken by the Council
h) RSDC is working with the industry to set up Center of Excellence across 4 locations for meeting industry requirement for skilled professionals and is closely working with MSME tool rooms for fresh training

xiii) **SAAMARTHA scheme -1 Million to be Re-skilled over the next 5 Year-** Ministry for Skill development & Entrepreneurship (MSDE) has approved the project for re-skilling of 1 million workforce in the rubber sector. In the first phase SSC has been allocated 32000 numbers to be trained under RPL. Following job roles has been shortlisted for this project over the next 5 year

a) Tyre Fitter
b) Tyre wheel alignment Operator
c) Tyre Uniformity Operator
d) Junior Rubber Technician
e) Mill Operator
f) Compression Moulding Operator
g) Rubber product finishing operator
h) Rubber material handling and storage operator
i) Tyre Casing Inspection/Preparation
j) Tyre Rethreading Assembling & Curing Operator
k) Latex Harvest Technician
l) General Worker – Rubber Plantation
m) Rubber Nursery worker-General
n) Processing technician -Rubber shredding

xiv) Challenges Identified

- Lack of Training Infrastructure in the Sector to support the skilled manpower required in MSME Segment
- Low aspiration amongst candidates forgetting into Manufacturing Job roles

xv) Subsector : Key Segments in Chemicals

- Base Chemicals- Petrochemicals, manmade fibres, industrial gases, fertilizers, chloralkali and other organic and inorganic chemicals
- Specialty Chemicals- Dyes and pigments, leather chemicals, construction chemicals, personal care and other specialty chemicals
- Pharmaceutical- Active Pharmaceutical Ingredients (APIs) and formulations
- Agrochemicals- Insecticides, herbicides, fungicides and other crop protection chemicals
- Biotechnology- Bio-pharma, bio Agri and bio industrial products
- Basic Major Petrochemicals-Synthetic Fibers,Polymers,Synthetic Rubber(Elastomers),Synthetic Detergent Intermediates Performance Plastics
- Intermediates- Fiber Intermediates, Building Blocks(olefins and aromatics)

xvi) **Chemicals** industry in India is highly diversified, covering more than 80,000 commercial products. India's proximity to the Middle East, the world's source of petrochemicals feedstock, makes for economies of scale.

xvii) **India** is a strong global dye supplier, accounting for approximately 16% of the world production of dyestuff and dye intermediates. Chemicals industry in India has been de-licensed except for few hazardous chemicals. Upcoming Petroleum, Chemicals and Petrochemicals Investment Regions (PCPIRs) and Plastic parks will provide state-of-the-art infrastructure for Chemicals and Petrochemicals sector.

- The Indian chemicals industry is projected to reach $ 304 bn by 2025
- Indian ranks 14th in export and 8th in import of chemicals (Excluding Pharmaceuticals products) globally
- Demand of chemical products is expected to grow at approximately 9% p.a. over the next 5 years
- Indian chemical industry employs more than 2 million people

xviii) **Sub-sectors: Petrochemicals**

- Petrochemical industry plays a vital role in economic growth and development of manufacturing sector. The value addition in the petrochemicals industry is higher than most of the other industry sectors.
- Today, petrochemical products permeate the entire spectrum of daily use items and cover almost every sphere of life like clothing, housing, construction, furniture, automobiles, household items, agriculture, horticulture, irrigation, packaging, medical appliances, electronics and electrical etc.
- Downstream Petrochemical Chemical Sector: The Plastic processing industry is highly fragmented and consists of tiny, small, medium and large scale units spread throughout the country comprises more than 30,000 processing units, 85-90 % of which are small and medium-sized enterprises.
- The Indian plastics industry produces and exports a wide range of raw materials, plastic-moulded extruded goods, polyester films, moulded / soft luggage items, writing instruments, plastic woven sacks and bags, polyvinyl chloride (PVC), leather cloth and sheeting, packaging, consumer goods, sanitary fittings, electrical accessories, laboratory / medical surgical ware, tarpaulins, laminates, fishnets, travel ware, and others. (Sources: *https://www.ibef.org/exports/plastic-industry-india*

xix) Skill Manpower Requirement of the Plastic Industry required in 2014-2023: Total manpower required are 1165500 in various capacity such as supervisor, maintenance, semi-skilled and operator. It will cater the need of plastic industry process like Roto molding, Extrusion, BM, IM and other process.

4.2.7 Ms. Manju Verma, Senior Manager, Healthcare centre skill council –view on healthcare perspective:

i) Healthcare is not dependent on person's capability of planning. Health should be accessible, affordable to every citizens of the country. India is young populists' country. The social responsibility is not only for patients of our country but also of cater demands of other countries.

ii) For this planning about 1.5 lakh health and wellness centres should come up. Three times of 1.5 lakhs Workforce will be required.

iii) NCRPB should plan for such centres all across the NCR focusing on the areas which are right now not accessible.

iv) TITP (Technical Intern Training Program) model wherein people who are trained in India in health sector are being sent to Japan under an MoU.

v) In terms of employment, the communication skills, soft skills and entrepreneurship aspects need to be taken care.

vi) Foreign language institutions should be established in the region.

vii) **Pradhan Mantri Arogya Mitra** is a national flagship programme. The requirement remains the same of getting better system. We are talking about comprehensive healthcare delivery system. We need centres in NCR which could cater to *Ayush*. We have panchkarma therapist.Singapore is asking that can we get training in panchkarma therapy.

viii) **Industry 4.0 -** Health industry is undergoing a great transformation. In healthcare industry 4.0, people would like to have hospital to come to us. A lab technician to visit our home for sample collection. But do we have faster police verification for the person who visits the house for sample collection?

ix) **Up-Skilling -** Hospitals to do upskilling programme for doctors, nurses and support staffs.

x) Make health care in NCR region affordable and accessible to all people.

4.2.8 Smt. Sunita Sanghi, Senior Adviser, Ministry of Skill Development and Entrepreneurship (MSDE) views on **'**Skilling Strategies for Sustaining the Greatest NCR 2041'**:**

i) **Skill strategy in NCR have to address both to understanding the size and scale.** Going forward two decades from now, in 2041 we are estimating to be at 11 crore. The kind of infrastructure both hard and soft infrastructure that we require would be huge.

ii) This **NCR region is going to be hub of most of the economic activities**. We have already left Mumbai metropolitan behind in terms of economic concentration. We are urbanising very fast.

iii) Large number of **people are coming to NCR region in search of employment**. Skill and skilling strategy for this region becomes very important.

iv) The kind of technology being developed required hard and soft skills incorporated in long term and short term training programmes. Today AI (artificial intelligence) may be most talked about technology but tomorrow it may go out of the market. It needs a different kind of skill sets and job structure.

v) Technical skills for both conventional sector and new sectors are required. So in NCR need to look and plan in terms of manpower which can cater both evergreen conventional technology and new technology. *For Example*, in the construction sector, instead mixing material individually we are slowly moving to technology where pre-fabricated material and light materials are being used which require very little skill set. The kind of manpower who are working here are from rural background with rural aspirations as well as urban aspirations. Are we ready to manage two different aspirations? We have to envisage a vision for the NCR to connect all those dots.

vi) **Reskilling and up skilling of manpower who are coming in the periphery and core region of NCR**. Mapping the skill gap is very difficult.

vii) Large part of Delhi have migrants from eastern part of the country. They require different sets of skills. Large number of people in the informal settlements and employed in informal economy. Integration of the schooling system with vocational education is required to meet the gaps.

viii) Wage employment is very limited. **Skill strategy needs to be focussed & skill strategy should be such that how to create entrepreneurial opportunity for people coming to NCR region**.

ix) Mudra programme, Start up, Stand up India are some of the good initiatives and convergence of all such particular programmes is required. The students are not well aware in terms of information asymmetry.

x) There are district skilling committees and MSDE is vigorously pursuing to set up these district skilling committees. **The skill plan under the aegis of skill**

development mission may be serving the objective of state but should also serve objective of NCR. The challenge that also needs to be addressed.

xi) **Labour market information system**– Skill is dynamic and keeps on changing. Government policies should be in sync. What does industry require? For e.g. for smart mobility do I need smart travel. These are the things to be built in labour MIS. **While training, one need to take on board what other parts of the country are offering**.

xii) India has a demographic advantage with 1/3rd of India as young population. Southern part of India is aged, however, northern and north part of India is young which will be aging by 2035. **NCR should be ready for aged NCR and should plan for geriatric care job role.**

4.3 Session-III was dedicated for 'Strategies for NCR as a Sports Hub' which was chaired Shri Chetan Sharma, Cricketer. The viewpoints of the speakers are as under:

4.3.1 **Shri Vijay Yadav, Cricket Gurukul** – ***views of Challenges in sports:***

i) **Sports is lacking in infrastructure**. Only few Government centres are available which are not sufficient. Also, people prefers to go to private coaching instead of government centres due to various reason like good facilities and infrastructure. Also, good coaches do not want to work for government.

ii) Government schools has big playgrounds but no students. Academies will allow only two hours coaching after the school closes which is insufficient. It should be ensured that government facilities be utilized as envisioned.

iii) Way forward:

a) Sports is a stress buster therefore it is an essential component and all short of required facilities & infrastructure should be planned & developed for it.

b) Nowadays many trends are seen sports and the opportunities available in this sector can be further maximised through an organise infrastructure in a way where coaches and kids can have best place for training. NCR has sufficient potential which should be harnessed and integrated with the overall development of the region. We can perform really well at national or even international level.

c) Schools should be used in partnership with government for coaching of students after the school closes. NCRPB should formulate strategies in this direction.

d) Land infrastructure is priority. When we plan something, it should be in a way that everybody gets benefit out of it.

4.3.2 Shri R.K. Srivastava, Executive Director, Hockey India

i) NCR is very important place as far as sports is concerned. First Asian Games took place in Delhi in 1951, then again held in 1982, Commonwealth games in 2010 and ockey world cup. Delhi has played very important role in organising big sports events.

ii) **Focussing on NCR, things can be divide into two parts:**

a) Firstly, **the requirement of coaches, umpires & technical officials along with their skills development to meet the international standards need to be addressed**. ASI has institutes in Patiala and Gwalior. It should be standardized that what kind of training like soft skills training, etc. are required with reference to NCR. Hockey India has taken up training program and conduct exams for coaches and umpires.

b) Secondly, **Athletes require support system**. Very less support staff is available. Special attention required to take care of the required skills like of Physiotherapists and other professionals as well as training institute where these skills can be developed. There is no such training institute in NCR. Sport is becoming more scientific oriented and facilities like Video analyst are required both for individual and group sports who can record and analyse sports video. As of now very limited resources are available in the country.

iii) **Way forward**

a) Sports medicine centre is located in Safdarjung hospital. More resources and training programme should be proposed/ provided in the institution where the physiotherapist, masseur could be trained.
b) Sports psychologist is the biggest requirement in Indian sports, but there are very few psychologists. This weaknesses should be addressed. The nutrition, training, best physique & mental strength aspects should be boasted with skills to performance. The skill needs of sportsperson should be put in the plans for NCR-2041.
c) Sports universities where one can educate individuals regarding all skills and courses, required for sportsperson, should be proposed/planned in NCR.
d) Many housing societies are mushrooming in outskirt of Delhi as well as within Delhi. It would be appropriate to put some mandatory requirement to have sports field within the society for kids. Any kind of sports – swimming, bicycling, Badminton court, squash court, basketball court etc. should be developed to promote the sports culture in kids.
e) Soft skills should be strengthen. NCR is the right place to lead rest of the country in all kind of sports facilities & infrastructure.

4.3.3 Shri Santosh Kumar Agrawal, President, WAKO India, Kickboxing Federation

i) Kickboxing as a self-defence, training to students in schools and colleges is being provided in Faridabad. Efforts of WAKO India are to connect all the three aspects i.e. sports, skill and social support. *For example:* In Agarwal college in Faridabad WAKO India has signed MoU with the college where a 40 hours course has been designed for girls especially for self-defence. As looking at current crime rate scenario, Self-defence is important. At the same time these girls are trained to become coach and represent in inter college, inter-state, national level in kick boxing.

ii) WAKO India Federation has fulltime course and team and has incorporated skill development and self-defence.

iii) **Challenges:**

a) During international tour, it is found that international players have got good safety equipment and infrastructure. Since kickboxing is new sports, the required infrastructure or safety equipment are lacking in case of India as well as in NCR.
b) **Next Olympics games will be held in India in 2032**. Before that Asian games and commonwealth games will take place. As India will be hosting these games in the future, a lot of infrastructure like stadiums or courts will be constructed which might not be used by the sportsperson later. Strategies for best use and collaboration of the available sport infrastructure in NCR may be framed.

c) With population of more than 14 lakh, Faridabad has no indoor facilities for sports. Players are using school infrastructure or any other infrastructure. Planning should be such that how these infrastructures can used properly.
d) Sports should be promoted as a career option. If Athlete or any other sportsperson establishes himself in sports, his career should also be established. In other countries, if a sportsperson wins a medal he is sure that he can have future career in that sports.
e) Indian Olympic Committee organises "Athlete career program" which talks about how an athlete can take up a particular sports and establish himself in that sports **in future. Such career programs should be promoted in NCR for wider promotion** of Sports.

4.3.4 Shri Neeraj Kumar Mehra, Director, Traditional Sports & Games Federation – *views on creating strategies and for NCR as Sports Hub*.

i) Ministry of Youth Affairs & Sports and Department of Sports is established to create the infrastructure and promote capacity building for broad-basing sports as well as for achieving excellence in various competitive events at the national and international levels. The Department schemes are geared towards achieving these objectives. (ii) It pursues the twin objectives of personality building and nation building, i.e. developing the personality of youth and involving them in various nation-building activities.

ii) **India is running only for medal but should run for the fitness**. In Olympics there are no significant achievements.

iii) Policy Challenges:

a) Need to think and plan for facilities for training of novice and elite athletes at the grassroot and top level for Summer Olympic Games (SOG), Winter Olympic Games (WOG), Youth Olympic Games (YOG), International events for Para athletes, in NCR
b) Deaflympics, Special Olympics and other mega sporting events and required infrastructure & facilities in NCR
c) Facilities for all those people who are not involved with any of competitive sports structure and for common person living in NCR on '**Sports for All concept'**.

iv) Strategic Plans and Proposals
a) Development and Sustainability of Sports Culture
b) Create and implement effective policies for Sports Education
c) Development of Sports Infrastructure for competitive, non-competitive and Sports for All concept
d) Research centres and labs
e) High performance training centres & coaching centres
f) Sports libraries
g) Sports for all recreation centres
h) Traditional sports and games park
i) Sports Museums (Olympic, Paralympic, Traditional Games, Martial Arts etc.)

v) **Traditional games and Sports federation,** represent the global, national and international network of traditional sports and games in order to preserve, study, share, promote and develop their practice for greater intercultural dialogue, better health and better social coexistence of mankind in the world.

4.3.5 Mr. Rajesh Sinha, Under Secretary, Department of Social Justice and Empowerment:

i) Apart from welfare of SC, OBC, Manual Scavengers and De-notified Tribes Department of Social Justice and Empowerment is mandated for Rehabilitation of victims of alcoholism and substance abuse & their families, Programmes of care and support to senior citizens, Rehabilitation of beggars and welfare of Transgender Persons.

ii) The vision & Mission of the Department of Social Justice and Empowerment is to build an inclusive society wherein members of the target groups can lead productive, safe and dignified lives with adequate support for their growth and development. It further strives for achieving a drug free society by counselling, de-addiction, after care and rehabilitation of drug users to make them drug free, crime free, gainfully employed and a productive member of society.

iii) Legal and Policy framework – As per Constitutional Provision under Article 47 *"The State shall endeavour to bring about prohibition of consumption, except for medicinal purposes, of intoxicating drinks and of drugs which are injurious to health".*

iv) Further, India is a signatory to the following three UN Conventions:
   a) Single Convention on Narcotic Drugs, 1961, as amended by the Protocol of 1972 on Narcotic Drugs,
   b) Convention on Psychotropic Substances, 1971 and
   c) Convention on Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988.

v) **Relevant Acts:**
   a) **Narcotics Drugs and Psychotropic Substances (NDPS) Act, 1985** - prohibits- Cultivation of coca, opium or cannabis plants without license; Manufacture of narcotic drugs and psychotropic substances without license and for uses other than medical or scientific purposes and Section 71 of the Act empowers the Government to establish centers for identification, treatment, management, education, after-care, rehabilitation etc. of addicts.
   b) **NDPS Policy, 2012** – Defines the role of various Ministries/Department along with activities

vi) **Drug Control – Agencies involved**
   - Supply Reduction- Ministry of Home Affairs &Department of Revenue
   - Demand Reduction- Ministry of Social Justice & Empowerment
   - Harm Reduction- Ministry of Health & Family Welfare

vii) **Magnitude of Substance use in India**
   - National Level Survey conducted by the Ministry during 2018 for generating estimates on Extent and Pattern of Substance Use in India
   - Survey was conducted in 186 Districts
   - Data was collected from individuals in 10-75 years of age group
   - About 5.4 lakhs individuals were interviewed
   - Report released on 18-02-2019
   - Lead Agency – (i) National Drug Dependence Treatment Centre, (AIIMS, New Delhi) (ii) National Institute of Social Defense
   - **Main Findings**:
     - Alcohol use: 14.6% (16 crore users)
     - Cannabis use: 2.8% (3.1 crore users)
     - Opiod use: 2.1% (2.26 crore users)

- Sedatives use: 1.08% (1.18 crore users)
- Inhalants use: 0.7% (77 Lakhs users)

- **Extent, Trend and Pattern of Drug Abuse**
  - Alcohol use: 14.6% (16 crore users): Highest using States: Chhattisgarh, Tripura, Punjab, Arunachal Pradesh and Goa
  - **Cannabis use**: 2.8% (3.1 crore users): Highest using States: **Uttar Pradesh**, Punjab, Sikkim, Chhattisgarh and **Delhi**.
  - **Opiod use**: 2.1% (2.26 crore users): Highest using States: Sikkim, Arunachal Pradesh, Nagaland, Manipur and Mizoram.
  - **Sedatives use**: 1.08% (1.18 crore users): Highest using States: Sikkim, Nagaland, Manipur and Mizoram. States housing large population of sedative users: **UP**, Maharashtra, Punjab, Andhra Pradesh and Gujarat

viii) **Extent of The Problem- Delhi**

- Mapping and Size Estimation of street children who use drugs in Delhi in 2015 by NDDTC, AIIMS
- Age group – 7 to 18 years of sample size– 766 Street children
- Findings: 22.1% of all street children have used some substance in the last one year.
- Tobacco, alcohol, cannabis and inhalants commonly used
  - Common reason for substance use – peer pressure (29.2%), curiosity (19%), to experience a high (15.7%), anger/sadness (9.3%) , can not handle hunger (5.9).

ix) **Interventions by MSJE**

- Supports about 488 Integrated Rehabilitation Centre for Addicts (IRCAs) in the country.
- Media campaign through electronic, print and social media-radio programmes, outdoor publicity etc.
- **Operates a National Toll free Help line no. 1800-11-0031** to help victims of drug abuse and their families.
- National Institute of Social Defence (NISD)- An autonomous body for training, awareness generation and documentation in the field of drug demand reduction.
- 12 Regional Resource and Training Centres (RRTCs)- Field training units and provide technical support to NGOs.

x) **Scheme -Prevention Of Alcoholism & Substance (Drugs) Abuse**

- Implemented since 1985-86
- Financial assistance is provided upto 95% for Integrated Rehabilitation Centre for Addicts (IRCAs)
- Presently supporting approximately 485 IRCAs
- Approximately 1 lakh addicts treated per year.
- Eligible Organizations/Institutions:
  - District Hospitals, Railway Hospitals, Prisons, Juvenile Homes
  - Registered Societies formed by the State Governments
  - Panchayati Raj Institutions (PRIs), Urban Local Bodies (ULBs), organizations/institutions fully funded or managed by State/ Central Government or a local body
  - A Society registered under the Societies Registration Act, 1860 (XXI of 1860) or any relevant Act of the State Governments/ Union Territory Administrations
  - A Public Trust registered under any law for the time being in force

- A Company established under Section 25 of the Companies Act, 1956

- **The Grant in aid is provided for running :**
  - 15 bedded IRCA- upto Rs. 25,81,800/-
  - 30 bedded IRCA- upto Rs 36,56,400/ -
  - 50 bedded IRCA- upto Rs 49,02,000/-

xi) On-line submission and processing of applications of NGOs from 2014-15. Total districts covered are 306

xii) **National Action Plan For Drug Demand Reduction (NAPDDR)-** A National Action Plan for Drug Demand Reduction (2018-2025) has been prepared by the Ministry along with the implementation framework with the following objective-

- To create awareness about ill effects of drugs abuse and reduce stigmatization of and discrimination against dependents on drugs in order to integrate them back into the society
- Develop human resources and build capacity for working towards these objectives.
- To facilitate research, training, documentation, innovation and collection of relevant information.
- Alleviate the consequences of drug dependence amongst individuals, family and society at large.

xiii) **Components Admissible for Financial Assistance under NAPDDR**

- Preventive Education and Awareness Generation
- Capacity Building
- Treatment and Rehabilitation
- Setting quality standards
- Focused Intervention in vulnerable areas.
- Skill development, vocational training and livelihood support of ex-drug addicts.
- Survey, Studies, Evaluation, research and Innovation on the subjects covered under the Scheme.
- Programs for Drug Demand Reduction by States/Uts.
- Program Management.
- Any other activity or item which will augment/strengthen the implementation of NAPDDR.

xiv) **Focussed Intervention in Vulnerable Areas**

- 131 districts have been identified in the country based on feedback from stakeholders.
- Following two intervention programmes would be carried out in the identified districts:
  - Community based Peer led Intervention (PLI) for Early Drug Use Prevention among Adolescents
  - Youth would be trained as Peer Educators to lead peer led community intervention and implement early prevention education especially for vulnerable adolescents and youth in the community. Referral and linkage to counselling, treatment and rehabilitation services for drug dependents identified in the community would also be provided.

xv) **Components Admissible for Financial Assistance under NAPDDR Outreach and Drop in Centres**

- Outreach activities would be conducted in the community for prevention of drug abuse with a special focus on youth who are dependent on drugs.

- ODICs would provide safe and secure drop-in space for drug users in the community.
- Centres shall have the provision of screening, assessment and counselling
- Provision of consultation with doctor for referral and linkage with treatment facility

4.3.6 **Dr. Shaji Prabhakaran, President of Football Association, New Delhi** – ***views pertaining to sports infrastructure of NCR:***

i) There is a lack of data. However, as RP-2041 for NCR is under preparation, NCR bradding of Sports should be recognised. NCR has great potential in terms of sports with in India as well in the world.

- Sports personalities like Kapil Dev and Virat Kohli belongs to NCR.
- Last Olympians in Rio Sakshi Malik and Sushil Kumar were from NCR. Where we can place NCR in India and in the world.

ii) Sports should be linked with health and lifestyle aspects. India is global capital for diabetic and Obesity is rising.

iii) In football **there are more than 300+ participants in football in NCR region**. However, proper facilities are not available.

- China planned to build 75000 soccer pitches by 2023.
- NCR requires around 1000 football pitches and for cricket we need more.

iv) **There are more than 75 sports being played by population of NCR and enjoyed**.

v) **At micro level we need precise data**.

vi) **There is a need to have integrated approach**. Health cost of Government budget can we reduced by investing in sports. There is concrete data available in US and Europe. For example, if we invest X dollar on sports than Y dollar would be saved in the annual budget of the country. Ministry of Health, Ministry of education needs to work jointly. It is not only for person who wants play sports instead sports belong to everyone.

vii) **The assessment of available and needed physical infrastructure for sports should be undertaken to understand the current scenario and the gap needs to be filled**. This should involve school, colleges, Universities, parks, etc.

viii) There are some policy issues which should be fixed. *For example*, children are not allowed to pay in the park. The agencies must think that playing or getting involved in various activities by children can reduce the abusive nature of the children. It is psychological. Brazil is such an example where children are involved in various activity like night sports, it reduced crime in night. NCR must think in a very holistic manner.

ix) NCR is an example for many things, however as like of other countries like China our Plans should integrate the Sports in our Plans and strategizes accordingly. Sports should also be taken case as a priority sector. There is a need to have structural approach - a Pyramid approach for having a wider base to produce champions. The entire population should be involved.

x) Projects should be envisioned to improve the economic growth. Sport is a big industry and can provide many career opportunities in various sectors.

4.3.7 Shri Chetan Sharma, Cricketer highlighted the followings:

i) Sports should not be treated in isolation or for any individual. It should be thought for a longer goal in National interest. SAI had 17000 schools registered in pan India where Cricket, football, basketball, etc. is being played.

ii) BCCI is richest body as far as infrastructure is concern but they cannot go into school level. BCCI starts U-14 it means the student will play for 14-15 years. There are many good players in cricket but only few such as 16 in ODI,180 in IPL, few thousand in all states can be absorbed. The diversification of sports is required.

iii) Sports should be mandatory like other course subject in school and verity of sports need to be involved in the curriculum.

iv) There is lack of district level grounds in NCR and even if there is any, the required staff is not available. At least four persons are required for maintenance of a ground.

v) The remunerations for coaches, trainers, physiologists, etc. should be taken care, in case of Government institution, so that such people can perform their best. Around 700 private coaching are there in NCR. People prefer to send their kids to private coaching centres and due to limitations international coaches do join government academies. International sports person in any field should get the priority.

vi) DDA has started an initiative to provide ground on profit sharing basis. There is pull and push here too.

vii) Mental health is a new and very important aspect that needs to be considered in planning. Professionals are required to deliver the best for this mega region.

viii) Haryana Sports University has made Kapil Dev as Vice Chancellor. It makes a lot of sense if HOD is a sports person. It can create so many jobs in sports sector.

ix) Maharashtra sports policies are such that a sportsman can take over the possession of the house by paying 10% to the builder. In Delhi NCR also, similar policies can be adopted and every society should have playgrounds or squash court. Societies will have good sports persons for the benefit of the society. In return they must coach to the children of the society for 3 days a week. This way girls, who wishes to play but otherwise cannot go outside the society for various reasons, can be trained.

4.4 Session-IV was on 'Perspectives by NCR States' regarding 'Sports, Skills and Social Security System' the viewpoints of the speakers are as under:

4.4.1 Shri Rajesh Singh, DDG, Rural Business, Deptt. of Posts - *views on Social support system role of post offices:*

i) Post offices provide services meeting societal needs like Banking, Insurance, mailing, parcel trans-shipments and utilities.

ii) Social security needs of Pensions, beneficiary payments, G2C services

iii) Digitalized services using digital e-sewa portal of CSC.

iv) Door step banking, remittances, DBT and utilities using IPPB.

v) Operates today on ERP platform, real time info on service-empowering citizens.

vi) **Challenges For NCR**

a) Fewer PO to population, and expanding peri urban remains sparsely served
b) Quality of services gets compromised.
c) Harassment to old age due to remote locations.
d) PO – no longer neighborhood institution. A sense of alienation
e) Society not ready to bear the costs of set up.
f) Commercial interests take precedence over societal needs.
g) Town Planning poorly factor PO needs for society
h) PO as social infrastructure depleting in NCR and Rural –urban continuum

vii) **Way- forward**

a) Society to bear the cost for PO set up in each new township.
b) **One PO for Population of 15000 in UDPFI guidelines made the norm**.
c) No approvals to development plan without PO
d) Digitized parcel lockers for convenience of citizens.
e) Mechanization of physical delivery.
f) Institutionalize PO in Planning at all levels
g) PO be treated as community driven entity
h) Increase presence in NCR, Haryana model where Panchayat buildings house PO needs a thought.
i) Citizen centric services and all on e-Sewa from PO, Aadhaar, Passports, PAN, PMFBY, EC registration, Labour services, e District services, FASTag, utilities connections and payments and eStamp

4.4.2 Shri S P Shashank, Director, Department of Social Welfare, Women & Child Development, GNCT Delhi:

i) Almost 16 lakh people in Delhi are 60+ and city has lot of migrant population from other states coming for their livelihood, career, health and other facilities.

ii) **Financial Assistance**

a) Delhi Pension Scheme to Women in Distress (Widows, Divorced, Separated, Destitute, Abandoned Women)

- Target Group - Women in Distress (Widows, Divorced, Separated, Destitute, Abandoned Women) from the age group of 18 years to lifelong.
- From September, 2016 onwards the payment through PFMS portal has also been started.
- The scheme has been launched online on e-district portal from 12/12/2018.
- An amount of Rs.2500 per month is remitted to the bank accounts of beneficiary through Aadhar based payment (PFMS-Portal /DBT).

ELIGIBILITY CRITERIA**:**

- She has been residing in Delhi for more than 5 years preceding the date of application.
- She has a singly operated account in any bank for receiving the payment
- She is not receiving any pension from Central Government/State Government/MCD and or NDMC or any other source for this purpose.
- Aadhar Number of the applicant is mandatory.
- Income Criteria: - Applicant's income should be below Rs. 1 Lakh per annum.

o Total numbers of beneficiaries under Delhi Pension to Women in Distress are 2.48 Lakhs till December 2019.
o Budget Allocated for the Financial Year 2019-20 – Rs.745 Crores

b) **Financial Assistance to "Poor Widows for marriage of their Daughters and Orphan Girls"**

- To provide Financial Assistance to the poor widows for performing the marriage of their daughter (upto two daughters only).
- To provide Financial Assistance to the Guardian including Homes/Institutions or foster parents of an orphan for her marriage.
- This is one time grant of Rs. 30,000/- through ECS.

ELIGIBILITY CRITERIA

- The girl for whose marriage the financial assistance is sought should be major on the date of marriage i.e. above 18 years of age.

- The application shall be submitted at least 60 days before or after the date of marriage.
- Her family's annual income does not exceed than Rs.60000/- (Rs. Sixty Thousand only)

o Under the Financial Assistance to Poor widows for performing the marriage of their daughters and Orphan girls Scheme, **1436 cases** have been sanctioned till October 2019.

o Budget Allocated for the Financial Year 2019-20 – Rs.13 Crores

c) **Old Age Assistance (Old Age Pension)**
- Financial Assistance of Rs.2000/- per month is provided to persons of 60-69 years .
- Rs.2500/- to persons belonging to SC/ST/Minority category in the age group of 60-69 years.
- Rs.2500/- per month to persons 70 years and above (all category).
- Applicants have to be resident of Delhi for at least 5 years, having income below Rs.1 Lakh per annum (both husband and wife included).
- Old Age Assistance Scheme has got 4.65 Lakhs beneficiaries with allocated budget of Rs1244 crore

d) **Financial Assistance to Persons with Special Needs (Disability Pension**) @ Rs. 2500/- per month provided to
- Beneficiaries of all ages, if disability is 40% and above and
- Resident of Delhi for at least 5 years, having family income below Rs.1 Lakh per annum.
- 21 disability categories are covered as identified in Rights of Persons with Disabilities Act 2016
- Financial Assistance to Persons with Special Needs has benefited 93475 with allocated fund of Rs. 255 cr.

e) **Delhi Family Benefit Scheme (DFBS)**
- One time assistance of Rs.20,000/- is provided in the event of death of primary breadwinner.
- Age of breadwinner should be between 18 to 60 years at the time of death.
- Applicant should be resident of Delhi for minimum 05 years having family income below Rs.1 Lakh per annum.
- Delhi Family Benefit Scheme has 5686 beneficiaries and 13.7cr

f) **Delhi Ladli Scheme, 2008**
- Launched on 01.01.2008 for empowerment of girl children.
- Financial assistance in the form of term deposits of Rs.11,000/- if born in hospital or Rs.10,000/- if born at home at the time of registration and Rs.5,000/- each, after reaching five milestones i.e. Class I, VI, IX, XI & XII.
- Having family income below Rs.1 lakh per annum from all sources.
- Residence in Delhi for last three years.
- No. of Beneficiaries since inception of the scheme i.e. 2008 ~ 10.17 Lakhs (approx.)

Objectives
- To control female foeticide and to improve sex ratio.
- To promote education among the girls and reduce school drop-out rate of girl students.
- To provide security to girl students for their higher education.
- The scheme provides benefits to two surviving girl children per family.

- Budget for 2019-20 - Rs.100 Crores.

g) **Pradhan Mantri Matru Vandana Yojana (PMMVY)**

- Providing partial compensation for the wage loss in terms of cash incentives so that the woman can take adequate rest before and after delivery of the first living child.
- The cash incentive provided would lead to improved health seeking behaviour amongst the Pregnant Women and Lactating Mothers (PW&LM).

TARGET BENEFICIARIES:

- All first time pregnant Women and lactating mothers, excluding PW & LM who are in regular employment with the Central Government or the State Governments or PSUs or those who are in receipt of similar benefits under any law for the time being in force.

Benefits under PMMVY:

- Cash incentives in three instalments through PMMVY CAS Portal link with PFMS.
- First instalment of Rs.1000/- at the time registration at AWC.
- Second instalment of Rs.2000/- after six month of pregnancy.
- Third instalment of Rs.2000/- after child birth registration and immunization.

Current Status of the scheme :

- No. of beneficiaries covered since 1/1/2017 – 136640 till 09/01/2020.

iii) **Institutions under Section 41 of Juvenile Justice Act, 2015**

- 23 Government run Child Care Institutions (notified)
- 02 After Care Homes
- 09 NGO run Open Shelters
- 82 NGO run Child Care Institutions
- 11 Specialized Adoption Agencies (including one Govt. run Children Home notified recently as Adoption Agency)

iv) **Statutory Bodies under Juvenile Justice Act, 2015**

- 06 Juvenile Justice Boards
- 10 Child Welfare Committees.

4.4.3 Shri Rajesh Kumar, Special Secretary, Sports, Govt. of Uttar Pradesh – *views on sports, skills and social support systems in districts of UP.*

i) **There** are several sports institutions located in NCR districts of NCR. These institutions are offering various kind of sports facilities. (Details of district wise sports institutions provided).

ii) **SKILL DEVELOPMENT**

a) Ensure : Health & Fitness Programme to the Player.
b) Coaches / Trainers : in Particular Sports
c) Physiotherapist for injured players and Rehabilitation.
d) Providing the sports infrastructure, field & equipment's.
e) Physical Education Teacher at school level / college level recognized the talent in early stage.
f) Build the physical development component like – Strength, Speed, endurance, coordinative abilities, reaction time.
g) Skill perfection in any specific sports.

iii) **SOCIAL SUPPORT SYSTEM**

h) Parental Support.
i) School College support : recognized the achievement and honour.
j) Establishing the support of NGO, Club, Housing Society, Training facility should be available on walking distance.

k) Financial Support : School / College report 15% amount of the fees / income on sports. Provide kit & equipment, diet etc.
l) School Coordinator: Ask the sports question in Examination for promotion of Sports, Evaluation on the basis of marks, Give accreditation to school/college on his basis of sports performances. A school coordinator may give direction now to maintain health and keeping the physically fit and mentally also and how to coordinate with nutrition. Also sport 15% time of the total school time in physical and spent activities it can be on the field and off the Field.
m) Administrative support : Must be provided to the players.
n) Regard/Motivation, Periodically/Quarterly function arrange for Honoring the players.

iv) **SPORTS FACILITIES REQUIRED FOR 2041**

o) Open Sports Colleges
p) Open Sports Universities
q) Construct the Stadium proportionate to 2041 population
r) Providing the fitness center at Gram, Block , Taluka, District, State Level
s) Providing the more facilities at School & College Level
t) Launch 'fit India' programme
u) Create professional Sports Training Centre
v) Ensure world class sports facilities & District Level
w) We should have good doctors for sportsperson.
x) A skill should be developed in sportsperson so that on world scale sports person can perform well.

4.4.4 Shri Ali Haider, Govt. of Uttar Pradesh

i) UP region have enough sports infrastructure. Meerut has got very good stadium, DPS, CCS University, along with other facilities. In Ghaziabad Mahamaya Sports Stadium and for Gautam Budhnagar, Bulandshahar, Baghpat, Hapur, Shamli, Muzaffarnagar too have the sports facilities.
ii) In proportion with sports facilities required to favour the need for coming generation. These facilities need to be double keeping in view the growth of population.
iii) Skill development of athletes is also required. Fit India campaign launched – 10000 persons participated in Meerut. There is a need to have good coaches, good trainers, physiotherapist; infrastructure and equipment availability should be there.
iv) Physical development should be done at school level.
v) Sports psychologist should also be there along with good doctors who should be aware about sports medicines.
vi) Parental support is required for sports. School colleges are hub of sports where we can groom children. Support of housing societies can be taken in this regard.
vii) Financial support and administrative support is required for motivation.

4.4.5 Shri Shyam Lal, DEO, Alwar, Govt. of Rajasthan: *views regarding Employment exchange & Skill:*

- **Employment Exchange:**

a) Employment exchange looks after 5 works namely - Registration, Counselling for students in school, colleges and for parents. Infrastructure of counselling should be increased in ratio of available students in the campus.
b) Career corner in all schools & colleges should be established

c) Unemployment allowance: In Alwar we are providing unemployment allowance to10000 students for two years. Male students are given Rs3000 and Female students are given Rs 3500.
d) Suggestion - after the unemployment allowance term of one year is over these students should be given skill training. So that students are not liability on the government. The renewal of unemployment allowance should be renewed only after student has acquired at least one skill.
e) Parents counselling is required along with the counselling of the children. Parents impose career options on students.so that students can have freedom while choosing their career.
f) Vacancy analysis: information system where in all the vacancies are monitored. NCR has many vacancies. There should be a mutual platform so that vacancies can be filled through employments centres only. To avoid any illegal placement process there should be a Regulatory board for all placement agencies.

- **Skilling development**

a) Rajasthan Kaushal Ajeevika Vikas Nigam the nodal department. PMKKY is GOI scheme which is in ratio of 75:25 and implementation part is looked after by RLDC. Any candidate between age group of 18-35 is eligible. Training is need based. And after training all candidates are placed suitable.
b) ELSTP: It is funded by govt. of Rajasthan.75% of persons taking training placement are mandatory. After three months of placement only TPs (Training partners) get their payments.
c) DDU- KVY – A central funded scheme. It is for both rural and urban students.
d) Mukhyamantri yuva Kaushal yojna – It is designed for final year college students. Around 39 various courses are available to fulfil industry as well as students need. 100 college are under this scheme with 6000 students are currently enrolled.
e) RLDC is providing training for students who wish to work in abroad. Centres are available in Jaipur, sikar where students are given pre departure orientation, immigration and customs of respective country. Students are also given training for skills as well as language training required to work in abroad. All cost related to visa and passport are being borne by RLDC. Even their placement is arranged with collaboration of placement agencies

4.4.6 Shri Rampal Hooda, Coach, Sports Department, Govt. of Haryana:

a) Haryana has ample number of sports club and stadiums. Though it is not at par with Olympics or Asiads.
b) Government of Haryana is financially supporting sports person who performs well and bring medal for the country or state.
c) Olympians are being financial assisted-Gold medal-6 crore, Silver -4 crore, Broze -2.5 crore and 15 lacs for participant.
d) Asiad – Gold-3 crore, Silver-1.5 Crore, Bronze- 75 lacs and 7.5 lakh to participate,
e) Commonwealth – Gold-1.5 crore, Silver-75 lacs and Bronze-50 lacs.
f) Youth Olympics – 2 crore, 1.5 crore, 80 lakhs, participant 5 lakh.
g) We have grading system. Olympics – A Grade. A grade gets 6 crore plus Class-I officer employment. Asiad and Commonwealth medallists are designated as Grade B gets Class-II officer jobs. Likewise National medallists are given Class-III level jobs.

- **Challenges:**

a) Coordination is lacking in our educational department and sports department.

b) Education is important but sports is equally important. Physical training teachers do not want to take services of coaches of sports department. Even though these coaches have represented country in a particular sports. Similar situation is in universities also.
c) Coaches should be appointed in schools and universities for better coaching of interested students.
d) **Fare play scheme:** It is meant for participation of SC/ST students, Rs30,000/- for boys and Rs18000/- for girls are given as apprentice.
e) Rajiv Gandhi stadium are there at village, district level for traditional sports. Every district has individual stadium.
f) **Raahgiri scheme** is there for physical fitness which is organized on every Sunday in Haryana.

4.4.7 Sh. Sawant Bhaskar Atmaram, Principal Secretary, Sports Department, Rajasthan

i) **Incentive and facilities to Players**
   a) International Competitions
      - Olympic/Asian/Commonwealth games medalist are given 25 Bigha Agriculture land and 220 Sqmtr. Plots and cash award from 25 to 75 Lakh.
      - Cash Award : Gold-5 Lac, Silver-3 Lac, Bronze-2.5 Lac
   b) National Competitions
      - Cash Award : Gold-2 Lac, Silver-1.5 Lac, Bronze-1.25 Lac
   c) State Competitions
      - Cash Award: Gold-1 Lac, Silver-50 Thousand, Bronze-30 Thousand
   d) Maharana Pratap Award is Conferred upon International achiever players based on their performances. Rs. 1 Lac Along with Maharana Pratap Statue and certificate is given to awardees.

ii) **Incentive and facilities to Coaches**
   a) World level sports infrastructure has been built and many has been handed over to reputed coaches for coaching. Pankaj Singh in Cricket, Surbhi Mishra in Squash, Limba ram in Archery and Shooting Association are the current example.
   b) Guru Vashist Award is conferred upon Coaches on the basis of their performances. Rs. 1 Lac Along with Guru Vashist Statue and certificate is given to awardees.
   c) 100 regular coaches and 200-300 Temporary coaches are providing regular Coaching.
   d) Foreign/Famous coaches are called for sharing experiences and techniques for best coaching.

iii) **Incentive and facilities to Associations**
   a) For organizing International/National and various level competitions, one time money is provided to sports associations:
      - International Competitions - 10 Lakh
      - National Competitions - 05 Lakh
      - State Competitions - 01 Lakh
   b) TA/DA is directly transferred to players Bank Accounts for participating in National/State Competitions organized by State Association.

iv) **Regulatory work by Sports Council**

v) **Rajasthan Sports Act-2005**

vi) Rajasthan State has framed Rajasthan Sports Act-2005

vii) Rajasthan Sports Council does following works :-
   a) Recognizing/Derecognizing sports associations
   b) Conducting elections of associations
   c) Monitoring their performance
   d) Adjudicating their disputes

viii) **Infrastructure Development**
- Rajasthan State Integrated Sports Development Programme -2015 is applicable in state and accordingly playgrounds are developed in every Division/District/Block Headquarter/Gram Panchayat level (State Govt. initiative).
- Every District has Stadium
- Multipurpose Indoor Stadium in, Alwar.
- Various Infrastructures are also under constructions.
- Total works worth 102.00 Cr. are under implementation in Rajasthan State.

ix) **Suggestion for NCR RP 2041**
   a) International sport events like Asian Games, Thomas Uber Cup., , Judo Asian Championship, Intercontinental Handball, Various regular sports leagues like IPL in Cricket and Pro Kabaddi should be organized.
   b) New Sports Infrastructure like Balewadi Stadium in Pune should be created.
   c) Host National Games
   d) There should be strong policy advocacy in NCR RP 2041 to develop NCR as International Level Sports Destination.

5. Conclusions:

There is ample scope for the development of sport facilities & infrastructure of international standards in NCR. Sports should be considered as an essential element of the Planning and integrated with economic development, health, fitness & overall human wellbeing. Sports infrastructure should be developed & utilised in collaboration to avoid pressure on land. This will also be cost effective. Soft skills and training facilities should also be focused to develop the Sports sector in NCR.

NCR being one of the major markets, should setup centres for the development of skill sets to meet the demand of various sectors locally, nationally and globally. The social support system in NCR should be developed & strengthen in all respects in collaboration with Central Ministries/ Departments and the NCR participating States.

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List of participants - "Sports, Skills & Social Support System" was held on 10.01.2020

S. No.	Name, Designation and Organisation
1.	Shri Ajey Haider, Regional Sports Officer, Meerut Sports Department, UP
2.	Shri Rattan Lal, Group Instructor, Govt. ITI Nagina Distt. Nuh, Haryana
3.	Shri Sunil Dutt, Computer Instructor, Govt. ITI (W), Dumencha (Jind)
4.	Shri Rajesh Kumar-II, Special Secretary Sports, UP Govt., Lucknow
5.	Shri R N Singh, Dy. Director Sports, UP Sports Directorate, UP Govt., Lucknow
6.	Shri Arpanesh Mani, VP-Industry Alliances, Media & Entertainment Skills Council
7.	Shri Vijay Meena, Deputy Town Planner, NCR Cell, Rajasthan, Jaipur
8.	Smt. Indira Chaudhary, Chief Town Planner, NCR NCR Cell, Rajasthan, Jaipur
9.	Shri Bhaskar A. Sawant, Pr. Sec, Urban Development & Housing Department, Rajasthan, Jaipur
10.	Shri Pravin Kumar, Quality Manager, CSDCI
11.	Shri Mohd. Arif, Computer Instructor, Govt. ITI, Kathura
12.	Shri Mohit Soni, CEO, MESC
13.	Shri Vijay Kumar, Vice Principal, Govt. ITI Sohna, Gurugram (Hr.)
14.	Shri Ravikant, Asst. Director, Social Justice & Empowerment, Alwar, Rajasthan
15.	Shri Manish Arora, VCC Care (P) Ltd.
16.	Shri Naresh Kumar, Govt. ITI, Ujjina (Nuh)
17.	Shri Manoj Saini, Asst. Director (Tech.), Haryana
18.	Mr. Shri Krishan, ITI Bahadurgarh
19.	Shri Ashutosh Agnihotri, DSO, District Sports Office, Bulandshahr
20.	Shri Ashok Dua, DSO, Gurgaon
21.	Shri Rampal Hooda, O/o DSO, GGN
22.	Shri Jobin Thomas, NSDC, Delhi
23.	Shri Manish Kumar, MD&CEO, NSDC, Delhi
24.	Shri Mohit Jain, Accounts Officer, AMDA
25.	Shri Kewal Singh, ITI, Jind
26.	Ms. Asha Aggarwal, DDE (Sports), Sports Branch, Education Department, NCT of Delhi

S. No.	Name, Designation and Organisation
27.	Shri Bir Bhan Arya, CI, G.ITI, Julana
28.	Shri Gaurav Jain, Admin Officer, AMDA
29.	Dr. Imtiaz Ahmed, Helpage India
30.	Shri Santosh K. Agrawal
31.	Shri Purushotam, GI, ITI, Bahadurgarh
32.	Shri Arjun Singh, Dy. Manager, HCSSC
33.	Shri Shaji Parbhakaran, President, Delhi FA
34.	Cdr. R K Srivastava, Hockey India
35.	Shri Raj Kumar, DSO, Muzzaffar Nagar
36.	Shri Chain Singh, AD TR EMP, Jaipur (Raj)
37.	Shri Anupam Das Gupta, Dy. Director, Confederation of Indian Industry
38.	Shri Praveen Mathur, Dy. Director, Employment Deptt., Rajasthan
39.	Ms. Gurpreet Kaur, AD (CBQT), AMDA
40.	Shri Vijay Kumar Bhatia, Chief Executive, VJB Inc
41.	Shri Anand Kumar Singh
42.	Ms. Neelanjali, DD
43.	Shri Naresh Kumar, Electrician Instructor, Govt. ITI, Asaudah
44.	Shri Tajender Singh, COPA Instructor, Govt. ITI, Asaudah
45.	Shri Shyam Lal, DEO, Alwar, Rajasthan
46.	Shri Dharmendra Sharma, ASDC, Delhi
47.	Shri Rohit Prasad, COO, HELPAGE
48.	Ms. Neha Maheshwari, Senior Director, Indian Olympic Association
49.	Shri Manoj Kumar, Lect in Arch., GPES, Sampla, Rohtak
50.	Ms. Monica Bahl, CEO, B&WSSC
51.	Shri Ashok Ahlawat,, DMC Inst. Govt. ITI (W), CH Dadari (HR)
52.	Dr. Devesh Sharma, Head-State Engagement FFSC
53.	Shri V S Saxena, Senior Consultant, Power Sector Skill Council
54.	Shri P Selvadurai, Director, AMDA

S. No.	Name, Designation and Organisation
55.	Dr. Rohit Kumar, Senior Mission Manager, Helpage India
56.	Shri Puneet Sharma, GM, WAKO India
57.	Shri Manmohan, Principal, DBSCR Govt. Poly., Sampla (Rohtak), Haryana
58.	Shri S C Gaur, CCP, NCR Cell, UP, Ghaziabad
59.	Shri B P Patra, Chief Manager, CIPET-Murthal
60.	Shri Nitin Pant, Sports, CII
61.	Shri Ramesh Malhotra, Group Instructor, ITI, AKS
62.	Shrii Tarun Parihar, SCPwD, (Skill Council for PwD)
63.	Shri Pooran Singh, DD, SSED, Bharatpur, Social Support System
64.	Shri Yashbir Singh (Coach), Distt. Sports & Youth Affair Office, Sonepat, Haryana
65.	Shri Aiman Naseem, Planning Assistant, DDA
66.	Shri P. Saxena, SC Green Tribunal
67.	Shri Umesh Saroj, SLECE, TPO, Govt. Polytechnic, Jhajjar
68.	Shri Anshu Verma, Health Care, SSC
69.	Shri Suresh Singh, Group Instructor, Govt. ITI, Narnaul
70.	Shri Totak Acharya, AD (Planning), AMDA
71.	Shri Achyut Shankar, CII
72.	Shri Virender Singh, ITI Rajlu Gurhi, Sonepat
73.	Dr. Rita Malik, GBPIT, Govt. of NCT of Delhi
74.	Smt. Sunita Nair, COPA Instructor, G.ITI, Uchana, Khurd
75.	Dr. B S S Dawel, Professor, IIT Roorkee
76.	Shri J K Jain, Spl. Director, WCD, GNCTD
77.	Ms. Rachana Kharwar, ASO, NCR
78.	Shri P K Maheshwari, NCR, P.I.O.
79.	Dr. Anshu Singla, DCP, FBD, Haryana
80.	Shri Sidharth Sorawat, Ministry of Skill Development
81.	Shri Bansi Lal, Editor, Open Voice
82.	Shri Karan Singh, Instructor, GITI, Rajlu Gurhi, Sonepat

S. No.	Name, Designation and Organisation
83.	Shri Rajesh Kumar, Special Secy. Sports, UP, Lko
84.	Ms. Shilpi Madnawat, Research Associate, MPMR Unit, DDA
85.	Ms. Sunita Sanghi, Sr. Adviser, MSME
86.	Dr. Vimal Dimri, DTTE, Delhi
87.	Ms. Priya, Sr. Manager Sports Sector Skills Council-New Delhi
88.	Shri Ishwar Singh, Director (Anmartice), DGT, MSDE, Govt. of India
89.	Shri Shree Kant Sharma, State Manager (SMID), NULM, Mission Conveyance/ Swaraj
90.	Shri Meghna Mishra, Rubber, Chemical & Petrochemical, SSC
91.	Shri G S Rawat, JD
92.	Ms. Neha Saigal, NSDC, PMKVY
93.	Shri Sanjay Kumar Sharma, Under Secretary, Ministry of Skill Development
94.	Shri Vijay Yadav, Cricket Coach
95.	Shri S C Vats, Joint Director, Deptt. of Woman & Child Development, Govt. of Delhi
96.	Shri S B Shashank, Director, SW/ WCD, Govt. of Delhi
97.	Shri Rajesh K. Makkar, Dy. Secretary, D/o Social Justice & Empowerment
98.	Shri Rajesh Kr. Sinha, Under Secretary, M/o Social Justice & Empowerment
99.	Shri Chetan Sharma, Cricketer
100.	Shri Neeraj Kr. Mehra, TSG India & Research Officer, IOJPA
101.	Shri Rajesh Singh, DDGRB, DoP, GoI

Annexure-I

SPORTS, SKILLS AND SOCIAL SECURITY SYSTEM
Date: 10.01.2020
Venue: Jacaranda Hall, IHC, Lodhi Road, New Delhi

S. No.	Topics	Speakers
Session I: Inaugural session		
Chair: Ms. Juthika Patankar, Additional Secretary, Ministry of Skill Development & Entrepreneurship		
1.	Welcome Address	Shri Satish Prashar, Chief Regional Planner, National Capital Region Planning Board
2.	Need for Social Security	Dr. Imtiaz Ahmed, Mission Director (Age Care), HelpAge India
3.	Skill Development	Shri Manish Kumar, MD, National Skill Development Council
4.	Skill Development	Ms. Juthika Patankar, Additional Secretary, Ministry of Skill Development & Entrepreneurship
Tea Break		
Session II: Skilling Strategies for Sustaining the Greatest NCR 2041		
Chair: Smt. Sunita Sanghi, Senior Adviser, Ministry of Skill Development and Entrepreneurship		
5.	Perspectives by Construction Skill Development Council	Shri Anand Kumar Singh, CEO, Construction Skill Development Council
6.	Perspectives by Automotive Skills Development Council:	Mr. Dharmendra Sharma, Head-Industry Alliances, Automotive Skills Development Council:
7.	Perspectives by Media & Entertainment Skill Council	Shri Mohit Soni, CEO, Media & Entertainment Skill Council
8.	Perspectives by Beauty & wellness Sector Skill Council	Smt.. Monica Bahl, CEO, Beauty & wellness Sector Skill Council
9.	Perspectives by Domestic Workers Sector Skill Council	Shri Sumit Garg, Head Standards, Domestic Workers Sector Skill Council
10.	Perspectives by Rubber Skill Development	Smt. Meghna Mishra, CEO, Rubber Skill Development

S. No.	Topics	Speakers
	Council	Council
11.	Skilling Strategies for Sustaining the Greatest NCR 2041	Chair: Smt. Sunita Sanghi, Senior Adviser, Ministry of Skill Development and Entrepreneurship
Lunch		
Session III: Strategies for NCR as a Sports Hub		
Chair: Shri Chetan Sharma, Cricketer		
12.	Strategies for NCR as a Sports Hub	Shri Vijay Yadav, Cricket Gurukul
13.		Shri R.K. Srivastava, Executive Director, Hockey India
14.		Shri Santosh Kumar Agrawal, President, WAKO India, Kickboxing Federation
15.		Shri Neeraj Kumar Mehra, Director, Traditional Sports & Games Federation
16.		Dr. Shaji Prabhakaran, President of Football Delhi
17.		Shri Chetan Sharma, Cricketer
Session IV: Perspectives by NCR States		
Chair: Dr Savant Bhaskar Atmaram, Principal secretary in Deptt of Urban Development and Housing, Govt. Of Rajasthan and Secretary Sports and Youth Affairs, Govt. Of Rajasthan		
18.	Perspectives on Sports, Skills and Social Security System	Shri Rajesh Singh, DDG, Rural Business, Deptt. of Posts
19.		**Govt. of Delhi**: Shri SB Shashank, Director,Social welfare and women child development ,GNCTD
20.		**Govt. of Haryana**: Shri Rampal Huda,Coach,Sports Deptt,Govt.of Haryana
21.		**Govt. of Rajasthan**: Shri Shyam Lal, DEO,Alwar,Govt of Rajasthan
22.		**Govt. of Uttar Pradesh**: Shri Ali Haider, Regional Sports officer, Meerut, Govt of UP
23.	Vote of Thanks	Shri Jagdish Parwani, Director (A&F), National Capital Region Planning Board

Workshop Title: **Safety and Security**

Date: **13.01.20 (Monday)**

Venue: **Silver Oak Hall, IHC, New Delhi**

Brief Minutes of the Stakeholders Workshop on 'SAFETY & SECURITY' held on 13.01.2020 at India Habitat Centre, for preparation of RP-2041 for NCR

1) Workshop on "Safety & Security'" was held on 13th January, 2020 for Preparation of Regional Plan-2041-for NCR at IHC, New Delhi The workshop was divided into various sessions to cover the major topics under the subject. The list of participants is enclosed.
2) The main topics discussed during the Stakeholder's Workshop includes (i) Indian Cyber Crime Coordination Centre (ii) Strategies for Cyber Security and Safety (iii) Data Security Council of India (iv) NASSCOM for strategies for cyber security and safety in NCR (v) Emergency Safety Response Systems for NCR 2041 (vi) Perspectives by state government on safety and security.
3) The Workshop had speakers & participants from different Central & State, International Agencies, Practitioners & Consulting Organizations, Industries, Knowledge Institutions, NGOs, etc. Some of the major speakers & participants includes Director General, Cert-In; DG, ICCCC & Director, Ministry of Home Affairs, Govt. of India; Senior Technical Director, Cyber Security Division, National Informatics Centre (NIC); Chief Executive Officer, Data Security Council of India (DSCI); Northern Region Head, NASSCOM; Director, National Crime Records Bureau (NCRB); DCP ERS, Delhi Police; Add SP, UP112, UPTTEC; Senior Director, Centre for Development of Advanced Computing (C-DAC); , Special Secretary, Govt. NCTD; Commandant-CTI, Director General of Home Guard, Govt. NCTD; SP Traffic, Noida, etc. amongst others. The list of speakers is placed at **Annexure-I**.
4) Session wise proceedings/ record of decisions are as under:

4.1 SESSION-I was the Inaugural Session chaired by Dr. Sanjay Bahl, Director General, Cert-In. The viewpoints of **Dr. Sanjay Bahl, Director General, CERT-In (The Indian Computer Emergency Response Team)** viewpoints are as under:

i. Quality of life of the citizens of NCR is to be taken into account while planning for 2041. The important factors for consideration are communication, data, personal, emotional and physical security.

ii. Due to digital transformation society has changed. Society has moved from hunting society to agrarian to industrial and now moving towards society 5.0. People will be free from terrorism, disasters and cyber hubs.

iii. Government is now moving towards Artificial Intelligence enabled government. Similarly industry is moving towards industry 5.0. Today digital technology era almost every crime has digital domination to it .It could be conventional crime, financial crime, technology enabled crime. The criminals too have evolved and criminal activity is now mirrored in our digital world.

iv. Cyber crime too has evolved. There are 3 outstanding features; one is cyber space, knowledge economy and speed with which it is transforming. We have moved from steam engine to IT technology. Each wave will last 50 years.

v. Factors affecting the speed of digitisation are society & culture, economics & risks, regulation & legal and technology. There are going to be complexities of issues which are needed to be handled.

vi. World Economic Forum mentioned that India need governance, robust digital identities, access mechanism, securing people and processes. In IT there is need of new jurisprudence policies, digital policies and governance. There are inter-dependencies of systems in digital cyber threats. More individuals with malicious intent are on internet.

vii. Internet is a common pool used by citizens with unclear boundaries among these groups. World Economic Forum global risks inter-connection map shows that one of the vectors is cyber attacks and cyber attacks is one of the top risks.

viii. Today we live in a VUCA world, volatility, uncertainty, complexity, ambiguity. In NCR, are we able to adopt the change in the society as well as to the government? Volatility - A high rate of change.

ix. Uncertainty lack of clarity about the present features. From the data perspective the business data is at the bottom, personal data is maximum and machine data.

x. From security threat point of view, there are physical threats, internal threats, external threats and other threats. In terms of challenge and risks we have the dependents on the internet, confidence of the society in the internet.

xi. **Technology threats, there are four major threats, biotechnology, robotics, Artificial Intelligence and nanotechnology**. These are going to bring transformational changes. There is plethora of technologies which are going to disrupt.

xii. India has been a great outsourcing industry. We should look at the 3D as the next opportunity but hacking will be an issue which need to be tackled.

xiii. There are multiple challenges from safety and security point. Are we ready to make NCR safe and secure, right from school and colleges? What sort of industry we want to give? What sort of factories we want to set up? More than 3 terabytes of data is generated for each hour of flight.

xiv. The commercial UAV market will quadruple in next four years, humans missions to Mars may be scheduled within next two decades, 4 terabytes of data are delivered by autonomous cars daily, 30% of vehicle value will come from software in 2030, 750 billion dollar may be monetized each year from car data in 2030, 40% of existing banking roles will be disrupted by machine learning, 20 billion smart needs may become the next banking customers. 2 billion people will be added in the world population by 2050, 5 years should be added to the expectancy in the next 10 years.

xv. 80% of the world population will be on the internet in 5 years, 80% of the internet traffic is coming from video and TV.

xvi. There are 3 digital mega trends – whole world become the computer, Artificial intelligence takes control of the machines and infrastructure becomes a commodity. Cyberspaces has overlapping areas – social, technological, psychological.

xvii. Role of Government would be to address areas and challenges of attacks and safeguarding. Future internet will be availability of accessibility. The most dangerous digital technology threats are AI ethics and accountability, unsecure autonomous system,

use of connected technology to the detriment of others, pervasive surveillance, cyber criminals, technology interdependence.

xviii. City requirement will be cyber safety, resilience and how do you collaborate and corroborate from Government perspective. In NCR do we need to have a city set up because of IOT if something happens? There is need for a resilient self healing cyber security framework for the power grid.

xix. Tomorrow B2C will not be there; new thing will come up, B2MC. Intelligent sustainability becomes autonomous tomorrow. Products will become services, jobs will be leveraged by freelancers, and we will have robots. 40% of the task will be automated. One additional robot per thousand will reduce the employment rate by 0.20%. Information war will continue. Transparency will be the new ethic. There is a need to create internet security code of ethical conduct for each internet, principle based standards, policing, and capabilities will also need to be changed for digital age.

xx. At the end of the day we need cyber system equivalent to the human immune system. Advises will be to self-aware, user-aware, collaborative, integrated smart energy eco-system, secular and efficient next generation, easy entry and exit across cities, quality of primary, secondary and tertiary education.

4.2 SESSION-II was related to 'Strategies for Cyber Security and Safety in NCR 2041'. The viewpoints of the speakers are as under:

4.2.1 **Mrs. Rama Vedashree, Chief Executive Officer, Data Security Council of India:**

i) India Driven by Digital Adoption. In the era of "Digital India", Digital and Financial Inclusion have been National Priorities driving disruption in Financial Services and Citizen Services,

ii) India is expected to become **$5 trillion economy and a $1 trillion digital economy by 2025**

iii) India is among the top three global economies in number of digital consumers

iv) India expected to clock the fastest growth in digital payments' transaction value in 2019-2023 with a CAGR of 20.2%

v) **Few Digital facts:**

a) With 1.2 BILLION World's largest unique digital identity program

b) 627. MILLION Internet subscriptions

c) 4.7BILLION App downloads

d) 481 MILLION Broadband Subscribers

e) 1.16 BILLION Mobile phone subscriptions

f) 351.4 MILLION Number of users engaged in social media

vi) **Security and Privacy in context of Digitization**

a) Participation of unconventional devices & contexts in processing of transactions exposes the surface of org to many attack possibilities

b) Increasing inclination towards automated decision making in the industrial environment would lead to serious consequences in case of security breach

c) Rampant use of PII for productivity & value optimization leads to many ethical issues & privacy concerns

d) Experimentation & innovation in control engineering & its increasing exposure to the external world create possibility of cascading & kinetic disruptions

e) Protocols & interfaces in the new environments and age of connectivity would struggle to assure the level of security

f) Fixing up accountability & responsibility for security in the age of open and API based regime would be a key challenge

g) Challenges for large organizations with regard to integration of legacy infrastructure are particularly acute

vii) **Cyber Security Threat landscape**

a) Risk of information theft and misuse/Corporate Data theft/Loss of IP

b) Attracting attention of criminals and adversaries

c) Compromise of Suppliers

d) Illegitimate use & processing of data

e) Expanded surface for attacks

f) Possibilities of profiling & targeting users

g) Disruption of Services

h) High impact attacks on Critical Infrastructure

viii) **Cyber Security Technology Stack**

a) Security Technology Stack
b) Financial Sector: Security Stack

ix) Data Security Council of India has developed India's cyber tech repository and Techsagar having 25 technology areas. For cyber security technology stack, smart city and energy sectors are two examples.

x) National CoE a joint initiative of Ministry of Electronics and Information Technology and Data Security Council of India**,** having following major objectives follows:

a) Ecosystem of Cyber Security Technology Development and Entrepreneurship

b) Translating R&D to Security Product

c) Making Technology Stack of Security Products contemporary & cutting edge

d) Investment Ecosystem for Security Entrepreneurship

e) Market adoption of developed products

f) India- Destination for R&D & Product Development

xi) **Three Pillars of National CoE**

a) Technology- Use Cases, technology stacks, research, protocols and standards, Productization &

b) **Incubation-** Product Development, Incubation (Onboarding), Mentoring & Guiding, Market Readiness, Investment

c) **Market Development:** Pilots, Testing & Benchmarking, Implementation & Integration, Monetization & Licensing, Industry Connect & Campaigns, Adoption & Procurement

xii) **Center for cybercrime Investigation Training & Research (CCITR) -** The prime objective of CCITR is to create excellence in investigating cybercrime cases using informations and communication technology as enabler. Its objectives are:

a) To build capacity of police, prosecution, judiciary in handling technology investigations.
b) Create standards operation procedures in cybercrime investigation
c) Research related to legal, technical and procedural aspects of cybercrime investigation
d) Improving the investigation and prosecution of cybercrime cases.

- **Goals**

e) To support the Police, Prosecution & Judiciary in handling technology investigations and develop capabilities.
f) Development of SOPs in Cyber Crime Investigations.
g) Provide help and guidance to local police in independently handling Cybercrimes.
h) Training & Certification for Police staff in the core areas like Cyber Security and Cyber forensics.
i) To perform Research in Digital forensics and Cybercrime investigation related policy issues.
j) Collaboration with national & international organizations working in Digital Forensics domain in building expertise.

xiii) **Recommendations for RP-2041**

a) Partnership between Govt-Industry-Academia
b) Continuously scan Technology evolution and Risks and Cyber threats in collaboration with Industry, Academia and Think Tanks
c) Stay Ahead/Keep pace with adoption of Technology by Consumers and Businesses
d) Institutions that are agile and flexible with Subject Matter Experts

4.2.2 **Shri R.K. Raina, Senior Technical Director, Cyber Security Division, NIC** - ***views on Strategies For Cyber Security & Safety in NCR -2041***

i) Lens of Cyber Security –NCR 2041

- ✓ Expanded NCR Region with 23 districts = vast city state
- ✓ From 60 million to 110 million added to demography = Humongous Digitally active user base
- ✓ More Tech products & digitized Services = Large Attack surface, Varied and scaled cyber threats

ii) Possibilities Ahead - More possibility of NCR 2041 being:

a) **Livable Era with** well integrated technology / automation / digitization and physical infrastructure to deliver on sustainable Quality of life
b) **Better city surveillance /** prevention of crime
c) **Efficient transport/ healthcare systems**
d) **Reduced waste/ Cleaner water**

e) **Boosted** social **Connectedness**

iii) The goal of NCR 2041 should be to become more productive place to earn livelihood & do business.

iv) **Cyber Security- Corner Stones for plan**

a) Technology & networks need to be safeguarded to optimize infrastructure / resources & spaces that citizens share in NCR-2041

b) Integrated technologies will hold key in efficient delivery of services, using them expands the threat landscape.

c) Cyber attack are targeted at data centers,

v) **Decades Ahead -** Attacks will be directed towards numerous systems and devices spread across NCR as enhanced threat surface provides huge **opportunities** for hackers to **launch attacks**.

vi) **Governments' Priority and Role**

a) **Priority-**NCR home to strategic institutions of National Importance cyber security gets top priority

b) **As Data Custodian-**Ensuring the trust of citizens as custodian of their data

c) **As service Provider-**Strengthening Infrastructure and Processes connected to internet.

d) **Ensure Synergy through cooperation-**Collaboration between End users, Service providers and Industry.

vii) **Need For Cyber Security Strategy -**Three factors influence the potential cyber risk

a) Convergence of the cyber and physical worlds

b) Interoperability between Legacy and new systems

c) Integration of disparate city services and enabling infrastructure

viii) **Convergence-**

a) Convergence of IT and OT infrastructures

b) Blurring the divide between physical and Digital work

c) **Interoperability-**Coexistence and frequent interactions between old and new systems

d) **Integration of** water and sewage, governance, Power, Transportation, Health care, Emergency services, Law enforcement

e) Integration & commingling of services

f) Across domains through IoT and Digital Technologies

ix) **Sources of Threat:**

1. Organized Crime :Theft of personal data, Ransomware
2. Terrorist Groups :Distributed Denial of Service Attack, Intelligence gathering
3. Disgruntled Citizens :Service disruption, Website de-facement
4. Suppliers :Human error, Design and security flaws
5. Foreign Intelligence or Hostile State :Eavesdropping & surveillance, Sabotage
6. Commercial Entities : Resale of citizen data
7. Natural Events : Floods, Power Outages

x) **Strategic Approach**

a) **Key Planners may ask**
- Are we Compliant?
- Are we Secure?
- Are we more secure compared to our existing system?
- What do we do in case of a breach or attack?

b) **Compliance vs Secure questions**
- What standards do we need to meet or exceed?
- Have we provisioned them?
- Do we continue to provision for more standards

c) **Comparing Security Postures questions:**
- Do we understand future risks?
- Do we know what could be our assets?
- Are we seeking the protection of those key assets?
- What is going to change in the span of 20 years?
- How are we meeting those challenges?
- Where is the scope for improvement?

xi) Summing Up - Thought Starters

a) Risks And Compliance
- Assets Defined
- Risks Known
- Controls Selected
- Metric in place
- Policy in Place

b) Security Architecture And Design
- Early Engagement with stake holders
- Defined security services
- The right tools in place

c) Security Administration
- Defined processes
- Regular review and Maintenance

d) Security Operations
- Visibility on Networks, Servers and Endpoints
- Tool Coverage
- Appropriate Configuration of tools
- Appropriate response to incidents
- Threat management and Analysis

e) Cyber Security Strategy - NIC being an epicentre of ICT services has vast experience and expertise in ICT service delivery. It remains committed to contribute and collaborate in sustainable digital transformations that Govt undertakes for citizens.

f) Security Components - Policies, Processes, Technology, Tools, Advisories, Awareness & Capacity Building

g) Perspective - Dedicated and experienced groups for Cyber Security as part of planning in design & architecture of ICT infrastructure
- in the areas of network security, application security, Malware Analysis and forensics, Data Analytics etc.

- vision & mission document on making a safe cyber space
- Designing of Capacity Building in Technology, Processes and People

h) Drafting and issuance of necessary policies/procedures/guidelines/advisories

- SOPs for compliance and enforcement

i) Due-diligence to formulate strategies to address safety in cyber space, will be

- proactive methods
- reactive measures

xii) **Recommendation -** Recommendation are to design 24x7 security operation centres, understand handling, security audit and certification of all applications, entire security audits carried out for cyber assets..

a) Designing 24x7 Security Operations Centre (SOC) to monitor & remediate attack attempts
b) Incident Handling – Analysis and Remediation
c) Security audits & certification of all applications prior to hosting and thereafter routine checks to assess the security posture
   - white box testing – code review
   - black box testing – automated and manual assessment.
d) Network security audits carried out for cyber assets deployed in critical Installations/ essential service departments

xiii) **Leverage Learnings from Incidents**

a) Guest reservation system hacked
b) Hackers Gained access in 2014, but company only identified it in 2018
c) Names, phone numbers, email addresses, passport numbers, date of birth etc of 327 million people compromised.
d) For millions others, their credit card numbers and card expiration dates were potentially compromised
e) Half a million routers and storage devices in dozens of countries around the world have been infected by a sophisticated botnet
f) In preparation for an alleged planned cyber attack on Ukraine.
g) Controlled by a state-sponsored hacking group variously known variously as apt28, pawn storm, sandworm, fancy bear, etc.
h) VPN filter has been seen affecting small office/home office routers from linksys, mikrotik, netgear, and top-link devices

4.2.3 **Mrs. Leenika Khattar, Northern Region Head, NASSCOM:**

a) NCR is in the best known region as far as safety and security is concerned.
b) NCR does a very important job for NASSCOM. But other regions like Bangalore are also coming up. Why NCR is not the first choice for IT companies. NASSCOM has done futuristic work with other governments. There is some futuristic stuff we can do in northern region.
c) NASSCOM was working with Gurgaon development authority there is a concern about women security. NASSCOM has drone policy with the government. How drone can support in women safety? We need to look at new technology.
d) NASSCOM have also worked on vision zero, which are zero road accidents. Infrastructure requirements to stop the road accidents. Another is population. Industry

has recommended to CM, Haryana that industry faces lot of problems, buyers do not come in. Industries which want to set up centres in NCR looks for other cities like Pune. NCR could look at some of solutions like crop burning, CSR funding to mitigate the problems.

e) From the global standards perspective, there are certain standards which India has to follow other countries have gone ahead.

f) On the data centres, we have number of companies who have data centres in the city. There is huge power requirement. These get covered in IT arena. It should be industrial tariffs. Safety and security of IT industry are very important. The physical security aspects are very important for business in the region.

4.2.4 **Shri S.K. Bhalla, DG, Indian Cyber Crime Coordination Centre & Director, M/o. Home Affairs,** mentioned the following:

a) Before we plan there has to be a goal. When we talk about safety and security, the first thing is to understand that what is the current state of affairs whether it is conviction rate and why we want to plan? Whether we want our citizens to feel safe within their premises because theft will takes place. On the roads yes people who are using multimodal transport.

b) Metro from the day one has CCTVs. That is big deterrent. In other countries I can purchase SIM card as OTC medicine without verification which are considered as a big threat. The system as the back end perhaps needs to be fine-tuned in such a manner whatever we deliver it is backed by monitoring.

c) 20 years from now as government listed critical information infrastructure which needs to be protected. Is there any uniform standard which everybody was mandated to follow?

d) Since 2014, the standard has gone in-depth changes. It needs to be revised. The numbers do not change. In NCR start with identification of the assets, grade them, rate them find the gaps and implement. From law point of view first thing is prevention. Only NDMC happens to be in the list of safe cities.

e) One project from Faridabad for e-mobility. Delhi is at 68th position worldwide. International telecommunication union (ITU) India ranks 47th in cyber security. How to bridge this gap.

f) India is an IT power, provider of good brains but the country's state of affairs, we need to think about what is wrong. There is something wrong with the system which is not helping them delivering here.

g) Public service delivery has to look forward to. Quickly if we can implement in totality. In movement of high security personnel. No road blockings. The first 5 years of this plan are going to be very crucial. Since we do not know what kind of technological valuation would be there 20 years from now? We must aspire to go beyond.

h) Internet was not designed from the security perspective. My asset my responsibility should be the motto of all. NIC is developing dashboard for CISO. All government departments in NCR, their CISO must start using that dashboard.

i) Industry has to put lot of focus on security of apps. Very close and enhanced participation of NCR participants. Some foreign nationals have been settled in Noida. They need to be monitored. There is already ZIPNET. It is a collaborative network of

NCR states. It needs to be strengthen. In safe city project beautiful document have been developed.

j) Cyber has no boundaries. The challenges are huge. Government has come up with Indian Cyber Crime Centre. All police stations are integrated. The first step should be let people file their complaint on the portal.

k) Capacity building for police is a big challenge. Forensic has to be a key area. National Cyber Strategy 2020 – they have invited suggestions. What best you would like to have.

4.3 SESSION-III was dedicated to 'Emergency Safety Response Systems for NCR 2041'.

The views of the speakers are summarised as under:

4.3.1 **Shri Ram Phal Pawar, Director, National Crime Records Bureau (NCRB)** views:

- **Traffic & Transport**

i) Issues which concern citizens are traffic and crime. Traffic in NCR is acute chaotic, people does not follow lanes. It leads to accidents, loss of innocent lives, damage of vehicles increases insurance cost, road rage and poor civic sense.

ii) Yearly 4.5 lakh accidents cause 1.5 lakh deaths. Over speeding and rash driving are major reasons for accidents. If you decrease the speed 5% you can reduce chances of accidents by 30%. Two wheelers accounts for many fatal accidents. Unfortunately we do not have any dedicated lanes for two wheelers. We only focus on car and trucks accidents.

iii) Policies can be incorporated in the Plan to improve road engineering, install tech. based traffic regulatory system, promote lane driving campaign, provide for well equipped ambulances and trauma centres, develop cycle tracks throughout NCR. Spread car pool lanes to encourage car pooling.

iv) **Suggestions for traffic issues**

a) Improve road engineering (Signages, road markings and Traffic Controls)

b) Install Tech-based Traffic Regulatory systems

c) Promote Lane driving. Provide funds for regular awareness campaigns

d) Explore Dedicated lanes for two-wheelers

e) Provide for well equipped ambulances and trauma centres at strategic locations and integrate with 112 ERS

f) Develop cycle tracks throughout NCR, (with cycle stands at all public places), in order to

- Reduce congestion on roads
- Reduce pollution
- Improve health, aid FIT INDIA movement
- Very useful for last mile connectivity

g) Explore Separate carpool lanes to encourage carpooling (Chicago, US)

h) Set up a massive Driving School in NCR under PPP model for training. Make training mandatory under MV rules in NCR before issue of D/L

i) Refresher training of drivers (mark D/Ls through hologram etc.). Punch D/Ls for every violation

j) Introduce Driving as a certificate course in all the colleges under NCR

- **Crime**

v) **IPC Crimes in NCR** - In 2018 Haryana (13 districts) -75517; Rajasthan (2 districts) -21360; UP (7 districts)-52827 and Delhi (All) -249012

vi) **Major Crimes in NCR – 2018**

- Vehicle Theft -72027
- Arms Act- 11,500
- Kidnapping & Abduction- 13,048
- Crime Against women and Children- 46,475
- NDPS Act- 3,333

vii) **Suggestions for crime control**

a) Provision for funds for community policing

b) Technology based security systems and mobile patrols

c) Adequate Lighting at all public places/roads throughout NCR

d) Installation of CCTV cameras at public places/important junctions

e) Promotion to residential areas having Gated Parameter

f) Underground electric cables to reduce electricity thefts

g) Panchayats empowered to impose fine for electricity thefts

h) Secure Transport for vulnerable groups like kids and women

i) GPS enabled public transport vehicles

j) Identifiable vehicles for transportation of liquor

k) **Integrated Approach for Better Police Co-ordination**

l) Set up an NCR **BACK OFFICE** to aid Crime investigation

- Will be a hub of all relevant information for investigation support; maintain liaison with States in NCR
- Will provide relevant information to IOs on demand
- Will work round the clock to support investigative efforts
- Will have two officers from each State in NCR in each shift; will work under a senior officer by rotation

m) **Centralized Tourist Assistance Centre**

- Large number of foreign/domestic tourists come to NCR or transit through it
- Crime Against Foreigners – 189 cases registered in Delhi UT during 2018 (36.55% of All India)
- Setup a Tourist support Centre in NCR with Police and Tourism Ministry officials; To act as a single window for Crime/Case related information

- Setup School for Soft skills training for police/ immigration/ airport security officials at cutting edge

4.3.2 **Shri S.K. Singh, DCP ERS, Delhi Police – *views on NCR planning for emergency response support system:***

i) **Development & Technology-2041**

a) In future all the technology will be based on Machine Learning, Block Chain Technology and Artificial Intelligence.

b) Convergence of Physical World and Cyber World.

c) Artificial Intelligence will work when all the system integrated at the centralized location.

d) Delhi Police having different Control Room and Workshops at various locations like ITO PHQ, Shalimar Bagh, and New PHQ Building etc.

e) At present all the systems integrated by Cyber Highway Connectivity.

ii) **INTELLIGENCE <u>- These helps in collection of crime data and alerts</u>**

a) National Intelligence Resources

b) State Intelligence Resources

c) CCPWC (Cyber Crime Prevention against Women & Children)

d) CCTNS

e) PA-100

f) Social Media

iii) **<u>PREVENTION - How to prevent any crime by analyzing earlier incidents:</u>**

a) Heat map provide the intensity & type of crime

b) Analysis of crime- on GIS maps with category

c) crime pattern provides with type of crime

d) Time analysis proven preventive measure

e) Putting the resources to target at specific location at specific time

f) APNR camera at various market integration with CCTNS server

g) Social media analytics

iv) **<u>SECURITY</u>**

a) Video synopsis

b) Implementation of artificial intelligence

v) **<u>Emergency Response Support System (ERSS-112) -</u>** Vision of MHA, Govt. of India, to provide a single emergency response number '112' across the country:

- An automated system to handle different distress signals from citizens (voice, panic messages, email, web, 112 SOS App sms etc.), on a central platform
- Provides distributed dispatch facility of Police, Ambulance, Fire etc**.**

<u>Objective of ERSS-112 project</u>

- Establishing state of art ERSS-112 Control Room and infrastructure.
- Integrated handling of all type of calls like Police Assistance, Medical & Fire.

- Further improving response time of PCR Van to the caller location.
- Elimination of manual handling of calls & Proper accounting of events and action.
- Proper manpower & vehicle tracking and management .
- Providing online maintenance to the system and achieving best Minimum Breakdown Recovery (M B R).
- Achieving excellence in smart policing.

Establishment of ERSS – 112

- ERSS- Emergency Response Support System (112) – Pilot project of MHA.
- ERSS Control Room is to be set-up at FC-50 Shalimar Bagh, Delhi-110018 at 1st , 2nd and 3rd floor.
- ERSS-112 established by renovating Barracks accommodation.
- Area of complex around 2.7 Acres consist of 1/3rd residential area and 2/3rd office complex area.
- Office complex consist of:
  - ✓ Technical Unit
  - ✓ Workshops
  - ✓ Stores
  - ✓ VVIP Route Reserve
  - ✓ MT Section and
  - ✓ English offices

vi) **Other projects of Operation & Communication unit**

a) Safe City Project being developed on 6th & 7th Floor New PHQ building.

b) Cyber Highway Project at old PHQ Building

c) C4i (Integrated Command Control & Coordinator Center) at old PHQ Building.

d) In 2009 Delhi Police having only 07 District but now it has been increased up to 15 District and till 2041 it will be more than 40 DCRs with Anti Drone system because of automation in material delivery.

vii) **Use of Artificial Intelligence in Policing –** intelligence, prevention of crime & security

viii) **High Priority Calls Escalated in C4i.**

1.Terrorist Attack
2. Explosion
3. Communal Riots
4. Murder
5. Dacoity
6. Rape
7. Robbery
8. Carjacking
9. Fire Major
10. Attempt to Murder
11. Snatching

12. Kidnapping
13. Himmat

ix) **Recommendations**

a) Integrated Complex
b) Nodal Agencies for coordinating
c) Centralized System of Knowledge Sharing Platform
d) Centralized Platform for Human Resource Department & Training

4.3.3 **Dr. Praveen Ranjan Additional SP, Government of Uttar Pradesh** - ***views on UP police management system:***

i) UP Emergency Management System was earlier known as UP-100. Now it is 112 our response time is 10.4 minutes. Modern control room is located in Lucknow.
ii) UP- 112 project was approved in December, 2015 inaugurated in November, 2016. On 7th january.2017 it was implemented in all 75 Janpaths in UP.
iii) Objective of UP EMS-112. 24x7 assistance to citizen of all urban and rural areas of UP Anyone may reach 112 and all calls go through PRI lines call process of Avaya. CO greets and voice gets recorded and stored, CO closes non-actionable calls, raise actionable to DO through CAD software. DO will transfer high priority calls to SDO. We have 500 SOPs. We have data recovery centre in Lucknow and Baghpat.
iv) Transform police citizen interface where citizens are not required to go to police station. Daily feedback of 9500 calls is recorded. All calls have been recorded. Citizens can upload photographs, videos, documents of crime.
v) We have 3200 PRV cars. We have issued petro cards for each PRV. Digital mapping has been done for village boundaries and jurisdiction of police station.
vi) UP police also uses GIS mapping of cities. We have also developed ROIP radio over internet protocol. It is also available in Hindi language with CAD implementation.
vii) Business intelligence tool is also used. Trend analysis and productivity analysis can be done. We can integrate it with Indian calendar.
viii) 108 ambulance services is also integrated with UP-112
ix) Citizen can avail services of Fire services through UP-112
x) Citizen emerge app for missing persons. We have case monitoring police app for supervisor and officers. We have intranet dashboard from state level to police station level.
xi) We have integration with GRP. Prayagraj is small city command and control centre, 112 India app is also integrated with UPSRTC buses.
xii) UP police has also launched SAVERA for senior citizens.
xiii) **Recommendation for RP-2041**

a) All emergency services to be brought under one umbrella like NDRF police, medical services, fire services
b) The entire City should be covered under surveillance; no area should be left grey.
c) Digitization of security layers in the building.
d) Establishment of Research centres for new kind of disasters.
e) Quick response by mobile services and cyber cell.

4.3.4 **Shri Navin Jain, Senior Director, C-DAC:**

i) C-DAC is scientifically assisting Ministry of IT and working in various recent technologies to design and develop the separate computer Param Series of nine computers. It has emerged as the premier R&D Institution for the design, development and deployment of world class electronic and ICT solutions for economic & human advancement.

ii) **Technical Expertise**

a) High Performance Computing

b) Artificial Intelligence & Multilingual Computing

c) Professional Electronics

d) Health Informatics

e) Cyber Security & Cyber Forensics

f) Software Technologies

- e-Governance / Geo-informatics
- Blockchain Technologies

g) 5G, IoT, SDN, Edge Computing

h) Education and Training

iii) **Understanding of Safe City Project Planning**

➢ **Objectives:**

a) **Augment Citizen/women safety in public places –** roads, parks, markets, outside schools, colleges, metro/railway stations, ISBTs, etc. – through CCTV surveillance. (**Technology-enabled force-multiplier)**

b) **Use Video Monitoring and Analytics** – Facial Recognition, person tracking, ANPR, etc. – for speedy and effective emergency response to women in distress. **(Technology-assisted policing)**

➢ **How the Objectives are Achieved?**

c) CCTV based surveillance by Installing New systems at Public Places, utilization of existing CCTVs with Police, NDMC and RWA

d) **Video Analytics –** Facial Recognition, Person Tracking, ANPR, Crowd Detection, Suspicious Persons alert etc.

e) **Integration and improvement** in the Command, Control & Communication Center solution using GIS technologies

f) **Quick and Effective Emergency Response System**

g) Enable quick/real time action in apprehension and prosecution of suspects involved in women harassment incidents

h) **Capacity Building** will include Training, Identify Audience & Training Needs, Arrange for Requisite Infrastructure, Monitor & Evaluate Effectiveness, Ensure Sustainability of the Capacity Building Programs

➢ These objectives can be achieved with CCTV based surveillance, video analytics, integration and improvement in command control and communication centre, quick

and effective emergency response system, enabled quick and real time action and capacity building.

iv) **Components of Video Analytics**

a) **Analytics at C4i**

- **Video Analytics** - include Facial Recognition, Person Tracking, Automatic Number Plate Recognition (ANPR), Crowd Detection, Suspicious Persons alert etc.
- **Video analytics** - also include object, people and vehicle related algorithms to identify any incident in the field of view of camera.
- **Real time alert** - generated at the command and control center
- **Command and Control Center** - Incident Management System to quickly address the incident, respond it and close it effectively.
- **Integration and Improvement** in the Command, Control & Communication Center solution using GIS technologies
- **Other Requirements of Safe City Planning**

b) **Application Software**

- Video Management and Recording System
- Customized Dashboard for surveillance at different levels
- Application for ANPR, and other analytics , including face recognition
- C4I, RDBMS, GIS Applications
- Software for Picture Intelligence Recording and Investigation System (P-IRIS) - Data Mining, Business Intelligence (BI) application
- Application for Enterprise Management (Asset, Network, Helpdesk, SLA Management

v) For safe city planning there is need for emergency operation centres.

vi) **Emergency Operations Center (EoC) working**

- **Emergency Response System** will allow to transfer any abnormal situation to EoC from C3i
- **EoC is a Central Command and Control** facility responsible for carrying out the principles of emergency preparedness and emergency management, or disaster management functions at a strategic level.
- **Functions of EoC** is to collect, gather and analyze data; make decisions that protect life and property of a common citizen.
- **EoC will be responsible for strategic direction and operational decisions**. Most of the tactical decisions will be taken care at District C3i.

vii) Need of safe city project. Delhi has 185 police stations. There are 16 districts inputs will go to the centralised centre. There is need for integration of available software of CCTV surveillance on public places software for fast and correct decision

4.3.5 **Shri Anil Subramaniam, Women Safety Division, MHA** highlighted the following:

i) In 2018, MHA set up a new women safety division in 2018 with prime mandate to strengthen measures for safety of women of the country, instil a sense of security in women.

ii) Government approved Amendments in Criminal Laws in April 2018, inter-alia providing:
   - Stringent punishment for the offence of rape including death penalty if victim is a woman below 12 years
   - Investigation in rape cases within two months, and trial within two months of filing charge sheet
   - Anticipatory bail not permitted in case of rape of a minor (less than 12 years) or in case of gang rape
   - Advance notice of 15 days to Prosecutor before Court decides bail
   - Appeal against trial court order to be decided within six months

iii) Government also approved various measures to enhance women safety
   - Measures related to MHA
     - Database on sexual offenders
     - Special forensic kits & training on evidence handling
     - Setting up special forensic units in States/UTs
   - Measures to be implemented by other Ministries
     - Setting up Fast Track Special Courts
     - Strengthening Prosecution machinery
     - One-Stop Centre for each district

iv) **MHA set up the Woman Safety Division as a follow up action**

a) Genesis & Mandate of Women Safety Division
- MHA set up a new "Women Safety" division on May 28, 2018 with the primary mandate to
  - Strengthen Measures for Safety of Women in the country
  - Instil a Sense of Security in Women
- To be achieved through speedy and effective administration of justice in a holistic manner and by providing a safer environment for women

b) Mandate of Women Safety Division
- Tasked with measures to tackle crimes against women and other vulnerable sections of the society (children, SC, ST, & elderly), as also prison reforms and anti-human trafficking
- Responsible for policy formulation, planning, coordinating, conceptualizing and implementing projects/ schemes to assist States/ UTs to achieve this objective

v) This involves increased use of IT, forensic sciences and crime statistics in delivery of criminal justice system

vi) **Important initiatives of Government to improve Women Safety**

a) Investigation Tracking System For Sexual Offences (ITSSO)
   - An analytics tool for States to track & monitor progress in investigations in sexual offence cases using database on crime and criminals
   - From the granularity of FIR to an aggregate of State Database
   - Available to all States & Union Territories

b) National Database On Sexual Offenders (NDSO)
   - India is 9th country in the world to have a Sex Offenders Registry
   - Database derived from authenticated prison information system
   - Over 7 Lakh records in the NDSO currently

vii) **Augment DNA Analysis**

a) State-of-the-art DNA Analysis Centre operationalized at CFSL Chandigarh

b) Guidelines for collection of sexual assault evidence for Investigation Officers (IOs) and Medical Officers (MOs), notified-Also available on mobile

c) Training imparted to 6921 MOs, IOs and Prosecutors (BPR&D and NIC&FS)

d) 3120 Sexual Assault Evidence Collection Kits (SAECK) distributed to States/UTs -12000 more being distributed

viii) **Modernisation of FSLs in State/UTs**

a) 108.00 crore has been approved in Modernisation of Police Forces scheme for 26 States for FSL upgradation

b) 131.09 crore approved under Nirbhaya Fund for strengthening DNA analysis and Cyber forensic facilities in 13 States/UT- Maharashtra, UP, Tamil Nadu, West Bengal, MP, HP, J&K, Punjab, Rajasthan, Mizoram, Manipur, Tripura and Delhi

ix) **Emergency Response Support System**

c) A single internationally recognized number 112 for all emergency services

d) Available through call, panic button in mobile phone, 112 India mobile App, email, website

e) 24/7 Computer Aided Dispatch of Field Resources

f) SHOUT facility to women through 112 India mobile App

g) ERSS has commenced in 28 States/UTs - remaining to be completed by March 2020

x) **112 India Mobile App**

a) One India, One Safety App, especially for Women

b) For both Android & iOS users

c) OTP based Registration for users and volunteers

d) 'SHOUT' feature to nearest volunteers and pre-registered emergency contacts in times of distress for quick response

xi) **Safe City Projects**

a) Eight cities identified in Phase-I for implementation at a cost of ₹ 3080.16 Cr (Ahmedabad, Bengaluru, Chennai, Delhi, Hyderabad, Kolkata, Lucknow & Mumbai)

b) Projects developed by police in consultation with municipal bodies and other stakeholders

c) Involves mapping of crime hot-spots, creation of on-ground assets/ resources & behavior change programs to strengthen safety of women

d) Safe City Implementation portal launched to map & track deployment of assets

xii) **Some examples of assets in Safe City Projects**

a) Infrastructure & Resources
- Abhayam Vans
- Modern Pink Toilets
- Smart Street Lighting

b) Technology - Drone Surveillance

c) **Social Outreach -** Community Outreach Programs on Safety Measures, Legal Literacy, Youth Connect, Self Defence Training etc.

d) IT initiatives- CCTNS
- Crime and Criminal Tracking and Networks system (CCTNS) is data platform for police
- Against approved project target of 14,306 police stations, 14,945 covered– 431 over the last one year
- Deployment underway in 897 Police Stations in Arunachal Pradesh, Tripura and Bihar (to be completed by Dec 2019)
- Presently 21.24 Crore crime records available including 4.44 Crore FIRs
- 100% FIRs being digitally recorded in 14,554 Police stations

4.4 SESSION-IV was dedicated to 'Perspectives by Governments of NCR States'. The viewpoints of the speakers are as follow:

4.4.1 **Shri Azimul Haque, Special Secretary, Govt. of Delhi -** ***state perspective on safey and security:***

i) There have been many debates on infrastructure road transport. Delhi Govt. is doing a lot, but it is not sufficient. We are having increase in population. It has been attracting people since long for employment. All these results into having access to limited resources. Facilities which are being created become less for the kind of population living here.

ii) NCRPB can think in terms of leveraging this to the satellite cities so that load of Delhi could become less. The infrastructure established in terms of involvement of engineering designs and roads. Road safety is major issue. Roads have to be designed in Delhi and NCR as pedestrian friendly. Proper movement of cyclists. We need to refocus them and make road safe for non-motorist user.

iii) In Delhi, Hon'ble LG has been doing regular meetings for making places safe for women. More than 1000 road stretches have been already identified for proper lighting and installation of CCTV.

iv) GNCT Delhi trying to create better facilities for working women hostels.

v) Efforts are made to integrate everything into CCTNS and also trying to integrate courts with jail for video conference facility. There are many fast track courts now.

4.4.2 **Shri D.S. Rawat. Commandant CTI, Delhi Home Guard,** gave following viewpoints:

i) Disaster Management is a part and parcel of safety and security and most of the time citizens are the first respondent for any disaster or emergency situation.

ii) Citizens are to be made aware and have to conduct training so that at the time of disaster they respond and loss of life should be minimum

iii) We are conducting training regarding search and rescue operation. At the same time we are also making use of Home Guard volunteers.

iv) Conducted several trainings for civil defence wardens. Community itself resolve all its issues by coming forward. Community policing is the need of the hour. In the planning, it is the community who should be involved.

v) Technology and cyber space can also play a major role.

4.4.3 **Shri Mohinder Singh, ACP, Central Faridabad** suggested the following:

i) There is need to be sensitive towards the crime against women. All India women PCR has started. In all district women police stations should be there. PCR and equipment should be made available to us.

ii) Women police recruitment should take place. IT Cell education should be there.

iii) We have women police control room separately. Crime against women, we have SOP for it.

iv) We launched Durga Shakti app in Faridabad. As soon as control room gets any alert, location is identified and PCR is sent.

v) Road accident is another major issue. There is need to make strict rules for issuance of driving licenses.

vi) Road condition should be good that is surface.

vii) Monitoring Mechanism for three wheelers, overloading of trucks, crime against property has been implemented.

viii) Cyber crime is another aspect of crime which should be handled properly.

ix) In Every telecom companies, there should be some clause to freeze the number if the number is found suspicious.

4.4.4 **Shri Anil Kumar Jha, SP, Traffic, Uttar Pradesh** shared following views:–

i) The cities are changing from horizontal to vertical. Community policing is an issue. Police department training and personality development programme is required. Lot of work is being done on technology.

ii) One nation one challenge system implemented in Noida.

iii) Integration of data is required.

iv) Requirement of 10% of UP and 90% of UP are different. Complete planning is required.

v) Population density of different areas is different. Nirbhaya fund has been set up in UP.

vi) Pink out-post is in progress.

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List of participants – Workshop on "Safety & Security" was held on 13.01.2020

S. No.	Name, Designation and Organisation
1.	Shri Manvendra Singh, Joint Director, Bharatpur
2.	Shri Dara Singh AEN, Nagar Nigam, Bharatpur
3.	Shri Arun Kumar Singh, Deputy Secretary, MHA, North Block, N.Delhi
4.	Ms. Rachana Kharwar, ASO, NCR
5.	Shri Aditya Bhatia, DSCI
6.	Shri Rajender Singh, ACP, Gurugram
7.	Shri Kumar Ramashankar Tiwari, Chief Fire Officer, Muzaffarnagar
8.	Shri Bajran Bali Chaurasia, SP (Traffic), Muzaffarnagar
9.	Shri Asholi Chalai, Joint Secretary, National Commission for Women, Govt. of India
10.	Shri Anil Kumar Jha, SP, Traffic, GBN
11.	Shri Sunil Verma, DSP
12.	Shri Ram Jain, Insp. SP Office, SPI
13.	Shri Sanjay Prakash, DIG, CISF
14.	Shri Ranjeet Sinha, Associate Director, PwC
15.	Ms. Abha Agarwal, TCPO, Ministry of Housing & Urban Affairs
16.	Dr. Sanjay Behl, DG, Cert-In
17.	Shri Rama Vedashree
18.	Shri Narender, SP, Palwal
19.	Shri Inder Pal, Inspector, Delhi Police
20.	Shri Arvind Sen, DIG, PAC, Agra Sector, UP
21.	Shri S.H. Jafri, East DMC
22.	Shri Somdutt Sakar, Fire Station Officer, Hapur, UP
23.	Shri Gaurav Jain, Admin Officer, AMDA
24.	Shri Mohit Jain, Accounts Officer, AMDA
25.	Shri Dinesh Kumar, Inspector, Faridabad Traffic Police
26.	Shri D S Rawar CCTI, Home Guards, Delhi

S. No.	Name, Designation and Organisation
27.	Shri S K Shokeen, CHQ, Delhi Home Guards
28.	Shri S K Tanwar, Dy. Comdt, Delhi Home Guards
29.	Shri Vijay Kumar Bhatia, Chief Executive, VJB Inc
30.	Shri Barjeev Tyagi, Prof. IIT-Roorkee, Roorkee
31.	Shri Kishan Singh Adhikari, Coordinator, Child Line 1098
32.	Shri Leenika Khattar, Regional Head, NASSCOM
33.	Shri Mahendra Meena, ATP, Town Planning, Rajasthan
34.	Shri Mohinder Singh HPS, ACP Central, Faridabad
35.	Shri R K Raina, Sr. Tech. Director, NIC
36.	Shri S C Gaur, CCP, NCR Cell, UP, Ghaziabad
37.	Ms. Neelanjali, DD
38.	Shri V. Udeya Kumar, Sr. Tech. Director, NIC
39.	Shri Chander Mohan, DCP East, GGM, Haryana
40.	Shri Dastajir Qumar, Nodal Coordinator, CIF
41.	Dr. Laxman Singh, Deputy CM & HO (H), Bharatpur, Rajasthan
42.	Lt. Col. Gurdeep Mulatani, G4S India, Gurugram
43.	Ms. Nishi Singh, Planning Assistant, DDA
44.	Shri J K Mishra, NIC, New Delhi
45.	Shri Animesh Kr. Singh, Asst. Dir. (Plg.), DDA
46.	Shri Vasanti Rao, CMS
47.	Shri S K Singh, DLP DSC, Delhi Police
48.	Shri Rajesh Joon, Divisional Manager, Haryana Tourism, Faridabad
49.	Shri Aashim Kumar, Secretary, Municipal Committee, Sampla
50.	Shri V K Pandey, CEZ, NDMC
51.	Shri D K Shami, Fire Adviser, DGFSCD & HS, MHA
52.	Shri Krishan Singh, Dy. Fire Adviser, DGCD, MHA

S. No.	Name, Designation and Organisation
53.	Ms. Shilpi Mednawat, Research Associate, MPMR Unit, DDA
54.	Shri Kapil Singh, Senior Manager, Greater Noida Authority
55.	Shri Naveen Kumar Jain, Senior Directors Centre Head, CDAC
56.	Shri Dinesh Kumar, JE, MC, Sampla
57.	Dr. Pravin Ranjan Singh Addl. S.P., UP 112, HQ, Lucknow
58.	Shri Krishan Khundiya, Taxation Inspector, O/o DETC (ST), Sonipat
59.	Shri S K Bhalla, DG IV C, MHA
60.	Shri Parul Bohara, Asst. Commandant, CISF
61.	Shri Devender Kumar, Sub Inspector, CISF
62.	Ms. Priti Shukla, Urban Planner, NIUA
63.	Shri Anil Subramaniam, Director, MHA
64.	Shri Ram Phal Pawar, DG, NCRB
65.	Shri Arjun Suresh, Senior Research Fellow, Amity University
66.	Ms. Gurpreet Kaur, AD (CBQT), AMDA
67.	Shri Anuj Sharma, JS, MHA
68.	Shri Praveen Yadav, DS, MHA
69.	Ms. Utsav Raj, Researcher, Amity University, NOIDA
70.	Shri D B Mukherjee, Divisional Officer, Delhi Fire Service
71.	Shri Azimul Haque, Spl. Secy. (Home), Govt. of Delhi

Annexure-I
SAFETY AND SECURITY
Date: 13.01.2020
Venue: Silver Oak Hall, IHC, Lodhi Road, New Delhi

S. No.	Topics	Speakers
Session I: Inaugural Session		
Chair: Dr. Sanjay Bahl, Director General, Cert-In		
1.	Welcome Address	Shri Satish Prashar, Chief Regional Planner, National Capital Region Planning Board
2.	Safety and Security for NCR	Dr. Sanjay Bahl, Director General, Cert-In
Tea Break		
Session II: Strategies for Cyber Security and Safety in NCR 2041		
3.	Indian Cyber Crime Coordination Centre	Shri S.K. Bhalla, DG, ICCCC & Director, Ministry of Home Affairs
4.	Strategies for Cyber Security and Safety	Shri R.K. Raina, Senior Technical Director, Cyber Security Division, National Informatics Centre (NIC)
5.	Data Security Council of India	Smt. Rama Vedashree, Chief Executive Officer, Data Security Council of India (DSCI)
6.	NASSCOM for strategies for cyber security and safety in NCR	Smt. Leenika Khattar, Northern Region Head, National Association of Software and Services Companies (NASSCOM)
Lunch		
Session III: Emergency Safety Response Systems for NCR 2041		
Chair: Shri Ram Phal Pawar, Director, National Crime Records Bureau (NCRB)		
7.	Emergency Safety Response Systems for NCR 2041	Shri Pravin Ranjan Singh, Add SP Lucknow, UP112, UPTTEC
8.		Shri S.K. Singh, DCP ERS, Delhi Police
9.		Shri Navin Jain, Senior Director, Centre for Development of Advanced Computing (C-DAC)
10.		Chair: Shri Ram Phal Pawar, Director, National Crime Records Bureau (NCRB)

S. No.	Topics	Speakers
Session IV: Perspectives by Governments of NCR States		
Chair: Shri Azimul Hauq, Special Secretary, Govt. NCTD		
11.	Perspectives by state government on safety and security	**Govt. of Delhi:** Shri Azimul Hauq, Special Secretary, Govt. NCTD
12.		**Govt. of Delhi**: Shri D S Rawat, Commandant-CTI, Director General of Home Guard
13.		**Govt. of Haryana**: Shri Mahendra Singh, ACPO Central Faridabad
14.		**Govt. of Uttar Pradesh**: Shri Anil Kumar Jha, SP Traffic, NOIDA
15.		**Govt. of Rajasthan: No speaker**
16.	Vote of Thanks	Shri Jagdish Parwani, Director (A&F), National Capital Region Planning Board

Workshop Title: **Digital Technology and Platforms**

Date: **16.01.20 (Thursday)**

Venue: **Silver Oak Hall, IHC, New Delhi**

Brief Minutes of the Stakeholders Workshop on 'Digital Technology & Platforms' held on 16.01.2020 at India Habitat Centre, for preparation of RP-2041 for NCR

1) Workshop on 'Digital Technology and Platforms' was held on 16th January 2020 for Preparation of Regional Plan-2041-for NCR at Silver Oak Hall, IHC, New Delhi. The workshop was divided into various sessions to cover the major topics under the subject. The list of participants is enclosed.
2) The major topics of discussion included Vision NCR 2041- Digital Technology & Platforms, Strategies for Digital Platforms of NCR 2041, Digital Technologies of Future NCR 2041; & NCR States perspectives on Digital Technology and Platforms.
3) The key invitees and contributors to the discussions Shri Gopala Krishnan, Additional Secretary, MeitY, Sh. Prakash Kumar, CEO, GSTN, Shri Anil Swaroop, Ex-Secretary, Coal/HRD, GoI & Ex-CEO, RSBY, Shri Sanjay Goel, Joint Secretary, MeitY , Shri D.K. Singh, Director, CRIS; Shri Vishal, Chief of Innovation, NPCI; representatives from NITI Ayog, Ms. Kriti Mittal, Consultant, OMIDYAR and Ms. Aparna Bijapuria, Principal, BCG, Shri Sharad Sharma, Co Founder, iSPIRT , Shri Dinesh Tyagi, CEO, CSC; Shri P. Mohanty, DDG, UIDAI; Shri Abhishek Singh, President & CEO, NeGD/My Gov.; Shri Vinay Thakur, Director, National Centre of Geo-Informatics; Sh. S. Suresh Kumar, Addl. CEO, GeM; Shri Jai Kumar, Dy. Director, Public Policy, NASSCOM; Shri Pathak, DDG (IT), Dept. of Telecom; Shri S.K. Singhal, Adviser, BB&DA, TRAI ; Smt. Neeta Verma, DG, NIC Shri Vishal Anand Kanvaty, Chief of Innovation, NPCI; Shri Vishnu Chandra, DDG & Head of Group, NIC ; Shri Rajeev Monga, AGM, DoITE&C etc. The list of Speakers is placed at **Annexure-I**.
4) Session wise proceedings/ record of decisions are as under:

4.1 SESSION I was the **Inaugural Session where** Sh. Prakash Kumar, CEO, GSTN initiated the series of presentations on Digital Technology and Platforms. Key highlights of his presentation are as follows:

- Role of Infrastructure Technology need to be appreciated in having Sustainable infrastructure, as we are facing the challenge of high level of growth, over-crowding and inadequate infrastructure.
- **Common City Infrastructure**
  - Transportation and transportation services such as roads, bridges, cycle tracks, rail, airports and ports
  - Energy. Production and delivery of energy including electric grids
  - Water
  - Safety & Security
  - Financial
  - Health & Education
  - Public Space.
  - Culture
  - Technology (network)
- **For Scalable and Sustainable Infrastructure: Role of Technology is increasing as**
  - **Growth, overcrowding, budget constraints and inadequate infrastructures** are putting increasing pressure on cities, states, and countries.
  - Leaders of cities around the world and private companies are thinking of **how to best improve the infrastructure, create scalable systems, and processes for economic growth, social development, and environmental sustainability**.
- Technology plays a significant role in **building new urban centres, managing existing cities, towns and rural communities and delivering services to citizens**.

- Technologies that enable citizens, city officials, and private institutions **to share information and collaborate** help create a scalable and sustainable public infrastructure that fuels growth **without compromising the environment**.
- **Smart & Connected NCR has:**
    - **Four Goals**
        - Improved city management
        - Continuous economic growth
        - Enhanced quality of life for citizens
        - Sustainable urbanization
    - **Multiple Producers**
        - Government
        - Education
        - Healthcare
        - Safety and Security
        - Transportation
        - Sports
        - Entertainment
        - Real estate
- **Digital Technology: Connecting People**
    - **Running** a Village, City, Community, Country, the World on Networked Information
    - Sustainability Services Delivered by Technology to the following:
        - Social-Enhanced quality of life for citizens
        - Environment-Protecting the world for future generations
        - Economic-Continuous job and business growth
- **Following are the Service Delivery Platform**
    - Transportation
    - Sports & Entertainment
    - Real Estate
    - Government
    - Service Provider
    - Business
    - City/Provincial/Federal Government
    - Safety & Security
    - Utilities
    - Education
    - Healthcare
- **Common Tech Infrastructure**
    - City-wide network infrastructure to connect all government entities including police.
    - Designing an **"Urban Services Platform"** in NCR, with applications/services to include
        - Traffic and transport management,
        - Health
        - Education,
        - Environmental monitoring,
        - Public safety
        - Street light management
        - Waste management
        - Building management
- **Recommendations & Suggestions**
    - **Tech Infrastructure by City Government**

- **Sharing of infrastructure** like network, CCTV, sensors for traffic management to waste management (street light pole to be used for CCTV, parking sensor, traffic light controller etc.). All information flows on common infrastructure
- **Common trenching for communication systems.** Trenches along the road and across the road so that roads are not cut/dug. (Dholera and other cities of DMIDC corridor).
- **Guided rails for moving camera and related equipment inside sewers for remote** inspection as done in Norway
- **Sensors to monitor flow of sewage and blockage**

- **Outcome should be a Sustainable National Capital Region**
  - Improved efficiency for city planning and management
  - Better access for citizens to understand, connect with and contribute to the work of their city at a local and city level
  - City design and management that improves citizen interaction, service delivery and urban design modeling

4.1.1 Shri Anil Swaroop, Ex-Secretary, Coal/HRD, GoI & Ex-CEO, RSBY also presented his views on the subject which included the following:

- Various examples of technology introduction and benefits
  - Chhattisgarh became the first State to adopt **Bima Yojna with smart card. In 2007** there was hardly any reception for technology. The scheme got rolled out and it did very well although resistance is expected whenever new things are introduced.
  - In **Coal Ministry, technology was used to sort out all the loopholes**. First we digitized all the files. **Technology is so logical it eliminated all the paper work**. Whole monitoring system is through technology. Technology can be total transformation.
  - We **set up a portal wherein any industry which has investment more than 1000 crores could give details relating to fund or any problem with ministries**. With the use technology entire system was made transparent. Technology is imperative to save you from any malicious comment.
  - Got clearance of projects worth Rs 5 lac crore within 15 months In Project monitoring group as Technology acted as game changer. **Common man need not go to the government offices but can use platform to get their work don**e.
- Haryana government is digitizing every process. Everyone need not reinvent the wheel and consequently wasting time.
- Have workshops where practitioners roadshow things already in practice in field of technology and from there pick up the thread to work upon it. Board can bring in practices that are already happening and create a common platform for others to see. All efforts should be in creation of common platform.
- NCRP Board can play a role of pivot of common platform and common database. Three data which of prime important are
  - Human data such as Aadhaar.
  - Juridical Data related to organization, companies etc
  - Inanimate data like road, buildings etc.

  It will have unique number. Once we have these data. We can work on it. For example in GSTN number they are integrating PAN number into it which is good.
- Other points that emerged during discussions :
  - CPSE has become digital and fundamental data is Aadhaar data. Which also has option to update record.

- Aadhaar should be treated as fundamental data. Platform and data uniqueness should be there. Let Aadhaar data become basic data for all data bases in the entire country.
- While using platforms like PayTM, Bigbasket, it only gets authenticity checked through Aadhar
- It's a misconception that if Aadhaar is linked to bank account, information is being shared. UIDAI is not getting back data or vice versa. In Paytm they do KYC only & Aadhaar number is indicated. But Aadhaar does not get anything and we do not store anything. I only know that you have done KYC.
- need of increasing security and awareness so that everybody knows what is genuine.

4.2 Session-II was titled **'Strategies for Digital Platforms of NCR 2041'.** Dr. Hemant Darbari, Director General , C-DAC initiated the session and presented on Digital Technology & Platform Connecting NCR. Aspects highlighted by him included:

- **Dependable and Secure Environment shall include**
  - Scalable Architecture
  - Innovative Defense Mechanisms
  - Novel Deterrence Methods
  - Effective Response and Recovery
  - Seamless Data Movement
  - AI based Analytics and Visualization
  - Actionable Intelligence (HPC – AI Convergence)
- **National Emergency Response System (NERS)**
  - **MHA directive of December 2017 making it mandatory for all the states to implement ERSS using C-DAC's software solution**
  - **Govt. of India, to provide a single emergency response number '112' to handle different distress signals from citizens** (voice, panic messages, email, web, sms etc.), **on a central platform**
  - Implementation in 26 states to be completed
- **Centre for Development of Advanced Computing - C-DAC**
  - **R&D framework for** Bioinformatics, weather, Geo spatial, Robotics, Block chain , accessibility, Language computing, Cyber forensics, cyber security.
  - **Service framework Application for** HPC and PARAM clouding, Educational and training, Digital preservation, Security audit, e-sign and e-pramaan, cloud services, Health care.
  - **Research Framework for** Quantum computing, Micro processor hardware, AI/ML/DL,S V image processing, SDN edge computing,super computing ,Brain computing.
  - **Application framework for** Agriculture, Power sector, Health Informatics, E-governance, Smart cities, strategic sector.

- **Data Types**

- **Spatial data and other data. (**passport, PAN, video streaming and video analysis and summarization, various reports). From the surveillance point view, in defense applications there is video summarization. Huge amount of data are generated and these becomes the key information for town planners.

- **Role of Video Surveillance in Defense Applications could be used for Safety & security objectives**
  - **Video summarization**
    - Create a trailer of the captured video depicting relevant
    - movements or objects of interest
  - **Crowd detection**

        - Estimate crowd density, flow, etc.
        - Detect suspects using DNN
    - **Intrusion detection**
        - Detection of moving objects in restricted areas
        - Detect human v/s non-human entities
    - **Tracking objects of interest in videos**
        - Use of Kalman filters, Particle filters, etc.

- **Fencing & Border Protection –**
- In this we provide Decision Support System at BSF,Data collector, Intrusion Detector, Border Surveillance, IED Detector
    - Movement monitoring & Tracking
    - Information Dissemination
    - E-fencing /Geo-fencing
    - Joint Operation Planning & Support
    - Sensor Network & Mgmt
    - Surveillance , Intrusion / threat detection
    - Data Mining on Social networking

- **Blockchain & e Sign for Health**
    - **C-DAC** has **developed interface for patient to maintain data base, clinical data,health data**, Accounts detail. At hospital end, there is hospital admin app which will work in collaboration of patient interface.

4.2.1 **Shri D.K. Singh, Director, CRIS, Ministry of Railways** also presented his views on strategies on digital platform. Key points are as presented below:

- Difficult to project how IT sector will perform in 2041.
- **Railway was first organization which used IT on large scale basis** during 80s.(e.g: 10 crore transaction are happening everyday at CRIS ,Chanakyapuri. Out of which 2.5 crore transactions are monetary transaction as these many persons travel daily and buy tickets. Online tenders, Salary payments almost all the services of railways are online.)
- **Rail Drishti website** , shows catering, railway earning, and position of trains on real time basis.
- **Rail Madad Gar portal,** accept any suggestions and compliant & within one hour one will receive the call to find the problem and solution will be given in 72 hours.
- **NCR should be used more as a whole, mandate should be there in the NCRPB to do some things at central level.** All the IT platforms should follow Service Oriented Architecture (SOA) model. **SOA model should be ensured by NCRPB for all stakeholders**. We must **create a master database management in NCR**. Master data management is a prerequisite for having sound and agile digital platform. Then everything which is going to be certain is cyber war. Every system is enabled by IT system
- **Cyber security and cyber resilience is of prime concern.**
- **In services sector of NCR each department has to identify critical data and should have disaster recovery plan**.
- **Monetization of data is source of non-traditional revenues**. IT platform which is backed up by data centre is must.
- **Four areas where Artificial Intelligence learning can be used**. Things which are **Dull, Dirty, Dear, Dangerous**.
    - There is manual scavenging of sewers manhole where every year we lose 20-25 lives. There should be **mandate in NCR to use robotics for cleaning of sewers**.
    - Disaster management and seismic activities we can use AI machine learning.

  - Robotics can be used in bomb disposal and waste segregation. NCR region is an asset region. **To increase the efficiency and to reduce cost we have to move from periodical maintenance to predictive maintenance.**
- **Sugam app is more like wrapper app and should be an integrated app.** We **need only one app where data of all the app is integrated where you need one ID and one password** and all apps are able to talk to each other.

4.2.2 **Ms. Kirti Mittal, Consultant, from Omidyar** presented on Platform based approach to Public Service Delivery through Omidyar firm , which is entirely into a philanthropic form and have dual checkbook approach. Omidyar Network India includes; a) Investment firm **focused on social impact**; b) Equity investments and grants: dual cheque book; c) Philanthropic capital of Pam & Pierre Omidyar, founder of eBay

- **We invest in bold entrepreneurs who help create a meaningful life for every Indian**.
  - Invested $300m
  - 89 active investments
  - 550m cumulative reach
  - **Aim to invest another $350m over the next five years**
- **Our** portfolio | Serving the Next Half Billion
  - Emerging Tech
  - Financial Inclusion
  - Education
  - Governance and Citizen Engagement
  - Property Rights
  - Digital Identity
  - Engagement with Governments & Regulators
    - MoRD– Department of Land Resources- Assessment of Digital India Land Records Modernisation Program (Himachal Pradesh, Rajasthan and Maharashtra)
    - Ministry of Skill Development & Entrepreneurship (MSDE)- Vision 2025, roadmap for NCVET, and diagnostic assessment of technology systems
    - UDAI- State of Aadhar Report 2017, 2018, 2019
    - Multiple Government Bodies- Centre for Digital Financial Inclusion Policy, regulation design and service delivery support
    - National Institute of Urban Affairs (NIUA) – e Governments Foundation:
    - National Urban Governance Platform enables real-time monitoring of citizen service delivery
    - RBI- Report on developing a regulatory sandbox for India Household Finance Committee
- **Our** investment approach | **Goodtech: हर जदगी बेहतर,** 'Tech for good'-
  - Access to aspirational services
  - Livelihoods
  - Accountability of governments
  - 'Responsible tech'-mitigate against the risk of harms from tech

- **"Platform-based Approach to Public Service Delivery"**
  - A collaborative & secure approach to Public Service Delivery that enables a community of partners to build innovative solutions for societal benefit, using open digital assets that are anchored by accountable institution(s).
  - Collaborative ecosystem, for public & private bodies to build new solutions.
  - Secure by design, safeguarding individual agency and privacy, thereby promoting trust.
  - Open software, APIs, data, and standards, that are transparently accessible to guard against monopolistic behavior.

- Accountable institution(s) with strong governance mechanisms that ensure sustainable and responsible outcomes.
- Positive economic, social and/or governance impact in the lives of individuals and institutions (both public and private).

- **Public digital platforms can be organized on 4 key dimensions…**
  - **Nature of citizen-** Government service delivery, Governance outcome eg. Fiscal deficiencies, Societal e.g. access to content, market
  - **Type of platform-** Micro-services (incl. Data Registries), Standards, Protocols, Software (Analytics, Data Exchange, etc.), Stacks, E2E Services/Solutions
  - **Accountability-** Government (direct, SPV/ PPP), Private
  - **Role of Government-** Key participant (G2B, G2C),Enabler (provides either Enabling tech architecture, Data, or Funding), No required role
- **Public digital platforms has tech and Non tech layers**
  - **NON-TECH LAYER:**
    - **Community-**Collaborative ecosystem of people engaged in building PDPs from the government, market and civil society.
    - **Legal and regulatory frameworks-**Law and rules that govern activities in a particular sector, especially the regulatory architecture which informs the digital architecture
    - **Institutions and Governance**-The institutions that govern PDPs, as well as institutions that build, own, manage, maintain the PDP and are held accountable for it.
    - **PRIVACY**-A layer comprising of norms and principles as well as technology and tools that ensures data privacy, security and agency across PDPs
  - **TECH LAYER**
    - **Open Standards/Specifications/APIs-**Open standards and APIs help to break down silos between different service providers, thereby creating a more collaborative & competitive marketplace.
    - **Registries/Data Layer**-The 'data organizations' layer of a PDP is typically an electronic registry (of people/organizations/assets etc.)
    - **Analytics**-Artificial Intelligence and Machine Learning powered data analytics layer to enrich the platform with each use, and support decision making tools.
    - **Solutions/Applications/User interfaces**-The layer that users interact with comprising of various solutions 'unlocked' by the PDP, accessed by the public and by entrepreneurs through appropriate modes.

Example: RERA Open Platform

Problem:

- Slow progress in RERA implementation to date in many states
- Technology platforms of RERAs meet the "basic requirements", but vast unrealized potential exists for sector change
- Multiple data standards being created at multiple levels in different states

Solution:

An open-source, modular platform to be piloted by Delhi & Chandigarh RERA, that serves homebuyers to transact easily, builders to comply effectively and allows RERA authorities to be more efficient by:

- Capturing all essential functions of primary stakeholders in a systematic manner
- Linking all RERAs functionalities to allow inter-operability and knowledge management
- Enabling broader urban development use-cases such as land records management, linkage with property litigation and mortgage records, civic amenities planning, etc.
- Setting common standards on data and technical specifications

4.2.3 Ms. Aparna Bijapuria, Principal, BCG in her presentation informed that Omidyar is partnering with BCG and MeitY to support a National Strategy for Platform based Delivery of Public Services. Highlights of her presentation included the following:

- Sectors where role already being played:
    - Govt. E-marketplace- Supported scale up & program management of GeM to streamline public procurement impacting ~18% of GDP
    - Aadhaar/ UIDAI- Supported UIDAI with thinking through use cases across sectors including financial inclusion, health, education, food
    - Education- Support build of digital MIS platform for public school education system and support roll-out of Diksha across 4 states, ~200k schoolsFood- End to end Public distribution system transformation sol. for India; implementation support in Odisha & Kerala
    - Logistics- Developed proof of concept of logistics platform for infra planning, congestion reduction, mode optimization etc. with MoC, Logistics Division Supported development of e-tolling solution for National Highways
    - Infra development/ productivity- Transformation of 12 major ports, 400+ stations',10 airports, program mgmt. of 90,000 kms of highways.

- Platform-based Delivery of Public Services: Countries like Estonia, UK and Singapore have adopted this approach and India too is a forerunner. Key pillars of Singapore's Smart Nation Strategy:
    - Integrating services around citizen & business needs
    - Co-creating with citizens and businesses, & facilitating adoption of technology
    - Strengthening integration between policy, operations & technology
    - Building common digital & data platforms
    - Operating reliable, resilient & secure systems
    - Raising our digital capabilities to pursue innovation

- **Principles to build a 'Responsible' PDP: 5 paradigm shifts**

1. **From "Build end-to-end solutions" to "Build partnerships to solve".**
    - To achieve agility and efficiency while solving complex problems at scale
    - Build for collaboration: Use and/or build open source, data, standards, licenses & APIs to promote inter-operability
    - Make reusable & shareable: Incorporate micro-services architecture to repurpose elements in diverse contexts; prefer multi-tenancy over multi-instances to reduce cost
    - Engage with the ecosystem: Share learnings & best practices with the wider community of practitioners; launch & participate in open forums to co-create solutions
2. **From "Good enough for today" to "Ready to take on the future"**
    - To create a sustainable product/service that continually creates value over the longterm
    - Ensure the right capabilities: Nurture an ecosystem of partnerships or build in-house capacity to supply the skills required to operate the platform
    - Develop a viable business model: Instate organization structure, processes, and funding/revenue model that are aligned with platform objectives, for uninterrupted operations
    - Be scalable & evolvable: Use elastic & modular design to optimize for scale; be flexible to change in technology and context (social, political, regulatory)

3. **From "Protect the user" to "Empower the user"**
    - To minimize social & economic harm by providing users with agency and privacy

- Ensure the right capabilities: Nurture an ecosystem of partnerships or build in-house capacity to supply the skills required to operate the platform.
- Develop a viable business model: Instate organization structure, processes, and funding/revenue model that are aligned with platform objectives, for uninterrupted operations.
- Be scalable & evolvable: Use elastic & modular design to optimize for scale; be flexible to change in technology and context (social, political, regulatory)

4. **From "Command and control" to "Create trust and accountability"**
   - To foster trust and reliability; to ensure fair value capture by all stakeholders via transparent governance mechanisms Embedded choice and privacy into design: Apply 'Secure by design' principles such as E2E encryption and user consent framework (DEPA) to ensure individual's choice to 'opt out'
   - Create transparency: Outline data policies & standards on ownership, contribution & consumption of data; ensure that they are easily understood & readily available
   - Comply with regulations: Abide by all national policies, laws and standards on personal & community data collection, sharing and usage
5. **From "Roll-out and deliver" to "Launch, learn and evolve"**
   - To facilitate informed decision-making to develop user-centric products that address a significant pain-point
   - Learn continuously: Build analytics as central pillar to generate insights to be applied to enhance user-centricity (affordability, accessibility, ease of use) and platform performance
   - Act on insights: Leverage relevant data & insights to guide policy-making to aid the under-served
   - Widely share for unlock of innovations: Provide entrepreneurs access to relevant data & insights to drive new solutions identification & design

- **Several key enablers need to be unlocked.**
  - Resourcing/ funding
  - Procurement rules
  - Talent planning
  - Inter-departmental coordination & accountability
  - Technology sharing
- **Key learnings from Singapore on making this shift**
  - Create a centralized agency to drive strategy: Smart Nation and Digital Government Group (SNDGG) has been set up under the PMO with the objective to take a collective approach to building a smart nation
  - Include digitization as core policy and strategy lever: Technology is part of core strategic planning & SNDGG works directly with Ministries to enable this
  - Technology integration made priority at the highest level in every Ministry: Revised org structure- a Chief Digital Strategy Officer (CDSO) is appointed in every ministry to oversee the digitization plans
  - Resourcing Framework: SNDGG Worked with the Ministry of Finance (MOF) implemented a new resourcing framework to enable more agile digitalization - replaced long proposal approval and tendering process
  - Structurally enable open innovation: A digital experimentation and implementation unit was set up where officers could develop products in sandbox environment
  - Capability building for tech: GovTech's HR scheme was revised - Forums & Fellowship programs were organized, the Administrative Service established an engineering track,

partnerships developed with leading tech companies where public officers can work in stints and learn best practices.

4.2.4 Mr. Sharad, Co Founder, iSPIRT shared his points oon the subject, which included the following:

- Urban Planning is really hard. Platforms have become buzzword now a days . We have 1G, 2G, 3G and 4G platforms.
- **1G platforms** are eyeflex, pheonoxixal they liberate the employees. They **are used internally by employees like in railways**. It allows employees to be much more effective. The platforms are still around lime in **Core banking system**.
- **2G platforms** are used where there is Customer facing. **Railways made online reservation possible**. It was revolutionary. Complete transformational for the customers at that point of time.
- **3G platforms liberate the customer**. Now they **can make booking ticket from another place.** To liberate innovation. What should the government not do? **Example: Google play is top layer, Payment Bank is middle layer and UPI is bottom layer.** Can you build a platform that necessarily involves every market players coming in? Innovation on your core platform so that consumer can have better experience. No country in the world is the source of innovation. **Role of Government is to provide platform so that Others can build apps and government should only build backend platforms**. This is called open API architecture. **Government has to become an innovation creator and supporter.**
- **4G platform is to do with data**. These are **to release data to liberate artificial intelligence to happen outside the government**.. Meity has already solved one part of it which is personal data.. Second part it is non-personal data. Financial data is already in place which is called account aggregator. We are in second close group and it is likely to launch in middle of May. It will be 10x times than UPI. Money can be shared once but data can be shared number of times. UPI we are doing 1.2 billion transactions a month.
- **India is first country to launch this**. In Europe it will take another 12 months to launch taking India as a model. That is the fourth generation.
- We **need all four kinds of platforms when we do planning.** All four has very different rule for designing. We have to unlearn first generation thinking while designing for second. Same is the case with all the generation. These require sophisticated discipline thinking.

4.2.5 Shri Vishal, Chief of Innovation, National Payment Corporation of India (NPCI) while sharing his views on the subject, mentioned the following:

- NPCI is a **not-for-profit company building a robust, scalable & affordable payments infrastructure for India**. An **Umbrella Organization for all retail payments in India**.
- Incorporated in the year 2008 NPCI was **set up under the guidance and support of RBI & IBA**. Presently **56 banks are** shareholders of NPCI (incl. 14-Public Sector Banks, 17-Private Sector Banks, 3-Private Sector Banks, 10-Multi State Co-op Banks, 7-Regional Rural Banks).
- RBI Driving Innovation:
  - **Vision paper** on payments & settlement systems (2016-18)
  - **New banks** licensing - Payment Banks, Small Banks, PPIs, etc.
  - **Paperless KYC** regulations, **cardless payments**
  - Approving **all new payment systems**
  - Opening of **banking and digital payments**
  - **P2P Lending** draft regulations
  - Approving **interoperability specifications**
  - New **Account Aggregator**
  - guidelines to unlock data

- Milestone of Product Development by NPCI:
  - "Rupay" for Delhi Metro select is the latest product developed by NPCI in 2019.
  - In 2018 ,UPI 2.0 was launched. On UPI, Overdraft facility is available, signed indent and QR, invoice in the inbox, foreign inward remittance enabled on UPI. The reasons why UPI is successful is that UPI provides quick service, new benchmark, low friction transaction, industry co-creation and open architecture. One can pay with QR with Indian transfer abroad, IOT payments beyond mobile phone, block chain / AI with deep tech integration.
  - **Contactless One Nation One Card product – Rupay**. It **can be use at parking in airports, for Metros, Buses, Retail Outlets, ATM, etc.**
  - Features of BHIM App:
    - UPI Mandate- with one time execution and block functionality
    - Overdraft facility now on UPI
    - Signed Intent & QR
    - Invoice in the Inbox(view and pay)
    - Foreign Inward Remittance enabled on UPI
  - Redefining **The FinTech Landscape**
  - **Instant, Round the Clock Service**-Instant transaction & 24X 7 availability Full Interoperability
  - **Industry Co-Creation** -Open Innovation Model Design participation by major stakeholders
  - **New Benchmark in UX** Ready to Use Service Ease of setup and transaction
  - **Open Architecture**-SDK for full third party integration Level playing field for Banks and Fintech
  - **Low Friction Transactions** -Single click for two factor authentication UPI ID as easy-to recall as financial address
    - Future of Payments
    - Preferred Mode for Indian Travelers Abroad(Pay using QR Anywhere)
    - Beyond Mobile Phones (Wearables, IoT Payments)
    - Deep Tech Integration(Blockchain, AI/ML)
  - **NHAI toll payments go digital with NETC**
    - National Highways- 587 tolls
    - State Highways-51 tolls
    - Banks live as on date- 24 Issuer &10 Acquirer
    - Mechanism of Interface-Completely interoperable
    - Issuance- 11.67 Mn Tags Issued

  - **Future Business Case- One NETC FASTag Many Benefits**
    - State Toll Plaza
    - Smart City Initiatives
    - City Toll Plazas
    - Enforcements Vehicle Linked Fines
    - Fuel Payments
    - Parking

- **Innovating The Future Landscape**
  - **Artificial Intelligence**
    - Fraud Detection using AI, Machine Learning
    - Data Driven Decision making
- **API Accelerator**
  - Create Payment System Sandbox comprising of payment API integrations with developers, start-ups, Fintechs and banks
  - Digital Integration Platform

- Foreign Inward Remittance
- Establish Remittance corridors
- Make FIR seamless and convenient (Account Validation etc.)

- **Block Chain POC**
  - Pilot POC with banks on Payments, Clearing and Settlement
  - Expected to increase transparency and immutability in transaction record

4.2.6 Shri Sanjay Goel, Joint Secretary, MeitY, made a presentation regarding Strategy of Digital Platform. Key points of his presentation included:

- Government always keeps **citizens in the center**. Ensuring how & in what ,manner shall it the last man standing can be benefitted. Right from the beginning we **focus on citizen delivery and ease of doing business**. **Public digital platform is also aimed in this direction to upgrade the citizen delivery.**
- In IT sector, last two decades have seen start of **National e-Governance Plan, creation of data centers, connectivity.** The idea was to create digital services for citizen. Standing in the queue reduced. We realized citizens are digitally illiterate. We **came with the concept of common service centers which handheld the citizen and made them the part of services and extended the services**. Digital empowerment is the way forward
- Today we have huge data center, Data **has become centre of everything**. With monetization of data, it has become valuable. Only curative data is useful. With the coming of all technologies like IOT, 3D printing, emerging technologies these are exciting times. Today we are standing on the platform of applications in each sector where we **have plethora of applications for sectors like agriculture, education, health.**
- Need to consolidate the plethora of applications in public digital platform **e.g. in the rural areas we have multiple applications like soil health card, digitized land record, crop loan, seeds fertilizers, irrigation facilities, etc**. Poor farmers has to log in in each app despite being digitally illiterate. There the need of platform comes in where only single sign in is required and farmer can access all the applications.
- **Going into future one can think of putting all these applications into one,** where each application can talk to each other. Benefit shall be that instead of farmer asking, the **app will give notification like in particular weather which crop would be beneficial to grow**. Farmer is being advised about it. **Similarly, in health and education we can have similar solutions**.
- For NCR there are challenging times again as **there is no central legislation for each state**. Each **state has developed their own system**. These are all different programs and different technologies. Integration would be a challenge for NCR. That is the way we are looking at if we **have an integrated platform across the country is a challenge and ultimate vision to have a single platform where all services municipal, state, district services all plugged into one.**

4.3 Session-III specifically discussed the Digital Technology of Future. Shri Dinesh Tyagi, CEO, Common Service Center included the following key points during his presentation.

- **To create a sustainable model, government to citizen service becomes an enabler** but it is not commercial model. Anything which you sell in the name of government likely to be mischief done. If you sell a product he cannot cheat. **Idea of creating CSC was to create integrity and not to get people cheated.**
- Although Intelligence level of the rural area person may be equal to that of urban area person, the **people in rural area do not get environment and accessibility.**
- Today technology creates an access of same nature. CSC has open school program for 3,5,7,9 standard. We have management and Law programme as well. We **run programs which can be attended by living in the village itself.** Only 30% of Indian population goes to college. **CSC**

provide various programs for those who are unable to go the school or college, as there are platforms available.

- As now platforms are available, one can do coding, can make apps.
- Second issue for rural population is if you make them study the examination centre is outside the village at district level so women are not allowed to take up the exam. **Through digital literacy programme (Prime Minister digital saksharta) in every village person can go and study and appear for the exam in the same place**. Already conducted examination for more than 2 crore children.
- Education is the first foundation. No teacher wants to go to rural area. Second is banking, insurance, pension. Even after independence we have , only 40,000 rural branches in 70 years. But **Thanks to Aadhaar, there is a fundamental transformation in e governance** and today even in rural India Aadhaar enabled payment system is prevalent.
- Today we have 1.8 lakh using Aadhar Enabled Payment system (AEPS). 4lac crore doing business. Nobody wants to go to the bank and one can get a loan by submitting yearly bank statement. We are also promoting Self help group.
- Inherently Indians are enterprising. We had NPS, banking, insurance, pension, we do skilling, and we sell almost all things required. We sell fertilizers. We do **tele marketing, tele medicine, tele agriculture**
- We also **want to create logistic solutions for India** and IFFCO is working with us.
- Rural India needs employment and employment is the key for growth of any nation. We **want to set up rural BPO** and the skilled rural youth can be employed in these BPO.
- **Need to introspect self as a citizen**. Digital India says that Give government in citizen's hand. There is phenomenal scope for transformation especially for citizen for rural India.

4.3.1 Highlights of the views shared by Shri P. Mohanty, DDG, UIDAI , included the following:

- **Vision to empower residents of India with a unique identity and a digital platform to authenticate any time anywhere**. Aadhaar is now the identity for more than 1 billion residents of India. If you look at digital platform of India, **125+ crore Aadhaar, 118 crore mobile, 120 crore bank accounts, 71 crore internet users, 38 crore smartphone and 35 crore social network users.**
- Aadhaar is a government issued Id, digital, online, verifiable any time anywhere, gateway to access services basically citizen empowerment. Almost 66 crore are enabled in Aadhaar system to get the benefits. It is a tool of good governance.
- To build in platform, internal and external ecosystem is required. Processes need to be innovated. When you design a **system, it needs to scale to large volumes, with millions of transaction, billions of records and trillions of computations**. There should be end to end of resident data. Need to use various security technologies like encryptions, access control, personal identifiable information to the digital signatures, data control data retention and usage.
- We are not collecting any private data. **Biometrics taken only for authentication**. Act itself limit us to collect any other data. We have **covered almost all population except NE states**. We **have authentication infrastructure like Multi Data Centre**. **Face authentication shall be made available very soon**. Offline verification service like secure QR code, XML. Authentication is basically about yes and no.
- Basically Aadhaar used for de-duplicating various schemes. Aadhaar linked IDBT enabled bank accounts, DBT savings reported is 1.41 crore. **Total expenditure on Aadhaar is 11,000 crores**. **Aadhaar for identification of beneficiaries like subsidies travel, subsidies utility bills, waste collection and management, agricultural etc**.
- Aadhaar Payment Bridge (APB), AEPS, BHIM app. We have rolled out one **app M-Aadhaar where you have 35 services on a single app.** Concept of QR code into Aadhaar **every government department should use QR code**. We call it **offline authenticity.**

4.3.2 Presentation of Shri Vinay Thakur, Director, **National Centre of Geo-Informatics** included the following key points:

- **Objective of NCoG :** GIS based decision support and development across government. It has **600+ Layers** working for **28** Central Min/Depts in **19** States/UTs with **492** web application and **27** mobile apps.
- Main features are 1:5000 scale,Multi-sector geo-dataset compatible, Web-enabled, cloud deployed, Open Source and In-house developed and Cost efficient
  - **Services-**G2G,G2B,G2C
  - **Disaster management**
  - **Spatial Decision Support Systems-District level –** DSS Bottom to Top approach
  - **Good Governance-**Administrative Functions,Monitoring of programmes,Gap Identification,Allocation of resources,Management of resources
  - **Developmental planning-**Problem specific / Integrated Programme Convergence
  - **Approvals /Permissions-**GIS based Transparent
- **Development and Institutionalization of DSS**
  - Working out citizen centric services.
  - Building lot of application as part of work flow applications. **(**Recently launched application for Indian)
- **Role of Meity is t**o provide framework, fund and monitor the process.
- **Geo-Spatial Technology helps in Good Governance, Ease of Living & Ease of Business.** Works taken up include: :
  - 520 Applications live with 600+ GIS layers
  - Software development in-house & in open source leading to immense savings
  - Project led by user Ministries resulting in ownership and institutionalization
  - Use of AI, Big Data, Navigation Solution in GIS
  - Jal Shakti GIS (256 Districts in 100 Days)
  - India Maps for Citizens and Business
- **Government Land Information System (GLIS) has the objective t**o map all Central government land parcels including CPSEs, which shall be compatibility with national / international platforms (ISRO, SoI, Google, Bing etc.)
  - **Status**
    - No. of land parcels mapped ~ **95,135+**
    - Area Mapped (Sq Km): **15,485+**
    - No. of Min/Dept : **52**
    - No. of CPSEs: **113**
    - No. of officers trained: **1200+**
- **Mining Surveillance System (MSS) for Ministry of Mines has the oobjective to** Map major mineral mines across India & analyse to curb illegal mining. As an outcome about 58 unauthorized mining cases identified, with increased transparency, regulations getting more effective.
  - **Status-3280** total mines mapped; **1689** working mines (99%) mapped;**296** triggers generated; **287** field verifications; No contradiction reported
  - System also used for checking unauthorized mining in vicinity of existing leases.
- **Industrial Information System (IIS) – DPIIT:** IIS is used in sectors like Chemicals, Automobiles, Textiles, Engineering, Software and processing for land details, connectivity, Urban infrastructure and raw materials. IIS features include:
    - Being one stop information platform:
    - One stop for Industrial Information with GIS Mapping
    - External and internal infrastructure linkages

        - Provide information on Government schemes and their incentives
        - Extent of utilization of infrastructure- targeted and achieved
        - Layers of Raw Materials – Agriculture, Horticulture & Minerals
        - GIS Layers of Technical Institutions, Industry Associations,
        - National Land Bank
    - **Status Industrial Information system:**
        - 3373 Industrial Parks in 31 States/UTs
        - 4.75 Lakh Ha Industry assisted land
        - 1.21 Lakh Ha Industry land available
- **Canal mapping & Cropped Area Estimation for Ministry of water resources, river development and Ganga Rejuvenation had the oobjective** that GIS based canal mapping & cropped area estimation of AIBP projects. Its outcome is Transparency in impact analysis, Efficient monitoring of project progress. As a **Status,** 106 canal projects of Accelerated Irrigation Benefits Programme mapped, cropped area analysis completed for 2014, 2015, 2016.
    - **Road Information System for Ministry of road Highways,** had the objective of a) Geo-mapping present status of lanes & b) impedances of NH, SH etc**. Its outcome include:**
        - Bharatmala – identification of stretches
        - Origin & destination study, freight flow predictions
        - Verification of identified infra gaps
        - GIS inputs for NHAI DPRs
        - Current **Status:**
            - Total road 3 lakh Km
            - State Highways ~ 99,000 Km
            - Toll plaza ~ 430
            - Traffic Survey points
            - Economic Corridor, NH, SH, Steel / Power plants
            - MIS of NHAI integrated
    - **Tatpar Delhi Police-Flagship Apps and services** provides with
        - One click navigation to the nearest jurisdictional Police Station
        - One click navigation to the nearest jurisdictional Traffic pit(where vehicles are parked after being towed)
        - App for filing of e-FIRs for theft of property and motor vehicles
        - SOS – Emergency service. Receive immediate support from Delhi Police
        - Senior Citizen app registration and its services
        - Traffic app Services, Advisories and real time alerts
        - Special app with services for Women and child safety
    - **Geo-informatics Application for Jal Sanchay**

4.3.3 Sh. S. Suresh Kumar, Addl. CEO, GeM presented on Transforming Public Procurement in India.

His key points included:

- Government e-Marketplace (GeM): it is a path breaking revolution in India's public procurement. It a **one-stop online procurement portal for all Govt. buyers** including Central/ State ministries, Departments & PSUs. Largest G2B platform in the world. Abating India's fiscal deficit
- GeM – Main Features
    - **Analytical Dashboard-**Buyer and seller registration
    - **Capacity Building-LMS-**Online training Modules
    - **User rating –** buyer and seller Vendor Assessment, Market search comparison
    - **Incident Management-**Online ordering and contract generation

- **Advance analytics for price comparison and reasonability**-Direct purchase/ebid/RA
- **Services on GeM-**Various products/services on offer with multiple sellers
- All States and UTs on GeM
- 15-25%+ savings
- 48%+ of GMV from MSMEs

- **Key Advantages for Buyer if using GeM:**
  - End to End System from Registration to Payment
  - Provides transparency and ease of buying
  - Provides options for search, compare, select and buy facility
  - Offers rich listing of products for individual categories of Goods/Services
  - Up-to-date user-friendly dashboard for buying, monitoring supplies and payments
  - Order Process redesigned for ease of use
  - Option to provide multiple consignee locations and quantity after authentication
  - Bunching for products/services
  - Price Trend for Products

- **Key Advantages for Seller**
  - Direct access to all Government departments
  - One-stop shop for bids / reverse auction on products / services
  - Dynamic pricing: Price can be changed based on market conditions
  - Strong vendor rating system
  - New Product suggestion facility available to Sellers
  - Seller friendly dashboard for selling, and monitoring of supplies and payments
  - News and Event Section for Regular Updates
  - New on GeM – Shows list of new product categories added

- Efficiency has increased by 30times regarding Registration & offering (4mnths to 97 hrs) and 180 times regarding Tender creation to evaluation (6mnths to 1 day). In addition, Savings of about 25% across categories on an average and 100% Advertisement cost, printing and paper cost and Environmental cost has been achieved. Transparency has helped in 88X/12XSeller participation/ categories and 3 X Average bid participation (Current average 9 bid). It has also lead to increased inclusion with more MSME, ,Startup & Women participation
- **Four additional pivotal outcomes of this reform**
  - Transparency-Leading to lower cost of business and savings for the Government
  - Inclusivity-Enabling every Indian at grass-root level to transact with Government
    - 61+ K MSME on GeM contributing 48% of GMV
    - 3170 SC-ST MSMEs with order value of 200+ Cr
    - 3538 Start-ups with order value of 500+ Cr
    - 7800+ women entrepreneurs with order value of 2300+ Cr
    - Ensure timely payments to sellers (PRC, CRAC, PFMS escalation and GPA)
    - Bring Government contractors and bulk B2B purchases on the platform
  - Technology-Robust and secure platform, Use of AI/ML and analytics
    - Datawarehouse for record keeping
    - Natural Language Processing powered multilingual search, continuous UI/UX improvement for enhanced experience
    - Standardization of bids through Smart RFP builders and information wizards
  - Nation Building-Catalyzing other key Government reforms

- Leverage GeM for achieving a 'Unified Procurement System' for India
- Made public delivery systems responsive and efficient
- 'On-time contactless payments' in govt. expenditure to enable a USD 5T economy
- Savings from GeM could ease India's fiscal burden
- Global benchmark for digital procurement—extend platform to other nations
- Unification and transformation of policy

- **Multiple issues faced in public procurement in India being resolved by GeM** through an end to end - efficient , transparent and inclusive portal
    1. **Limitations & inefficiencies in procurement system**
        - Limited localized vendor base
        - Limited range of product
        - Sub-optimal high prices
        - No room for aggregating demand for lower pricing
    2. **Time consuming, manual processes**
        - Cumbersome, diverse and different procurement processes
        - Admin overhead for buying organizations
        - Manual offline process inefficiencies
        - Potential collusion risk with manual rate negotiations
    3. **Buyers have to follow multiple procurement guidelines**
        - Public Procurement Policy for MSME's
        - Make in India, Order 2017
        - Line ministry guidelines in line with Make in India
        - Reservation for Khadi goods
- **GeM is transforming Indian Public Procurement:** E-commerce for government buyers: changing rules of the game with speed, transparency and inclusivity. It is **Cashless, paperless and contact less**.
- GEM transaction value 43,451 crore. 30 States / UTs have signed MOU with GEM for procurement. Integration of GEM further reinforced at 3 levels – Payment integration, validation integration and buyer integration.
- **Key Statistics of GeM:**
    - Buyers-41,788
    - Sellers & Service Providers-319,291
    - Products-1,761,279
    - Total Number of Orders-31,27,819
    - Transaction Value-43,451 Cr

4.3.4 **Shri Vaibhav from, NASSCOM** presented on "Leverage **digital technology and platforms**" and highlighted the following aspects:

- NASSCOM working with Ministry of IT with model RFP.
- Policy imperatives.
    - Institutionalizing Technology Adoption & Standards
    - Enforce SoP- Contract Management – Model RFP
    - Impetus on as-a-Service- Model- Reduced Capex – on-demand services
    - Governing Taskforce for Citywide implementation of frameworks for
        - Cyber Security
        - Cloud

- GIS

- 4.8% in contract, legal terms are same only technological terms changes. Maharashtra is the first State to adopt the central model RFP. They have their own procurement act. Cyber security ,cloud and GIS are main pillar of RFP. Chhattisgarh and Rajasthan are two other states who are to develop RFP.
- **Application Areas for RFP are as under :**
  - City Communication Network
  - City Wi-Fi
  - City Surveillance
  - ICT Enabled Solid Waste Management
  - Smart Lighting
  - Smart Traffic
  - Smart Parking
  - Environmental Sensors
  - City Bus Intelligent Transportation System
  - Smart Governance and Citizen Services
  - Analytics and AI (Artificial Intelligence)
  - Integration of existing/proposed ICT systems

4.3.5 Shri Abhishek Singh, President & CEO, NeGD/My Gov. presented his views on **Digital Technologies of Future NCR 2041,** which included the following:

- Platforms are playing a pivotal role in robust growth of digital economy.
  - **UIDAI -** 125 crore Aadhaar and 3688 crore authentication has been done. Adhaar is helping 1.41 lac crore DBT gains. And easy delivery for G2C and B2C services.
  - **GeM: Registered buyers organization are 37033 and seller are 2.52 lacs. It is a transparent government procurement with Rs28000 crore order value.**
  - **UPI-Unified payment interface-As on Dec 2019 the Volume of UPI is 130cr with worth 2 lac crore.It has helped the inclusion of citizen in digital economy.**
  - GIN- 1.21 registered tax payer.The portal has collected Rs21 lac crore. It enables micro credit to MSMEs.
- **Emerging Technology to enable Digital Transformation: Digital ecosystem to drive the next wave of transformation across key growth sectors of the Indian economy**. We have **digital society in agriculture, land, transport, health care educational and ICJS**. Open data, digital trust, fixed/mobile networks of connected sensors, data analytics, data centre, payment gateways are the emerging technology to enable digital transformation.
- **Land and Asset Management System – GIS based**
- **All asset / land based decision be GIS enabled**
  - 508 Applications live with 600+ GIS layers
  - Software development in-house & in open source leading to immense savings
  - Project led by user Ministries resulting in ownership and institutionalisation
  - Use of AI, Big Data, Navigation Solution in GIS
  - Jal Shakti GIS (256 Districts in 100 Days)
  - India Maps for Citizens and Business
  - Decision Support System for District Administration- 117 Aspirational Districts and 16 diverse sectors' layers
  - NeGD has Public Digital Platforms – Agriculture, Health, Education

- **API Platform-**Service provider to API Exchange and then to service consumer which are govt. department ,citizens and business organizations
- **Emerging Technology As-A-Service**

- Emerging technology stacks are Open API, Geospatial, Artificial Intelligence, Internet of Things, Blockchain, Cloud, Robotics, AR/VR, 5G, DLT, Edge Analytics. MeitY to be the key enabler. Department getting benefitted by it are Agriculture, Public Health and Safety, Education, Logistics, Transportation, Jobs and Skills ,Municipal Services, Social Welfare ,Land Registrations, Weather forecasting, Surveillance

- **National Programme on Artificial Intelligence:** It focuses on project implementation, Applied research on AI and Mission project of Central Government, State Government.
  - **Priority Areas**
    - **Indian Languages**-Text to text ,speech to text and text to speech, speech to speech conversion.
    - **Agriculture**-Double Farmers Income, Prediction of crop yield, precision farming scalable, Distributed Healthcare-crops & Animals
    - **Health**- Ayushman Bharat-Double resources, Halving costs,low cost medical screening/Diagnostics solutions.
    - **Education**-Intelligent tutoring system, Scalable and reliable evaluation system
    - **Finance**-Detection of Financial frauds prediction of bad loans/NPA
    - **Transportation**-smart traffic management, Indian Navigational system
    - **Urban Development** -Smart city operations, Swachh Bharat Mission
    - **Cyber security**-Automated response to cyber attacks and cyber forensics
- **Meity's Start-up Hub (MSH):** MSH acting as a hub and ensure synergies among all Start-up related activities and incentives
  - 4 Incubation centres: Electroprenur park at Delhi University, Electronics incubator at IITM Kerala, Incubation center on medical electronics at IIT Patna and Fabless chip design incubation centre at IIT Hyderabad and 27 TIDE 1.0 centres.
  - Nine (09) Centre of Excellence at Gurugram, Vishakhapatnam, Gandhi Nagar, Fintech at Chennai, CoE in Big Data, AVG & IoT at Mohali, Tactile Grapics at IIT Delhi, NASSCOM-ERNET ,IPR at Pune.
- **MyGov Building Blocks:** Blogs-Stay Updated MyGov activities
  - Innovate - Crowdsourcing solutions for issues of national importance
  - Volunteer-Enable citizens enrollment for volunteering activities
  - eGreetings- Contemporary & eco-friendly method of sharing greetings
  - e-Sampark- Mechanism to connect Govt. directly with citizens
  - Do-Perform Online and on-ground Tasks
  - Discuss-Participate in Groups and Open Discussions
  - Polls /Survey-Make your opinion count
  - Survey- To seek public opinion on important issues
  - Quiz- Learning with pleasure
- **Future Skill Initiatives**
  - Re-skilling
  - Collaborative industry level response
  - Focuses on 100+ skills spanning across 70+ job roles on 10 emerging technologies
- **Area identified for skilling:** Artificial Intelligence, Big data Analytics, Cyber Security, Mobile Tech, Virtual Reality, Blockchain, Cloud Computing, Internet of Things, Robotics Process automation,3D Printing
- **Further discussions on the subject brought out the following key points:**
  - Umang app, 589 services of Govt. of India. E-serivice.gov.in is also there. Around 3200 services details are available. Department of land resources side you can take your land records.

- Earlier estimate was only on the basis of population. Now GEM, Aadhaar data is there in terms of planning point of view & how we plan on the basis of land data, what technology is being used, life of that technology, & will it be usable or not around 2041.

4.4 Session-IV pertained to **Understanding the State Perspective on Digital platform** wherein Sh. Munish Sharma, Senior consultant , SCMIET ,Govt. of Delhi presented from Delhi's perspective, which included the following:

- 2041 it is a very long horizon period for which prediction is difficult as are **planning for the next generation of NCR.**
- Need **to have a common platform like India enterprise architecture** . We should think like an enterprise with a collaborative approach with data sharing across the states.
- Need to ensure Quality consider the end users and their ability to use the technology, that is often neglected.
- Currently, **Delhi has E-District portal with 126 services**. Delhi has also initiated door to door series. 1067 is the number for the end user.
- Have **E-SLA (service level agreement**) so that delivery is given on time; Delhi Govt. is dealing with 44 departments. Like that Stakeholders of NCR will be much more than that. Haryana has launched 600 services four months back**. If you add Haryana, UP, Rajasthan, the common platform will be the key driver.**
- Sharing of data will be an important factor.
- One of the other areas is **capacity buildings** necessary as people are not aware of emerging technologies.

4.4.1 Shri Rajiv Monga, AGM, Deptt of Electronics and communication, Govt. of Haryana presented the State's perspective, which included the following:

- Vision of Haryana is **To Encourage Enterprises for a sustained start-up Eco-System** with focus on innovation, Green and Clean Technology and empowering the Citizen". The **strategy adopted by Haryana is transparency, regulatory reforms, technology, awareness and skill development**.

- **Suggested Focus areas for Regional Plan 2041:**
  - Digital Empowerment of Citizens of NCR
  - Skill Development of Citizens
  - New Technology Hub in Gurugram to expand the existing facilities
  - Promotion Of New Technologies
  - E-Waste Disposal Management Centre of Excellence in Gurugram
- **Measures Taken by Department for Digital Empowerment of Citizen of NCR**
  - Learning new technology through universities, schools across Haryana.
  - One eligible person from each family to be imparted with skills, trainings and certification
- **Current Status**
  - 11.34 Lacs students trained out of population of 33 Lacs households
  - 1 eligible member out of 33 Lacs Households needs to be imparted with digital skills as per his/her eligibility.
- **Measures Taken by Department for** New Technology Hub in Gurugram
  - HARTRON's Multi-skill Development Centre facilities can be extended
  - Future Technologies adoption through Technology Hub Creation can be done
  - **Current Status**
    - HARTRON Multi Skill Development Centre (HMSDC) was established with 35000 Sq. Ft to boost Startup Ecosystem

- 3 Incubators "NASSCOM 10K Startup Warehouse", "IAMAI-GoH Mobile 10X Hub" and "Center of Excellence for IOT"
- 40+ Startups incubated
- United Nations Technology Innovation Lab (UNTIL) is ready to Kick-Off with emphasis on Women Empowerment.

- **Measures Taken by Department for** E-Waste Disposal management Centre of Excellence in Gurugram and Creating CoE for e-Waste Management
  - **Current status**
    - There is no CoE to create physical infrastructure for :-
      1. Research Activities
      2. Innovations
      3. Technology Specializations
      4. Creating re-usable components
      5. Develop skilled resources for e-waste management

4.4.2 Umesh Joshi Deputy Director, DoIT&C, Govt. of Rajasthan presented State's perspective on Digital technology and Platforms. Key highlights of his presentation included:

- **Rajasthan E-governance : Core components**
  - **IT Infrastructure:** Core components like RSDC, RajNet, RajMegh etc. to host & disseminate IT enabled services
  - **Common Platforms:** IT platforms like eSign, Sewa Dwaar, Rajdharaa etc. to enable application development
  - **Common Software:** Ready to use applications like eProcurement, RAAS, RPP, SSO etc. for faster service delivery
  - **Public Interface for Service delivery:** G2C Applications like SWCS, ePDS, eMitra etc. for effective delivery of citizen services
  - **Office Automation:** G2G applications like Raj-Kaj, RajERP, FMDSS etc. for efficient resource utilization
  - **Startup Ecosystem:** Facilities like iStart and Rajasthan stack to foster startup culture in the State

- **Recent achievements:**
  - **<u>Launching of Jan Soochna Portal (13th of Sep.)</u>**
    - Information dissemination in public domain through **Jan Soochna Portal.**
    - Information of 16 departments is available in public domain through the portal.
    - Portal is accessible at all the Gram Panchayat's and ULB's via e-Mitra+ Machines.
  - **<u>RISL Becomes CA(Certification Authority)</u>**
    - **First State in India to provide SSL and e-Sign Services to other states and the public by its own.**

4.4.3 Shri Kapil Pandey, Consultant, SCMET, Govt. of Uttar Pradesh presented State's perspective on Digital technology and Platforms. Key highlights of his presentation included:

- In past web connectivity was a major issue. Now while there are discussions about platform of platforms, differences remain between center and state data. Even. Implementation of GST took 15 years.
- **E-Nam is an online marketing for farmers** where we have done geo-coding, geo fencing, geo tagging of all mandis and integrated with ware housing 800+ pan India . **E-nam has 585 mandis and each has different mandi rates but are centrally hosted.**

- Aadhaar is a great step from Government of India because of which there is more transparency, and accountability in services like PDS, old age ,widow Pension.
- **Umang is centrally hosted 114 services are there out of 69 are state hosted.**
- **Digi locker** facilities also present where one can keep the certificates safe.

4.4.4 Shri Vishnu Chandra, DDG, NIC, presented his views for a Smart NCR for 2041, wherein he presented the varios facilities available at IC which can be benefitted from by all NCR State departments.

- NIC prime mandate includes Technology **Partner** of Government; **Provide** ICT Infrastructure on Demand; Design and **Develop** IT System for Government and Explore & **Advise** on use of Emerging Technologies
- NIC's Salient features
  - **Framwork**-A robust and scalable framework based on service oriented architecture (SOA).
  - **IRS Images**-Seamless mosaics of IRS images of varying resolutions like AWiFS (56m), LISS-III (23.5m) and PAN (5.80m).
  - **Additional Content**-Leveraging addition content with external global services using mash ups.
  - **OGC Standard**-Incorporated OGC standards based spatial data repository
  - **Terrain Base Map**-Terrain Base Map service featuring shaded relief imagery.
  - **RIA**-Rich Internet Application (RIA) with cross platform support based on open API's like Flex and JavaScript.
  - **Tiled Base Maps**-Tiled base maps at 14 different scales up to 1:4K – Topographic, Street, Terrain and Satellite
  - **1.10K Street Map**-1:10k Street map covering entire India
  - **Integration with E-Gov MIS**-Linkage to attribute data like census, LGD etc.

- **GIS For Financial Inclusion: Reduced uncovered Villages from 40K to about 11K**
- **Key features**
  - Stakeholders – Banks, SLBC, DFS, DoP, DBT
  - G-to-G Application for data update & Analysis
  - Mobile and Web Apps for Citizen(Powered by Bharatmaps)
- **Tangible contribution**
  - Map based visualization platform for all FI Service Points
  - Better tools for Gap analysis

- **Utility Mapping Group of NIC**
  - Pioneer in Large Scale Mapping of Metro cities in India
  - **Prepared large scale 4D Digital Map data for Delhi City since 1992.**
  - Established Spatial Data Infrastructure facilities in six metro cities of city in 2010.
  - Several Organizations working with this data
  - Seven cities digital map is available – Delhi, Ahmedabad, Mumbai, Hyderabad, Bengaluru, Kolkata and Chennai
- **YEIDA GIS Portal**- ***First ever Masterplan georeferenced in country on web map service***. **Applications of YEIDA include:**
  - Land parcel information by Khasra map Super imposition
  - Land Audit
  - Acquisition Tools
  - Lithigation Query
  - Query for
    - All works executed by YEIDA

- e.g. Trees plantations; Roads making and maintenance modules; Drainage; Utility lines etc

- **Digital Platforms & Products**
  1. E-Way Bill- **GST E-Way Bill system provides online self-service platform to generate permit for movement of goods**
     - **Features**
       - Electronic document for movement of goods
       - GST Common Portal Interface
       - Auto Populate
       - GSTR1- Form
       - Multiple modes of operations -Web, Mobile, API, Offline Tool, SMS
       - Launched on 1st of April 2018, Pan India
       - On an average 22 Lakh e-way bills / day and 5 Crore / month
       - 24/7 Self service system
     - **Contribution**
       - Time Saving & Effective Compliance
       - Boost In GST Revenues
       - Abolishment of Check Posts
       - Encouragement to Self Reporting
       - Improved tax collection and fraud detections
       - One e-way bill for PAN India resulted in 30% reduction in transportation time
     - **Statistics-**
       - 5 Crores Average EWBs generated per month
       - 11.5 Lakhs Average Taxpayers using EWBs per month
       - 8.66 Lakhs Average EWBs verified by Officers per month
       - 12.47 Lakhs Average Consignors in EWB per month
       - 28.5 Lakhs Average Consignee in EWB per month
  2. **eInvoice-** Platform to generate a Unique Reference Number for invoices .It is Proposed to be started from January on a trial basis for large tax payers
     - **Reduced Time** to prepare GST tax return
     - **Real time submission** to tax administration
     - Efficiency and **Cost reduction**
     - Real-time **audit** or ex-ante audit by the tax authority becomes possible
  3. **GST Prime**: **An online system for processing of back-end activities related to GST system. Implemented in-house by NIC, Bangalore for Commercial Taxes Department (CTD), Karnataka**
     - Features:
       - Analyzes and monitors tax collection and compliance
       - Improves GST compliance by increasing tax collection and tax base
       - Detects tax evasion and frauds
       - Predicts effect of policy change
     - Growth and Impact
       - Implemented in Karnataka in July 2017.
       - Being implemented at Chhattisgarh , Jharkhand, Himachal Pradesh, **Haryana**
       - Designed for B2B, B2C (High value) and Export type of transactions
       - More than 50 Lakhs tax payers are expected to use the system per month basis
  4. Public Financial Management System-

- Real time monitoring of utilization of funds across Government
- Direct payment to beneficiaries
- Reduction in float in the system
- Creation of a centralized database of all recipient agencies
- Integration with core banking solution of banks

5. **E-Courts –**
   - Case Status, Orders, Cause Lists on portal
   - Automated e-Mails
   - SMS Push / Pull
   - Mobile App
   - Kiosks in Court Complexes
   - Pendency Dashboards on NJDG
   - Video Conferencing Facility
   - Citizen services on ecourts.gov.in
   - **Case Information System- National Core Version 3.0 –**Implemented in all District & Taluka courts of the country ; Bilingual mode. (Marathi, Hindi, Kannada, Tamil & Gujarati) ; Case status provided through SMS to Advocates & Litigants.
6. **Virtual Courts: Next Generation Courts-**Aimed at reducing footfalls in the courts by eliminating physical presence of litigant or advocate in the court
   - Implemented in Delhi to deal with Traffic Challan cases
   - Facility available for offender to record wish to contest the case.
   - Can be extended to cases where physical presence of litigant is not required - U/S 138 of NI Act
   - One judge for entire Delhi for adjudicating Traffic Challan
   - Traffic Challans getting disposed off in a day as against 6 months to a year.
   - Daily approximately 4000 challans filed in Virtual Court are proceeded by Virtual Judge on the same day.
   - Hassle free affair for offender/violator
7. **Supreme Court : Online Citizen Services**
   - Digital Transformation to an Accessible, Cost-Effective and Transparent Justice Delivery System
   - **<u>Multilingual Mobile Application of Supreme Court of India</u>**
     - Launched by Hon'ble CJI on 26th November 2019
     - App provides authentic real time access to Case Status, Display Board, Daily Orders, Judgments, Office Reports, Circulars and several other useful information for Lawyers, Litigants and citizens in English, Hindi and six regional languages
   - **<u>Guided Tour of Supreme Court of India</u>**
     - Online Guided tour advance booking software launched on 01st Nov 2018.
     - Till date 81 tours successfully conducted.
     - Each Tour accommodates max 80 persons through online booking.
8. **Interoperable Criminal Justice System (ICJS)**
   - **Pan India Search-** Search across the pillars data of CCTNS, e-Courts, e-Prisons, Prosecution, NIA etc. Search empowered by Phonetics and NLP
   - **Pillar Analytics-** Analyze the data of the individual pillars to understand the trends, patterns, anomalies etc. in the network
   - **Exchange Data-** Secured information exchange across the pillars through secured protocols facilitating data exchange without manual interventions
   - **Profiling-** 360 degree Profiling of the persons involved in various pillars and facility to tag or exchange the profile

- **One Data Once Entry-** Core target of ICJS is to eliminate the manual entry of the person details and act as a facilitator to exchange the data across the pillars
- ICJS Impact
  - Identifying Criminal Networks
  - Online Crime Record verification
  - CJS Mini statement to all domains.
  - Proactive Policing
  - Resource saving
  - Instant information for speedy justice delivery system

9. **National Database of Sexual Offenders (NDSO)**
   - **Website for Sexual Offenders' related information for Law Enforcement Agencies**
   - **Features**
     - Centralized repository of Sexual offenders
     - Data since 1/1/2005
     - Offences covered
     - Sec 376, 376A, 376D IPC [Rape & Gang Rape]
     - Sec 354 & 509 IPC [Eve teasing and stalking]
     - Sec 4 & 6 POCSO.
     - Searching of Offenders
     - Various Services for Law Enforcement Agencies including Alerts
   - **Impact**
     - Accessible to Investigation Agencies
     - Used for verification of the accused
     - Reference legacy data for Offenders identification/verification
     - Speedy justice delivery
10. **E-Transport: Promoting Innovation**
    - **TRANSPORT PROJECT FAMILY**
      - **VAHAN-** Centralized application for RTO, Dealer, Fitness Centre, Citizen, Transporters Operational in 31 states, 1186 RTOs
      - **ANALYTICS-** Configurable Dashboard,Advanced Search Option,Analytics & Drill Down
      - **NATIONAL REGISTER**: 26 crore+ Vehicle Registration Records,15 crore+ Driving License Records
      - **HOMOLOGATION:** Information of 11cr.+vehicle inventory Integrated with VAHAN
      - **SARATHI-** Centralized application for RTO, Citizen Driving Test Track, Driving School Operational in 31 states, 1129 RTOs
      - **mPARIVAHAN-** Mobile App for Citizens,Virtual DL/RC, time bound sharing,Authenticity using QR Code (DL, RC), RTO guide/ direction on map
      - **e-CHALLAN:** Mobile based Traffic Enforcement,GIS, CCTV, RLVD, OSVD, etc.,Online, POS Payment
11. **e-Transport: Promoting Innovation**
    - Automatic calculation of penalties
    - Geo-tagging of Challan spot
    - Multiple Challan Accused Options: Owner, Driver, Conductor, Passenger
    - Multiple options for data input: smart card, QR Code reader, data entry, SMS
    - Provision for addition of various details : photo/ video, impounded vehicle evidence, witness, Remarks
    - On-spot Court/ Virtual referral, as required
    - Easy search facility of offences

12. Vehicle Location Tracking System (VLTS)

- Monitor and Track Public Vehicles
- GPS-based tracking devices to be fitted in Vehicles
- Provision to send panic alert and activate Emergency Response
- Command Control Centers set up to Monitor
- **KEY HIGHLIGHTS**
  - Integrated Ecosystem
  - VLTD Manufacturers, Test Agencies, Retro fitment centers (RFCs), State Admins & RTOs
  - SOS Feature: Pressing of Panic Button triggers emergency response procedure to support passenger in distress
  - 37,856 Kits Fitted, 3.4 Lacs+ Uploaded
  - 124 Retro Fitment Centres
  - 15 States, CCC set up in 2 states

13. PM-Kisan Portal- Timely Assistance to Farmers for Farm Operations

- Launched on 24th February 2019 by Hon'ble Prime Minister of India
- End to end technology solution for transfer of funds directly in to the accounts of farmers under PM-KISAN Scheme
- Portal helped in disbursal of funds to large number of farmers in very short period of time. Since 24th Feb 2019 to 2th Dec 2019 funds are transferred to -
  - 7.99 Crores farmers under the first instalment
  - 7.10 Crores farmers under second instalment
  - 5.56 Crores farmers under third instalment
  - Funds will soon be transferred to more than 5 Crores farmers in a single click as fourth instalment.

14. E-Office - A Digital Workplace Solution

- **Provides simplified, responsive, effective and transparent working in Government offices for**
- **Inter-Government and Intra-Government transactions and processes**

15. Smart Performance Appraisal Report Recording Online Window (SPARROW)

- The paperless recording and processing of APARs enables Service Controlling Authorities to monitor the status such as Officers Posted, Pendency at various levels, APARs Processed and Closed, etc.
- Helps in reducing delays in submission and processing of APARs
- Streamlined the DPC process by providing various data analytics reports such as grading, domain specialization reports etc.

16. **Service Plus – Meta Data Based e-Service Delivery Framework**

- Making all Government services accessible to the common man in his locality through common service delivery outlets

17. MyGov:

- Iconic Logos and Designs been Crowd Sourced @ MyGov
- Discussions / Suggestions on Marque Policies of Government @ MyGov
- 26 Lakh suggestions in 279 discussions in Smart Cities
- Public consultation on various papers from TRAI
- Formulation of New Industrial Policy of India
- Consultation on Service Contracts and Financial /Technical Biddable Parameters
- Draft Framework for Implementation of Mission Antyodaya

18. Open Government Data:

- Platform for supporting Open Data initiative of Government of India
- Proactive release of datasets through APIs by Government Entities

- Innovative use of dataset by Community and Citizens at large to promote good governance
- Major Sectors are defense, Agriculture, Health, Information Technology, Governance, Industry, Infrastructure

19. **S3WaaS**
    - Generates accessible, scalable and secure Websites
    - Focus on delivering citizen-centric information & services
    - Reduced significant investment of resources, time, & costs
    - Centralized Cloud hosting & maintenance at secure National Data Centres (NDCs)
    - Evolved a robust ecosystem to ensure sustained maintenance post migration:
    - Pre & post compliance assessments, Migration support, Rewards & recognition, and Certification

20. **PARIVESH: Pro Active Responsive facilitation by Interactive and Virtuous Environmental Single-window Hub**
    - **Key features**
        - Automatic SMS/Email Alerts
        - Reduce the time taken in clearance
        - Online agenda generation by First come First serve
    - **Tangible contribution**
        - Paperless system to reduce usage of paper & help in green revolution
        - Improved transparency & efficiency
21. **Targeted Public Distribution System-**
    - Aadhaar Seeding & FPS Automation
    - Removal of Duplicates & offering Transparency in the System
    - Creation of Central Repository & Offering portability at National Level
    - Moving towards One Nation One Ration Card (RC) by June 2020
22. **National Power Portal**
    - **Impact-** Become single authentic source of power sector data to provide various kind of analytical reports and charts to power apex monitoring agencies w.r.t generation, transmission and distribution data across the country.
    - **Contribution-**
        - Reduction in AT&C Losses
        - Improvement in Power Supply Position
        - Monitoring of Agriculture, Rural and Urban 11kV Feeders
        - Daily/Monthly/Yearly Monitoring of Capacity & Generation at All India/Zone/States level
        - Monitoring of Growth of Transmission Lines and Transformation Capacity
23. **UDISE-** Unified District Information on School Education (UDISE) a Educational Management Information System which helps to study impact of various government schemes and Initiatives
24. **e-Counselling - Simplifying the Admission Process:** E-Counselling is a web enabled service provided to academic institutions/bodies across the country for examination management, counselling and admissions
25. **e-Hospital – Hospital Management Information System**
26. **Ayushman Bharat – PMJAY (Beneficiary Identification System)**
    - Beneficiaries authenticated through Aadhaar
    - Managing and Searching more than 50 Crores beneficiaries from SECC & RSBY
    - Integration with State PDS databases for family identification

27. **National eMARG : Madhya Pradesh :** National eMARG (electronic Maintenance of Rural Roads under PMGSY) : end-to-end solution for Maintenance of 5.5 Lakhs Kms of rural road under PMGSY.
28. **DARPAN: Dashboard for Analytical Review of Projects Across Nation**
29. **NIVESH MITRA – UP:** Enable ease of doing business by facilitating entrepreneurs with electronic based transparent system for online submission and tracking of applications

- **Smart Sustainable City Definition:** A Smart Sustainable City is an innovative city that uses Information and Communication Technologies (ICTs) and other means to improve quality of life, efficiency of urban operation and services, and competitiveness, while ensuring that it meets the needs of present and future generations with respect to economic, social and environmental aspect.
    - **Smart Sustainable Cities Services**
        - Smart Water Management Systems
        - Smart Energy Management Systems
        - Smart Transportation Management Systems
        - Smart Waste Management Systems
        - Smart Healthcare Management
        - Smart Education
        - Smart Security
        - Smart Buildings Systems
- **For Regional Plan 2041 our vision is Smart NCR:** There **should be common ICT facilities to make NCR smart**
    - An integrated Command and Control Centre
    - A Unified Data Centre
    - A high speed backbone communication network
    - Geographic Information Infrastructure
    - Sensor networks following common protocols and standards

5 Conclusion

It could be concluded that the NCR needs to adequately take into consideration the vast Digital Technology Platform issues and potential of NCR and address all related aspects keeping the future problems as well as potentials, in mind. Help of concerned central Ministry and its departments like NIC could be taken in drafting the relevant aspect chapters for NCR.

NCR could look to become a Digital Region for other areas in the country to replicate as well. The interrelated aspects of solutions of various sectors integrated at one/common platform for benefit and availability of common user could be looked into and should be considered while drafting the sector related policies for the region. The plan for 2041 need to carefully address all aspects that were highlighted during the workshop deliberations , thereby take into consideration views of maximum stakeholders as possible.

List of participants - “Digital Technology and Platforms” was held on 16.01.2020

Sl. No.	Name, Designation and Organisation
1.	Shri Ashwini Kumar Sharma, DIO, NIC, Shamli
2.	Shri Kapil Dev Pandey, Consultant-TM, SeMT-UP, CeG
3.	Shri Mohit Jain, Accounts Officer, AMDA
4.	Shri P Selvadurai, Director, AMDA
5.	Ms. Ishita J. Kumar, DTP, Alwar (Raj.)
6.	Ms. Neha Owenisy, Junior Comm. Officer, GIZ
7.	Shri Jeus Olaf Stein, Bosch Ltd.
8.	Shri Pankaj Bajaj, Technical Director NIC, DIO, Bhiwani
9.	Shri Anil Swaroop, Ex Sec., Ministry of Coal
10.	Dr.Hemant Darbari, DG, C-DAC
11.	Dr. N. Subramanian, Sr. Director (Rtd.), C-Dal, C-Dal
12.	Shri P C Sharma, Director, DOT
13.	Shri Sanjay Bhatiya, TCP-Haryana, GIS Developer
14.	Shri Rajiv Monga, AGM, DITECH
15.	Shri Branhanand Jha, Sr. Consultant, NeGD, Meity
16.	Dr. Santosh K. Pandey, Jt. Director, Meity
17.	Ms. Neelanjali, DD
18.	Shri Sharad Sharma, ISPIRT
19.	Mohd. Monis Khan, TCP, TCPO
20.	Ms. Prerna Gupta, BCG
21.	Shri Sandeep Kr. Ahlawat, Jt. Director, Nielit
22.	Shri Vishal Monga, DITECH, Haryana
23.	Dr. Gurdev Singh, Delhi Cantt. Board

Sl. No.	Name, Designation and Organisation
24.	Shri Vishnu Chander, DDG, NIC
25.	Shri Vijay Shendre, Sr. System Analyst, Information Technology Department, GNCTD
26.	Shri Prakash Kumar, CEO, GSTN
27.	Ms. Kavita Bhatia, Director, MeitY
28.	Shri Nitin Kr. Azad, Asstt. Town & Country Planner, TCPO, MoHUA
29.	Shri Dilip Barman, Director, ERNET India, 6, CGO Complex
30.	Shri M P Singh, DIO & TD, NIC District Unit Collectorate, Bulandshahr (UP)
31.	Ms. Garima, BCG
32.	Ms. Gurpreet Kaur, AD (CBQT), AMDA
33.	Shri Dalbir Singh, Seed Analyst, Dev. Deptt., GNCTD
34.	Shri Mahipal Sikri, DIO NIC, Karnal
35.	Shri Churchil Chauhan Scientist ‘B’, MeitY
36.	Shri Ganesh Nayak K, Scientist ‘F’, STPI
37.	Shri Totak Acharya, AD (Planning), AMDA
38.	Ms. Aparna Bijapurkar, BOSTON Consulting Group
39.	Shri N K Jain, CDAC
40.	Shri Suyash Parasher, Visioner, S P Portal
41.	Ms. Kriti Mittal, OMIDYAR, Netuar
42.	Shri Ashok Kumar, UIDAI
43.	Shri Munish Sharma, Sr. Consultant-PM, DIT, Delhi
44.	Ms. Aiman Naseem, Planning Assistant, DDA
45.	Shri Parveen Sharma, Research Associate, NIUA (MPD-2041)
46.	Shri Reshma Agarwal, Sr. Manager, NeGD, MaVY
47.	Shri Vipin Kumar Goel, Scientist B cum ADIO, District Faridabad
48.	Shri Ankan De, Innovation Lead, Niti Aayog
49.	Shri Sandeep Shah, UIDAI

Sl. No.	Name, Designation and Organisation
50.	Shri S K Singh, CRFS
51.	Shri Umesh Joshi, DoITC, Jaipur
52.	Shri Ayushman Sharma, AD (Plg.), DDA
53.	Shri Ravi Parkash Sihag, STP, Faridabad
54.	Ms. Rachana Kharwar, ASO, NCR
55.	Shri Deepak Mathur, DoIT&C, GoR
56.	Shri Arvind Gupta, AE, MPMR/DDA
57.	Dr. Sultan Singh, PS Harsney, GMDA
58.	Shri Rajeev Pandey, P.C.-NeGD
59.	Shri Sanjay Goel
60.	Dr. L C Das, Director AH, Govt. of Delhi
61.	Shri S C D M H Raiah
62.	Shri Mahesh Shah, Past President, ICSI, EISMA
63.	Shri P Mohanty, DDG, UIDAI
64.	Shri Rajesh Kumar, Add. Director, Meity
65.	Shri D K Singh, Director, CRIS
66.	Ms. Kamya Chandra, iSPIRT Foundation
67.	Shri Neeraj Mehrotra, DoT
68.	Shri Rajinder Singh, Director, UIDAI
69.	Shri Vinay Thakur, Director, National Centre of Geo-Informatics
70.	Ms. Sangeeta Sachdeva, Individual, Equity/ Shares
71.	Shri D K Tyagi, CEO, CSC
72.	Shri Abhishek Singh, CEO, NeGD & My Gov.
73.	Shri Vishal Kanraty, Chief of Innovation, NPCI
74.	Shri Achin Beniwal, Marketing Executive, GeM
75.	Shri Vibhu Jhconb, Deputy Director, NASSCOM

Sl. No.	Name, Designation and Organisation
76.	Shri A K Srivastava, IFS(R), Director General Network for Certification and Conservation of Forest
77.	Ms. Poonam Jain, Karvy Consultant
78.	Shri Naresh K. Malik, Prop., Varoon Eco Fuels

Annexure-I

DIGITAL TECHNOLOGY AND PLATFORMS
Date: 16.01.2020
Venue: Silver Oak Hall, IHC, Lodhi Road, New Delhi

S. No.	Topics	Speakers
Session I: Inaugural Session		
Chair: Shri Anil Swaroop, Ex-Secretary, Coal/HRD, GoI & Ex-CEO, RSBY		
1.	Welcome Address	Shri Satish Prashar, Chief Regional Planner, National Capital Region Planning Board
2.	Digital Technology & Platforms	Sh. Prakash Kumar, CEO, Goods and Service Tax Network (GSTN)
3.	Vision NCR 2041- Digital Technology & Platforms	Shri Anil Swaroop, Ex-Secretary, Coal/HRD, GoI & Ex-CEO, RSBY
Tea Break		
Session II: Strategies for Digital Platforms of NCR 2041		
Chair: Shri Sanjay Goel, Joint Secretary, Ministry of Electronics and Information Technology (MeitY)		
4.	Strategies for Digital Platforms of NCR 2041	Shri D.K. Singh, Director, Centre for Railway Information Systems (CRIS)
5.		Ms. Kriti Mittal, Consultant, OMIDYAR
6.		Ms. Aparna Bijapuria, Principal, BCG
7.		Shri Sharad Sharma, Co Founder, iSPIRT
8.		Shri Vishal Anand Kanvaty, Chief of Innovation, National Payments Corporation of India (NPCI)
9.		Chair: Shri Sanjay Goel, Joint Secretary, Ministry of Electronics and Information Technology (MeitY)
Lunch		
Session III: Digital Technologies of Future NCR 2041		
Chair: Shri Dinesh Tyagi, CEO, CSC		
10.	Digital Technologies of Future NCR 2041	Shri Dinesh Tyagi, CEO, CSC
11.		Shri P. Mohanty, DDG, Unique Identification Authority of India (UIDAI)

S. No.	Topics	Speakers
12.		Shri Abhishek Singh, President & CEO, NeGD/My Gov.
13.		Shri Vinay Thakur, Director, National Centre of Geo-Informatics.
14.		Sh. S. Suresh Kumar, Addl. CEO, Government E Marketplace
15.		Shri Vibhu, Dy. Director, National Association of Software and Services Companies (NASSCOM)
Session IV: Understanding States Perspectives		
Chair: Shri Vishnu Chandra, DDG & Head of Group, NIC		
16.	NCR States perspectives on Digital Technology and Platforms	Chair: Shri Vishnu Chandra, DDG & Head of Group, NIC
17.		**Govt. of Delhi**: Shri Munish Sharma, S Consultant, SeMT, IT Deptt.
18.		**Govt. of Haryana**: Shri Rajeev Monga, AGM, DoITE&C **Govt. of Haryana**: Shri Vishal Monga, Consultant, DoITE&C
19.		**Govt. of Rajasthan**: Shri Umesh Joshi, Dy Director, DoITC
20.		**Govt. of Uttar Pradesh**: Shri Kapil Pandey, Consultant, SeMT, UPECL
21.	Vote of Thanks	Shri Jagdish Parwani, Director (A&F), National Capital Region Planning Board

Workshop Title: **Citizen Centric Planning**

Date: **20.01.20 (Monday)**

Venue: **Silver Oak Hall, IHC, New Delhi**

Brief Minutes of the Stakeholders Workshop on 'Citizen Centric Planning' held on 20.01.2020 at India Habitat Centre, for preparation of RP-2041 for NCR

1) Workshop on 'Citizen Centric Planning' was held on 20th January 2020 for Preparation of Regional Plan-2041-for NCR at Silver Oak Hall, IHC, New Delhi. The workshop was divided into various sessions to cover the major topics under the subject. The list of participants is enclosed.
2) The major topics of discussion included Perspectives on Citizen Centric Services by Post Bank of India: "Vision NCR 2041"; Planning Experiences & Way Forward for NCR 2041; Citizen Centric Planning: Perspectives of Non-State Bodies; Citizen Centric Planning: Perspectives by Govts. of NCR States.
3) The key contributors to the discussions and invitees included Shri Kunal Kumar, Joint Secretary, Smart Cities, MoHUA ; Dr. Rakesh Kumar, Chief Advisor, UN Habitat, India; Dr. Garima Mittal, CEO, Faridabad Smart City; Shri P M Bhuyan, Bhubaneshwar Smart City; Shri R. Srinivas, Town & Country Planner, TCPO; Shri Suneet Gupta, Team Leader, Faridabad Smart City; Shri Anand Pandya, Consumer Voice; Dr. Charu Malhotra, Professor, IIPA; Dr. Rakesh Kumar, Chief Advisor, UN Habitat, India ; Ms. Manisha Sinha, Joint Secretary, Department of Posts Shri Hitesh Vaidya, Director, NIUA; Ms. Zeenat Niazi, Vice-President, Development Alternatives Group; Prof. Geetam Tiwari, IIT Delhi; Prof. Tina Pujara, IIT Roorkee; Prof. Kavas Kapadia, Former HOD, SPA; Shri Vikas Kharagpuria , World Resources Institute; Dr. Abhijit Datey, TERI-SAS; Shri Anand Pandya, Director, Consumer Voice; Dr. Rumi Aijaz, Senior Fellow, Observer Research Foundation (ORF); Shri Digbijoy, KPMG; Smt. Manu Sahoo, Joint Director, Planning Department; Shri Vijay Kumar, DTP, NCR Cell, Haryana; Shri S C Gaur, CCP, Coordinator, NCR Cell UP amongst others. The list of speakers is placed at **Annexure-I**.
4) Session wise proceedings/ record of decisions are as under:

4.1 **Session-I** was the **Inaugural Session which was Chaired Shri Kunal Kumar, Joint Secretary, Smart Cities, MoHUA**

4.1.1 **Ms. Manisha Sinha, Joint Secretary, Department of Posts** shared her views, which included the following:

- Delhi NCR is likely to get more and more populated in next few years**. People are coming from different states with different outlook and of different income levels**. Wherever they live they should have good facilities available to them.
- **Primary objective of a citizen centric government is to put citizen first and look at what concerns them**.
- Money and finance is the key concern for all citizen as education, health, safety, etc., all becomes accessible with it. The banks can play big role here. People who need health benefits have least accessibility to the finances and banks but as Commercial banks are not interested in them.
- In Jan Dhan Yojna, 34 crore accounts were opened. Out of which **30% are inoperative**. Huge Number of people gets benefit through DBT for various schemes. **As soon as amount is credited in their account, they withdraw it immediately and accounts remain inoperative** after that.

- **Cash based economy to digital based economy is new transformation**. Hon'ble PM has launched Digital India. Passport, Aadhaar services are all available through posts offices as well. Through Aadhaar Enabled Payment System anyone can be linked and they can avail cash at their door step. In Delhi where you have access to lot of banks utilities are there.
- Number of government schemes are available but people do not know how to fill the form and they do not know where to go due to lack of awareness. The poorest of the **poor can come to the India Post Payment Bank and ask for help in financial planning**. That facility of personalized series in a trusted medium.
- There are many services of government for which experts are required. One can walk into the bank for getting help on financial planning and health and even form filling. These are available within 2 km. of your residence. The network is to be seen.
- Citizens want **all services should be available at one stop**. Same is the final intent of the bank. There is a level of customization whether you approach as an individual, startup company or enterprise.
- In NCR where people come from all parts of India, it is **very important that there should be equalizing factor where all citizens can enjoy the same basic level of financial and non-financial access.**

4.1.2 **Shri Kunal Kumar, Joint Secretary, Smart Cities, MoHUA** shared following views on the subject:

- 'Citizen Centric Planning' is a very important topic something that seems to be very intuitive but hard to follow. Against all things around us Parliament, Judicial System, Society, Education, Health is earning a response to the needs of people. And so **evolutionary mechanisms are being built around the people.**
- All the **systems are created for certain purpose, purpose is the need of the people**. It has been a fundamental way in which the evolution has taken place. With numbers and complexities increasing, the centricity around people tends to get weakened. We have evolved in a people centric manner. And therefore, we need to find out ways to balance. We are talking about so many systems.
- It's important to understand that as system evolves based on human needs, system creates its own needs too. E.g. Cars created the need for roads and traffic system, systems to create public transportation. **Systems are response to human needs and human needs are also response to the way system evolves.** After invention of electricity the industrial revolution started, resulting in Mass production which inturn created their own needs. They transform the ways people live because of transportation and electricity. This is a fundamental thing to understand when we are **talking about citizen centric planning we cannot be disintegrated or devoid from the way society is functioning**.
- The **mediator is economy**. While mobile technology was available since long, the economy has made it accessible to common man, hence the mediator was economy. We **cannot think of planning systems disintegrated from economy system.**
- Currency system will require some sort of governance system to run it. Health system, educational system, growth system and industrial system, it will require certain different kind of planning system and government systems. It is a three-dimensional system.

- Planning is a very integral part of this. 45% of deaths due to heart attack in US is due to patients stuck in traffic jam. The **time we need to travel affects the psychology**.
- **Role of planning regarding correct Industries location & travel patterns of people**.
- In the evenings, most areas are like ' no man land,' most of our parks are located in an area you find difficult to go after 6pm in the evening. They need to be located properly ,this is where we need to plan
- We need cities which are very responsive. **300 metropolitan regions of the world create 60-70% of the GDP.** And they also **contain more than 50% of women population**.
- A **city which is located near to agriculture area, needs transport to move to nearby markets, cold storages.**
- Cities like Bangalore need development in the form of clusters and better transportation network. The **ability to provide sustainability is a crucial component**.
- **Inclusive is something integrated with planning.** Inclusion can be in two ways. One is economic or income. Access equality, for example mobile phones. It was an innovation which became accessible to everyone in the world. That is the **access equality irrespective of your income**.
- May be seen if this **access equality be achieved w.r.t water, housing, public transport etc. as all are important for cities**.
- FSI can completely transform our cities and the way it can behave**. Citizen centric planning is difficult due to Top down approach**. Citizen centric is bottom up and it is dynamic. **'Bottom up' approach is more suitable for complex system.** Top down is simple structures. Bottom up is more adoptive. People evolve blue prints as they go forward. These kind of system needs to be developed.
- Smart city mission launched in 2015 being taken for implementation in our country for the first time. After the largely seen piecemeal approach, JNNURM came in 2005and then 2014 was a big a big jump through Smart Cities. At the bottom there are schemes which are being implemented across all cities and states. Then there are schemes which are implemented in Class-I cities. Then the smart cities mission which will be implemented in 100 states.
- For the first time the mission brought methods to select the approach by competition. It spread about 20 different sectors. **Smart city mission has guidelines, plans are made by cities**. **. Cities assessed the needs of their society and accordingly focused on health or transport or education etc.**. These proposals gone through a competition.
- **Build, measure, learn is an interactive process required now in these** dynamic times. All the 100 cities are existing cities of the country and plan is to take the learning to other cities of the country for replication.
- When we talk of smart, there are **four basic principles – (i) More from less – How do you create more impact with lesser energy and resources, (ii) Better quality on affordable prices, (iii) Sustainability (iv) City which works.**
- There are fundamental issues as to how one understands citizen behavior. Our citizens are very smart. People who can live through the difficulty. Incentive structures being talked has to be both ways as structures and system have to respond to citizen behavior.

4.2 **Session-II** was related to **Planning Experiences & Way Forward for NCR 2041:**

4.2.1 **Shri P.M. Bhave, Bhubaneswar Smart City**, highlighted the following points:

- Citizen centric approach started from smart city. In the process of making it smart city, an organization Bhubaneswar Smart City Ltd was created.
- Bhubaneswar is 1/3rd of Delhi, with population density 67 PPH, Slum population 3.55 Lakh. 480 acres of parks and two reserve forests on 136 acres. The temple city attracts lot of tourists.
- The **Engagement strategy involved a) Inform**: Provide citizens and stakeholders with objectives information; b) **Consult**: Obtain feedback from citizens on main challenges faced and discuss proposed solutions; c) **Involve**: Conduct participatory planning exercises to co-create solutions; d) **Collaborate:** Partner with individuals, formal and informal groups to generate ownership in implementation; e) **Empower:** To place final decision making in public hands through ballots and citizen juries.
- **Bhubaneswar Strategic Plan covered the UN-Habitat's New Urban Agenda i.e following the Three-legged approach:**
  - Legal System
  - Local fiscal system
  - New Urbanism
- Bhubaneswar, **through participatory decision-making, responsible governance and open access to information and technology, to be a**:
  - **Liveable city**: Providing diverse range of housing, educational and recreational opportunities, while enhancing its heritage environment.
  - **ECO city:** Co-existing in harmony with nature for nurturing resilient, clean, green, and healthy environment
  - **Child Friendly city**: Providing accessible, safe, inclusive and vibrant public places.
  - **Transit Oriented City**: A compact urban form that promotes active, connected and sustainable mobility choices.
  - **Regional Economic Centre:** Attracting Knowledge based enterprises and sustainable tourism activities by leveraging and empowering its institutions, local business and information workforce.
- **Key Challenges included:**
  - **Digital divide-**36% population live in slums
  - **Multi-agency coordination-**more than 10 agencies manage the city services
  - **No data strandardization-**unavailability and lack of consistency
  - **Capacity constraints-**limited resources to implement
  - **Vendor disconnect-**limited innovation & conventional material palette
- **The "Nerve Centre" of Bhubaneswar Smart City**
  - **One**- Stop City Technical Resource Centre to offer consistent & cohesive technical and analytical inputs to city agencies

- **Innovate solutions beyond the mandate of traditional master plans**

- **5 Key components are as follows:**
  - Child friendly smart city
  - Urban transportation and complete street cells
  - Smart growth programme
  - Place making open space and heritage preservation programme
  - Communications outreach and knowledge management
- **Bhubaneswar Urban Knowledge Centre**
  - An urban planning and design support unit that focuses on:
    - Understanding the city from a child's perspective.
    - Actively involving community including children in planning processes.
    - Safety and security of children in the city.
    - Multi-disciplinary Applied research team
    - Urban Innovation exchange
    - Active Participation
    - KPI based implementation monitoring
    - City Branding
- **Other major initiatives under Smart City included:**
  1. **Smart Janpath -**Safety Audit by Children were done, and key findings of the audit indicated:
     - Children felt – Unsafe to cross the road, unsafe to walk at night and silent, lack of uniform height of the curbs.
     - Children wanted Cycle tracks, better walkways and activity zones.
     - Children insisted Better way finding system, children signal system pelican signals, continuous walkway, lighting, Table top crossing
  2. **Smart Parks:**
     - Understanding parks from a **Child's Perspective** as it didn't provide ease of access for children and differently abled people and were designed as passive spaces that lack activities for children
     - Understanding parks from a **Parent's Perspective** indicated parks were **Visually inaccessible** with high boundary walls. No activity area for parents
     - Conducted Stakeholder Meetings with children for having child friendly parks:
  3. **Neighbourhood plan approach** for ease of implementation of CDP and ZDP while **addressing ground realities** and formulate practically enforceable guidelines and building by-laws.
     - **Involving the community** in creating a **cohesive vibrant neighbourhood**.
     - First of its kind neighborhood plan with **its key focus on child friendly development.**
     - **Children setting the vision for neighbourhood plan**

- **Accordingly, the proposal includes** Higher visibility and accessibility to the pocket parks, Dedicated cycle tracks and walkways to ensure segregated movement for safety and a **Bhubaneswar Parks and Open Space Masterplan 2041 was prepared.** Things that were missing included Park hierarchy; Buffer spaces around rivers, canals & drains; Inventory of wildlife/flora-fauna/small open spaces/ trails; Information booklet on parks; Universal accessibility; Fun Quotient ; Adequate Lighting in parks, and these were emphasized upon.
- **Bhubaneswar Public Spaces- A tactical urbanism approach involved** Removal of hoarding and installation of "I LOVE BHUBANESWAR" Sculpture ; Shaded seating space and organized two wheeler parking.; Creating a public plaza " A gateway to the Old Town of Bhubaneswar – Ekamra Kshetra"; Underutilised space converted to a plaza with planter box and seating; Intersection improvements through planter box and shared cycle space demarcation ; Heritage signage and beautification of space
- **CONCEPT that was followed was Create a trail in the old town area to**
  1. **Create a vibrant community space using contemporary art for tourists & locals**
  2. **Facilitate a greater experience of Heritage and contemporary Art for visitors and locals**
- Integrated Public Service Centre: **A building caters to**
  1. **Community needs of the neighbourhood**
  2. **Utility grievance / bill payment centre for the area**
  3. **Affordable / well maintained community meeting space**
  4. **Be an example of 'one space – multiple uses'**
- **Way Forward for B**
  - **Comprehensive Development Plan** with Integration of child friendly planning principles and consider Children as key stakeholders
  - **Public Space Improvement** through Signage, Cycle tracks & walkways, Street furniture, Public transport,
  - **Child Friendly School policy** with Special certification for child friendly school, Identifying children champions, Wide consultation in drafting of TOR for CDP BBSR was also done.

4.2.2 **Shri R. Srinivas, Town & Country Planner, TCPO** also presented on Planning Experiences and Way Forward for NCR Plan-2041. His views included:

- NCR Regional Plan 2041 should be citizen centric plan **with livability as the hallmark to ensure ease of living.**
- It's an interesting and challenging exercise and called for rigorous work from all stakeholders for an all-inclusive plan engaging all possible resources and tools at their disposal.
- **Experiences:** Citizen Participatory Planning in India gained momentum when the erstwhile Planning Commission in 1950's advocated concept of Decentralized Planning.
  - Constitution of *Balwant Rai Mehta Committee (1959), and Asoka Mehta Committee on Panchayati Raj Institutions (1978).*

- *Balwant Rai Mehta Committee recommended setting up of a three-tier* structure of *Panchayati Raj institutions for effective decentralization.*
- *Asoka Mehta Committee re-emphasized the need for involving the Panchayati Raj Institutions (PRIs) in local development and planning, and viewed their roles in terms of strengthening the planning process at the micro-level.*
- In late 70's and early 80's Planning Commission constituted Working Group on *Block Level Planning and District Planning.*
- *74th CAA focused on preparation of district and metropolitan plans also envisaged effective citizen participation.*
- *NCR Plan ,2001 and 2021 had received large number of objections and suggestions.*

- **Citizen Participation Centric Planning**
  - Participatory Planning and Partnership Building as an innovative based on three pillars: citizens participation at different level, building partnerships with different stakeholders and resolving conflict/dissent.
  - Citizen Centric Regional Plan to aim at economically, socially and environmentally sustainable and inclusive development that will continue to function in the long term.
  - **Citizen participation in the planning process** needs to be one of the key features demonstrating principles of good governance.
  - Importance of people's participation and involvement as a step towards greater accountability and predictability of services.
- **Essence of Citizen Centric Regional Planning**
  - Focus on **empowerment of citizen** who are the key stakeholders in the Planning process
  - Brings together urban dwellers, city administrators, planners and elected members of the ,ULBs and NGO's to work for the betterment of the region
  - understands development challenges, needs and explore opportunities not only at city level but also Region as a whole.
  - Should provide an **effective platform for an interface between policy makers and citizens.**

- **International Examples of Citizen Participation in Regional Plan exercise**
  - **NCR Plan Tokyo ,1969 (**Tokyo Development Learning Center Policy Paper Case Study on Tokyo metropolitan region, Japan) Key problems in Tokyo Capital Region of the early 1960s--over crowdedness and sparsely-populated rural areas-- continued to plague Japanese planners and Japanese society. Increased political consciousness of citizens forced planners to pay more attention to citizens preferences with respect to environmental conservation, pollution and congestion.
  - **Southeastern Wisconsin Regional Planning Commission (SEWRPC):** Enabling Legislation for Regional Planning Commission which facilitate effective public participation plan. Commission updated its Public Participation Plan in 2016. Plan is based on the Commission's three-part goal to:

- **Ensure early and continuous public notification** about regional planning
- **Provide meaningful information** concerning regional planning; and
- **Obtain participation and input** to regional planning

- **Significance of Regional Planning in UK: UK2070 Commission** , an independent inquiry into city and regional inequalities in the UK, chaired by Lord Kerslake, has been set up to conduct a review of the policy and spatial issues related to the UK's long-term city and regional development. **Growing public perception is that future urban growth is about connecting smaller towns and cities, rather than concentrating in big cities and the future is regional development.** Smaller and medium towns are the future centers of generating economic activities.

- **Citizen Centric Planning –Constraints**
  - Lack of awareness among the citizens and their rights.
  - Lack of support by the ULBs/UDAs in sharing the information on project implementation.
  - Lack of capacity building and sensitization of the ULBs/UDAs personnel and other stakeholders
  - Delay in information dissemination.
  - Absence of coordination amongst stakeholders participation.
  - Lack of transparency with different partners hindering implementation.
- **Way Forward**
  - NCRPB Act to explicitly have the provision of citizen participation.
  - Creating wide awareness on NCR Plan-2041 by highlighting the benefits of its implementation.
  - Strengthening the Participatory Process through social media like FB/WA/Twitter
  - Access to NCRPB working and information to the citizens.
  - Allow stakeholders to assess the performance of ULBs and other implementing agencies and also monitor the progress of project implementation in NCR cities and Towns.

4.2.3 **Shri Sunit Gupta, from Faridabad Smart City project**, shared following views: –

- Smart city project plans are taking the ground reality into consideration and through feedback from the public which is converted into planning.
- Regarding the importance of citizen centric planning, this phenomenon works in a very important manner. Projects can be altered as per the aspirations of the public. Government has made City Level Advisory Forum (CLAF). Regular meetings are held to get the feedback from the general public so that required modification can be done in the plan.
- The aspirations of the Faridabad what can be addressed in Regional Plan may include :
  - Address issues of congestion on Delhi Mathura road.

- To develop the roads like Faridabad-Noida, Faridabad-Gurgaon to improve the connectivity through Metros there is a plan.
- Reduction in water population and the area has huge problem of water.
- Rejuvenation of Badhkal lake is being planned by filling it with treated waste water. This will have tourism impact as well

4.2.4 **Dr. Charu Malhotra, Professor, IIPA** presented her views on the subject which included the following:

- **Every city has a signature style**. Blue prints we make at the top are just the guiding principles.
- **Urbanization and Population Growth**
  - The current world population of 7.6 billion is expected to reach 8.6 billion in 2030, 9.8 billion in 2050 and 11.2 billion in 2100.
  - Rapid urbanization consequently lead to growing demand for livable conditions and resources in the cities especially in terms of environment and delivery of public services.
  - China and India remain the two most populous countries, comprising 19 and 18% of the total global population.
  - By around 2024, the population of India is expected to surpass that of China.
  - Share of population over 60yr is projected to increase from 8 % in 2015 to 19 % in 2050.and by the end of the century, the elderly will constitute nearly 34 percent of the total population in the country.
  - As per United Nations World Urbanization Prospects Report (2014) **over 60% of the global population would be living in urban centers by 2030.** This number according to the report will rise to over two thirds by 2050.
  - As per 2011 Census report about **26.8 million people in India were reported to be 'specially abled', which is 2.1% of the total population**.
- **Provisions for Inclusive Development**
  - In an era where 'inclusive development' is being emphasized as right path towards sustainable development, focused initiatives for welfare of specially-abled persons & elderly are essential.
  - In 2012, United Nations established Sustainable Development Goals to guide its development agenda through 2030, including aiming to **"make cities and human settlements inclusive, safe, resilient and sustainable"**
  - The Convention on the Rights of Persons with Disabilities and its Optional Protocol was adopted with the vision of human rights and social development for all.
  - "The **Constitution of India, in Article 14 provides that, "The State shall not deny to any person, equality before the law or the equal protection of the laws within the territory of India."**
- Every city has yin and yang component. There is hard and soft part of the city. Food, clothing and shelter are everybody's wants. We have to focus on regional development. It is not easy to include citizens in the discussion. Every area has some pinpoints which

every community faces. Then come up with innovative citizens' participation rounds. You have to motivate them to come. RWA, school quiz, etc. We close the feedback loops. Informed, consistent involvement and empowerment is the approach.

- **Solution for a Citizen Centric Urban Planning: Inclusive Smart City**
  - A **city which values and puts forward the needs of every citizen equally**; from residents to marginalized poor section of all age, gender and caste. For them to have a voice and opinion in governance and have a sustainable livelihood.
  - It shall refer to having a **"universal accessibility"** i.e. a city which is accessible by every citizen irrespective of one's ability or place in society.
    - **Accessibilty:** To promote participation of the specially abled and elderly citizens AI based technology known as **Assistive Technology (AT) is thus introduced**. Role of the AT is to enhance the participation of the people by possessing certain technology products such as smart devices, for them to carry out basic activities of life and equally enjoy their rights as a citizen.
    - Introduction of features like video-monitoring, electronic sensors, fall detectors, door monitors, bed alerts, pressure mats etc. can help in improving the lifestyle of specially abled and elderly in terms of security and ability to carry out tasks.
  - **What more?**
    - 4A's – Implementation of government policies based on **Affordability, Accessibility, Adaptability and Availability**
    - Use of Real Time App
    - Clear objective with respect to senior and differently abled people
    - Its important to know the needs and aspirations of our citizens before we get into the area of policy making :**Inform, Consent, Involve, Empower**
    - Visual hearing cognitive centric ICT solutions

4.2.5 **Shri Anand Pandey, Consumer Voice** also shared following views during the session:

- wish list from the consumer perspective
  - **Every citizen is a consumer of the services provided by the State Govt**. Swatch Bharat has to start with swatch city. It means clean air to breath, clean water to drink, clean environment to live. Clean environment problem has been the waste handing & management system
  - Have lot of plans at the ground level but **degree of enforcement/ implementation is questionable**. **Important component of any plan should be outcome which should be definite, so that implementing agencies performance can be judged.**
  - Efforts be made to democratize public transport system the way Uber/Ola has democratized the transport system
  - All cities to have Wi Fi network connectivity. Today we have cluster of networks.

- India is going to face a huge water crisis**. Efforts be made in Delhi NCR there in the direction of rain harvesting.** The availability of **clean, safe, portable water in houses as well as in public spaces.**
- 27x7 power availability with active role of Solar power through encouragement
- **Affordable food distribution system in addition to the PDS** as Lot of migrant workers came to cities and towns for work without their family.
- **Affordable healthcare system**. In terms of planning we need plan for it so that common citizens living in urban area has access to the basic healthcare need.
- People with disabilities, unless they have lot of money they will be lost totally. These are some of the perspective from the citizen and consumer. Need to **focus on outcomes as deliverables**.

- Other points that emerged during discussions included:
  - Need to inculcate smartness in Regional Plan
  - Recently regularized 2000+ unauthorized colonies in Delhi , but it needs to be ensured that they get basic amenities.
  - While coming up with new policies like revised FAR for the residential use, each person will have to pay extra for the additional FAR in order to augment the service delivery . It may be ensured that services are accordingly augmented as well utilizing the collected resources.
  - There is threshold of every service and NCR plan should look into this aspect
  - Happiness Surveys/Audits be conducted in cities to assess the actual change through policies.
  - Crowd sourcing, works in Indian context talent works. In India, Pune and Indore have already involved citizens in planning process.
  - Quick Urban Analysis Kit for having citizens visualization. There is another one IME plan. There is another tool which permits to design the city of their choice.
  - Share the traditional character of each area to have the sense of belongingness.
  - NCRPB may take a lead in having a Smart Regional Plan

4.2.6 **Dr. Rakesh Kumar, Chief Advisor, UN Habitat, India** shared his views on the subject which included the following: –

- In Odisha, we have started some pilot project, we have come up with **Aahar Yojana**. Anything we plan it has to be SDG centric ,specially the urban planning.
- Eight goals of MDGs, there was hardly any integration. There was hardly any mention of urban planning. The population right now is 7 billion. **Ultimately, human activities are causing disasters we have deal with that also.**
- Cities are growing in an unorganized way so there is a need for robust planning. Cities are vulnerable. **Considering the flood, drought, and other natural calamities, we need to have sustainable approach**. We talk about sustainable environment, economic growth and inclusive growth. These cannot be achieved without **good governance.**

- **SDG has a broader mandate, it is people centric. It is universal**. It talks about prosperity and integrated approaches. We have **17 goals and 169 targets**. Everything is surrounded and interlinked.
- Urban is foremost set of goals of UN. Even right now 1.2 billion people do not have access to potable water, sustainable mobility, roads. There is **need for healthy settlements.**
- **Availability of Land is less and we see huge changes in agriculture and agricultural land.**
- NCR population is 50 million. Growth of NCR is between 4 to 4.5% there.
- Current demand is we need perfect planning and perfect implementation of that planning.

4.3 **Session-III** was dedicated to '**Citizen Centric Planning: Perspectives of Non-State Bodies'.**

4.3.1 **Prof. Tina Pujara, IIT Roorkee** highlighted the following key aspects:

- City centric planning with an emphasis on **mental wellbeing.** SDG has an involvement of good mental health. **Stress in the environment in the city causing this mental health which is synonymous to happiness.** Urban design and mental health there are a relation. Why don't we have **City Well Being Plan**, like we have Regional Plan, Master Plan, City Development Plan, Zonal Plan and Local Area Plan.
- Mental health is an integral and essential component of health. The WHO constitution states**: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."** As per **WHO**, Mental health is a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community.
- **Cities are associated with higher rates** of most mental health problems compared to rural areas: an almost **40% higher risk of depression, over 20% more anxiety, and double the risk of schizophrenia**, in addition to more loneliness, isolation and stress.High prevalence of mental issues in urban metros.
- **Concept Of Citizen Centric Planning:** This movement is already a trend in Urban Design and emerging in Transportation Planning and this has to be adapted in the physical planning of cities both in smaller and larger scale. Now many cities are taking a human-centric approach to urban planning.
- **Citizen centric – human centered– people centered**
    - Citizen-centricity is all about turning the focus of planning around- looking though the eyes of the citizens. So that the **needs of the citizens come first, rather than operational or other imperatives of the planning system**.
    - **Human-centered design affords urban planners processes to see what happens when communities take an active role in designing**.
    - People centered planning may be defined as a way of discovering:
        - How a person wants to live their life?
        - What is required to make that possible?

- The overall aim of person centered planning is "good planning leading to positive changes in people's lives and services" (Ritchie et al, 2003).

- **Citizen centric Urban Design & planning**
  - Conscious Cities
  - Creative cities
  - Psychological wellbeing in Cities
  - Livable cities
  - Happy Cities

- The people centric design fundamentally aims to keep people **happier and healthier.**
- **People Centric Public Places - Concepts of Jan Gehl who** has studied public spaces for 50 years, and advised cities globally for the last 20. He tells how cities can create people-centric places. **Gehl's 12 criteria for good public spaces**
  - **Protection against**
    - traffic / accidents
    - crime / violence
    - unpleasant sensory experiences
  - **Comfort – opportunities to**
    - walk, stand / stay, sit, see, talk / listen, play / exercise
  - **Delight through**
    - human-scale urban design
    - chances to enjoy good climate
    - positive sensory experiences
- **Concept Of Happy City**
  - Writer and urbanist Charles Montgomery, in his book, "Happy City: Transforming Our Lives Through Urban Design" explores how cities can make us happier.He reveals how cities can shape our thoughts as well as our behavior; by retrofitting cities and our own lives for happiness, we can tackle the urgent challenges of our age. The happy city can save the world.
  - City Amravati is happy city. It has all the three components Urban Design, Happiness and Happiness Neighbour.
  - **Suggestive measures in Amravati project:**
    - **overlooking balconies:** Over looking balconies for informal interactions and eyes on street.
    - **park connectors-**more green spaces
    - **colour and emotion**
      - Adding colors to urban environment creates sense of belongingness and identity. It imparts a character to the surroundings.

- Psychological impact -Street at eye level Public art installation give a signage to the place enhancing way finding and gives a character to the place .

- **activity generators:** Creating activity by placing informal activity zones scattered around the site which further enhances safety through eyes on street.
- **festivals and gathering places:** Festivals and gathering spaces fosters the rich culture of India and enhance social connectivity among residents

- **Conclusion- Recommendation For City Planning**
  - **Mental Wellbeing Mapping For Cities:** Adding an element of mental wellbeing along with physical wellbeing in city planning can bring about a change in behavior of the citizens of the city
  - **Guidelines For Positive Mental Health:** Guidelines at urban level towards happiness of the citizens considering the local level context of the city will help build healthy cities
  - **Awareness:** The chronic issue of mental health now a days in our cities needs intervention in terms of creating awareness about it. This can bring a paradigm shift in city planning towards enhancing happiness among its citizens

4.3.2 **Prof. Kavas Kapadia, Former HOD, School of Planning & architecture, Delhi** shared his following views:

- India has a male centric society of Raja and Praja. We have accepted the fact there is paradigm of structure. There are new ideas about public participation, child labour, women equality. Real India is still lagging behind. Our **society is inherently inclusive**. India is conglomerate of countries put together. There are so many differences and there is some similarity. Our political structure plays a very crucial role in providing space for that issue only. **In traditional society every Indian has a say.**
- We should also think of **People Centric Regional Plan.** When the political and other economic interest will let you exercise your rights as a citizen population. Ours is a culture of compromises.
- FAR is a space per person. We can be misled into believing if we look at world's FAR we are lagging behind. If the NCR towns have actually grown and developed. These **planning mistakes hit very late but very hard.**
- **When population is high you have to be able to share the resources**. These high densities of people should be able to share resources. There is a direct conflict.
- Urban is a concept it means that we are not yet attuned to **cooperative living.** This problem of traffic in Delhi could be reduced if Singapore approach of one not being able to buy a new car before first selling/disposing the previous first car and shows the receipt
- People's participation is a very good idea. It must be inculcated. NCR currently is overloaded with many issues. As the arena of action becomes bigger and bigger it depends entirely on the political structure and will to deliver in a very non-partisan way. In NCR rural areas acquiring urban characteristics is another issue.

- Larger the arena of action, the more responsibility it falls on the political leadership to take the right decisions. In a political system like ours it depends upon the political powers as to how much liberty they give common man.
- Areas in Lutyen's Delhi are being re planned but it should be citizen centric too. On the other hand of the spectrum there is NCR. Government response to area decide level of people involvement and actually testing the Raja and Praja system. NCR is a very large geographical and the respective State governments have to be benevolent to people's ideas. **Planning is a process of planning needs and requirement in neutral manner.**

4.3.3 **Shri Vaibhav Kharakpuria, from World Resources Institute** presented following views on Citizen centric Planning.

- City's and Transport team's goal is to improve quality of life in cities by developing and scaling environmentally, socially and economically sustainable urban and transport solutions.
- Adopting the right goals, **SDG3.** Ensure healthy lives and promote well being for all. **SDG11** To make human settlements inclusive safe resilient and sustainable.
- Design driven road safety projects :
  - India vision zero: Vision zero aims to achieve zero fatalities in highway systems
    - Monthly Meetings with Head of the Departments (ADGP Traffic, NHAI, PWD, Transport, Education, Forest, Electricity)
    - Monthly Meetings with DCs and ADCs over Video Conference
    - Monthly District Road Safety Committee Meetings
    - Monthly Departmental Meetings – IG Traffic, NHAI, PWD to discuss on pending work

    Haryana is one of the first state to adopt vision zero approach towards road safety prioritizing human life above everything else Media coverage of these events is frequent.

  - Child friendly cities
    - Coming to child friendly cities, redesigning and reimagining streets from child perspective.
    - Strategy-To influence a reduction in the crash risk for children across city by the end of two years
      - Engagement with children and parents
      - Workshops for engineers
      - Capacity building of city officials
      - Workshops for police
    - to transform into a city where children can travel on road safely, either on foot or any other transit. The basic objective is to reduce crash risk around the schools and also in the city.
    - And this is not possible without engagement, so we develop strategies to engage with kids, parents, citizens, engineers, police, city officials, etc

- Trails are the best way to find out what's on paper can actually work. It does not cost much and can be conducted to clear any doubts about the design
- conduct surveys before and after the trials to understand the perspective of the citizens

- Raahgiri day/night
  - Impacts
    - Adopted by more the **70 cities within four years and** spread over **17 states**.
    - In total about 1.2 crore people have visited Raahgiri Day and continue to do so.
    - Sensitization of City Administration lead to infrastructure change in cities. State Level Initiative – HVZ City infrastructure - Bhopal, Gurugram, Ludhiana and Bhubaneswar
  - Fundamentals of Raahgiri
    - Health and Fitness
    - Road Safety
    - Sustainable Commute
    - Social Inclusion

  It's evolving and expanding to include evenings as well as day time. It's a common platform for campaigning and engaging in important social issues like health, childhood, climate,
  Govt and NGOs are also using this platform to reach out to people to educate them It's the best and easiest way to interact with people directly, so bureaucrats and politicians are always eager to make use of it

4.3.4 Dr. Rumi Aijaz, Senior Fellow, Observer Research Foundation (ORF) shared following views during his presentation:

- Regional Plan to be made even more citizen centric. Some lessons can be adopted from outside India. Some of most striking problems.
  - Related questions could be how and where citizens could be engaged?
  - How Regional Planners can be more responsible towards citizens.
  - How Regional Planners and Regional Agencies should look through the eye of the citizens. Why are some communities suffering?
  - Why are there so many regional disparities around us.
  - Indiscriminate land-use conversion in peri-urban areas.
  - Deteriorating air quality in NCT.
- More hard work is required both by the agencies and the citizens. With so much of technology around us can we **create a mechanism which would allow citizens to use these technology**
- Citizens may like to share their observations. We must see whether that mechanism has been created for them. Following observations from citizen side would be helpful in regional planning.
  - Greater public participation in the planning preparation process.

- Engage in a grassroots consolidation process for overall understanding of the social, cultural, economic needs of the regional population.
- Establish administrative setup on State or Tehsil level which would help in participatory process
- Engage more with the citizens to understanding their concerns.
- Prepare plan which is based on the people's aspirations like people's plan.

4.3.5 Shri Digbijoy, KPMG shared following views:–

- When we engage with citizens or public at large, people at large should see the same information what is seen by planners
- Now we have the opportunity of running regional plan system that involves people right from the start by keeping a window of communication open.
- A simple proactive approach would have been if we could encourage much of the public in planning. When all the information starts coming together and then put out for people to see that is when the discourse changes.

  There will be lot of conjectures but online it gets people talking. First step is to set up system of dialogue.

4.3.6 Shri H.B. Singh, Ex-Professor ,School of Planning & Architecture, Delhi made following observations

- In United states new term is in trend, **New Urbanism** ,place making urbanism, are all part of happiness. Happiness is very much related to how closely we sit with our peers in groups. If social exclusion is there, there cannot be happiness. whatever design we do, it should take care of these account of things.
- At regional level a new policy would be enunciated when the city is planned.

4.3.7 Shri Hitesh Vaidya, Director, NIUA summarized what the experts have presented during the session, as follows:

- The main issues include:
  - How to make public open spaces.
  - How to resolve the mobility issue, urban safety, child friendly cities.
- Looking at the NCR, the institutions like NCRPB, NIUA can **establish principles of planning** which then can be scaled up across the states. They were not established for implementing and executing. The basic purpose for establishments of these institutes are missing. We need to think what the institutional mechanisms available are. Many talked about tools but availability of these tools in various cities is to be ensured.
- Three things worked when smart cities proposal was established – leadership at the local level, residents were encouraged to come with the vision, the people who engaged good consultants did well.
- Role of NCR is to pick the tools of Amravati and our role should be like urban Uber.
- **Challenges are:**

- How to scale up citizen engagement?.
- How we can use technology to really engage.
- How to engage locals at ground level?
- Execution will happen at local level. We need to revive neighborhood that is the only way we can main stream the planning process.

4.4 **Session-IV** pertained to State perspectives

4.4.1 Ms. Manju Sahu, Joint Director, Planning Department, Govt. of NCT Delhi, presented her viewpoints which included following aspects:

- Main theme of sustainable development goal is to put people into planning. Engagement of citizen throughout the planning process design phase, implementation phase and evolution phase.
- **The Design Phase of Policies – 'Engaging Citizens'**
  - Frequent interactions between government departments and citizens,
  - System in the Government to integrate real-world experience, observation from implementations of govt. schemes , programmes and aligning with expectations of citizens
  - Participatory governance in culture, Exploring practises and theories and policies.
  - Town Hall Meetings; RWA Interactions; Community Talks
  - Actively involving the local community in planning their environment is key to putting people first. Developments to be 'co-created' with local residents keeping in view their actual needs and aspirations
  - Collating issues based on public opinion which require policies to address them,
  - sharing existing policies with citizen groups, civil societies to understand necessary reformative measures that can be undertaken to address loopholes and refine respective policies,
  - Recording observations collected in the field during public interactions and incorporating the analyses of relevant observations in policies
- **The Evaluation Phase – 'Engaging Citizens'**
  - **Measuring Impact, deliverables and Citizen Satisfaction**
  - The Government needs to adopt a model of planning where **regular citizen perception surveys can be carried out to analyse public response towards schemes, projects and programmes.** Evolve a rating system for citizens to analyse various parameters.
- **Facilitating citizen interactions with Government Services**
  - **Make use of a single digital identifier like the Aadhar card to centralize all online services on** the a platform where the citizen can pay all his bills, taxes, obtain medical insurance, apply for loans etc. Such on-screen forms could come pre-filled with data that already exists with the Government, requiring the user to fill new information only.
- **Centralizing Online Services Provided by the Government**

- In order to centralize IT services provided by different departments, and to evolve better data sharing mechanisms, **all agencies could use an integrated suite of applications**
- **create a central repository to deposit and update data** into it and thus draw data from the centralized source whenever required. Interfaces to share data among departments could be created for .
- **An authorized department with teams whose function is to work with the other departments for data housing and ensuring cross-departmental coordination** while making certain that the data sharing interfaces are efficiently operational.

- **Citizen – Government Partnership in schemes and policies : Some example**
  - Delhi Government is already engaged in initiatives which have made governance citizen centric like – Outcome Budgeting, e-Governance initiatives, Doorstep Delivery of public services, independent evaluation of service delivery by Department of Planning, 1031 – Grievance redressal. Delhi also has department-wise citizen charter, informing citizens of their entitlements and enabling them to demand better quality.
  - School Management Committee – Inclusion of parents in decision making in the schools of Delhi. SMCs act as a bridge between the school management and the community from which the students come to attend these schools,
  - Development of parks and Plantation drive, CCTV installation through RWAs,
  - Organising Mega PTM in Schools
  - Mukhyamantri Sadak Yojana
  - Citizen's involvement in identifying darkspots for proper lighting for women safety
  - Market Development Scheme
  - Swatchha Survekshyan
  - smart city strongly associated with people-centric urban policy
  - Call Centres to collect real time feedback, analyzing it for corrective measure for AAMC and Public service delivery , Public Distribution under NFSA
- **Way Forward: What we could do for better tomorrow**
  - Core principles for making governance citizen centric: **Decentralization, transparency, Process Reforms, Periodic and independent evaluation of the quality of Governance**
  - Actively engage in stakeholder consultation in policy design – an essential tenet of improving citizen centricity.
  - Involve citizens, **including Civil Society Organizations, think tanks, public sector and business representatives and academia**. Citizen interactions should be dynamic and responsive and a two way process in continuum
  - **Digitizing the planning process of public services** would help us garner feedback at the right time.
  - An Open Data reforms – which is mandated by the National Data Sharing and Accessibility Policy (NDSAP). Other **states in India like Orissa, Telangana**

already have an open data policy. This is a very crucial way to engage with citizens and encourage use of government data for suggesting policy reforms.

- Measuring government performance at every step is crucial – Dept. of Planning is already engaging an M&E unit, holds third party assessments of various schemes and processes, innovative outcome budgeting process for keeping the citizens well informed through mobile/web application.
- **The countries (like Austria, UK, Italy) are making most rapid progress in the direction of citizen-centric government. "e-governance" is at the heart of citizen centricity.**
- We need to **standardize the citizen experience of government – across various departments – on ground and digitally**.
- **Social Audits:** Integrating Citizen Response in Governance. This needs to be institutionalised in the Governance process

4.4.2 Shri Vijay Kumar, DTP NCR Cell, Govt. of Haryana shared following views:–

- For large level public participation public, representatives are also consulted at District Level Committee then at the State Level Committee, in Haryana.
- After framing the proposals, it is discussed with state level committee with concerned department. This draft plan is widely published on the website and newspaper to invite objections and suggestions. After having detailed discussion on objections and suggestions received, the plan is finalized. It is currently an ongoing process in the state. Recently new development Authorities have come up like Gurgaon development authority, in these facilities one more step forward wherein even before the publishing the draft plan there is a process to put the plan in the public domain.
- Apart from this there is **Resident Advisory Committee** which is a statutory body, its role is to provide suggestions and guidelines in preparation of plan.

4.4.3 Shri S.C. Gaur, Chief town planner, Govt. of UP shared following views from the State point of view:

- Definition wise Participatory planning is different unless real ground situation is known. It is about getting different views, opinions from public. Different mechanisms need to be used to get information.
- Basically the participatory planning is about collecting the views and device strategies accordingly. Public participation is good way to seek opinion, observations and objections. But we need to see its technical aspect from professional point of view as well, especially in case of project implementation.
- Delhi and Haryana also have a participatory approach. The problem we are facing that Public participation at Regional Plan level is difficult. Collecting information is a real task as even the departments and offices need to understand the need of the data with clarity on objective and be involved.
- Common man may have some understanding of Master plan or lower plans which impact them directly, but little understanding of Regional Plan. The State level workshops can ease out this aspect.

5 Conclusion

It could be concluded that Citizen centric planning has always been there as plans are prepared based on the projected population for all services be it transport and mobility, economic activities or related infrastructures. . Citizen is at centre at Micro, Macro or Regional level. But now citizens have become more important & planning has to be more dynamic in nature. Corroborative approach is there. NCRPB's 17 workshops had one of the main objective to be as inclusive as possible. Issue is the executional powers which are in not with planners, but lack of plan execution is blamed as bad planning.

However, a lot can be done on this aspect, with emerging policy interventions. NCR needs to adequately take into consideration the related issues and potential of NCR and address all related aspects keeping the future problems as well as potentials, in mind. NCR could lead as an example on Citizen Centric Regional Planning as well choices and priorities of the inhabitants of the particular areas, may be at district and sub-regional level as per economic potential and employment possibilities of sub regions and its towns. The plan for 2041 need to carefully address all aspects, aspirations and requirements, indicated and brought out and thereby take into consideration views of maximum stakeholders as possible.

List of Participants for the workshop on Citizen Centric Planning held on 20.01.2020 at Silver Oak Hall, IHC, Lodhi Road, New Delhi.

S. No.	Name, Designation and Designation
1.	Shri Rudan Singh Meena, Deputy Town Planner, Town Planning Department, Rajasthan (Representative of Collector, Bharatpur)
2.	Ms. Abha Agarwal, Associate Town & Country Planner, TCPO, New Delhi
3.	Shri G. S. Bhuyan, Planniner Member, BDA, Bhubaneswar
4.	Shri P. Selvadurai, Director, AMDA
5.	Shri Guarav Jain, AO, AMDA
6.	Ms. Gurpreet Kaur, AD (CB&T), AMDA
7.	Shri Vibhev Kharagpuria, Researcher, World Resources Institute, New Delhi
8.	Shri Deepak, IEO, o/o Joint Director, DIC, Faridabad, Haryana
9.	Shri Mohit Jain, Accounts Officer, AMDA
10.	Prof. H B Singh, SPA, New Delhi
11.	Shri Aadish V Wagude, IBI Group, Bhubaneswar Development Authority, Bubhneswar
12.	Shri Umesh Goel, Tata Realty, Gurugram
13.	Shri S K Singh, Director, NITI Aayog, New Delhi
14.	Ms. Manisha Sinha, JS, Deptt. of Posts
15.	Ms. Neelanjali, Deputy Director, AMDA
16.	Ms. Manjoo Sahoo, Joint Director, Planning Department, GNCTD
17.	Shri Vijay Kumar, DTP (NCR)
18.	Shri Naveen, ATP, Panipat, Haryana
19.	Ms. Sunila Bagga, Under Secretary, DARPG
20.	Shri Rumi Aijaz, Senior Fellow, ORF
21.	Shri Lalit Kumar, DTP, Jind, Haryana
22.	Shri Rajiv R Lakra, Asstt. Director (DISAB) Deptt. of Social Welfare, GNCTD
23.	Ms. Anjali Tiwari, Asstt. Director, Deptt. of Social Welfare, GNCTD
24.	Shri S C Gaur, CCP, NCR Cell, UP, Ghaziabad

S. No.	Name, Designation and Designation
25.	Shri V K Bugga, Ex. CTP, MCD
26.	Dr. Tina Pujara
27.	Shri Gaurav Prasad, Town Planner, East Delhi Municipal Corporation, Delhi
28.	Prof. Mayank Mathur, SPA, New Delhi
29.	Shri Punit Sethi, Chairman, SPA Alumni, New Delhi
30.	Shri Sandeep Kumar, Associate Professor, Amity University, Noida
31.	Ms. Manshi Singh, Young Professional, NITI Aayog
32.	Shri Kuldeep Singh, Urban Planner, DDF Consultant Pitampura, Delhi
33.	Shri Mukesh Yadav, Urban Planner, IIHS, New Delhi
34.	Shri Satish Kumar, ATP o/o DTP Jind, Haryana
35.	Shri Jai Kumar, IT Programmer, Municipal Corporation, Faridabad
36.	Shri K Srinivas, Director (Plg.), HMDA
37.	Shri K Vikas, Planning Officer, HMDA
38.	Shri Totak Acharya, AD (Plg.) AMDA
39.	Shri Dilbag Singh, STP, Hisar, Haryana
40.	Shri W Sukhbir Singh, SM (Plg.), GNIDA
41.	Ms. Reeta Meena ATP, North DMC
42.	Shri Benjamin, NIUA
43.	Shri Vinayak Sharma, DESTO, Hapur
44.	Shri Scboslien Louvet
45.	Shri Anand Pandey, Director, Consumer Voice,
46.	Ms. Ishite J Kumar, DTP, Alwar
47.	Ms. Sharvaki Deshmukh, Research Associate, NIUA
48.	Dr. Gurdev Singh, Delhi Cantt. Board
49.	Shri Tirath Ram, Under Secretary, D/o ARPG, GOI
50.	Shri Rohan Anand, Director, JLL

S. No.	Name, Designation and Designation
51.	Shri R Srinivas, TCP, TCPO, New Delhi
52.	Shri Prabhat Paul, ATP, HPDA
53.	Ms. Rachana Kharwar, NCR ASO, NCR Cell, UP
54.	Shri Kunal Kumar, JS, Smart Cities, MoHUA
55.	Dr. Rakesh Kumar, Chief Admin, UNDP
56.	Shri Bhoopender Singh, Asstt. Manager, Karnal Smartcity
57.	Ms. Nishi Singh, Planning Assistant, DDA
58.	Ms. Usha P Mahavir, Ex. ED (Projects), HUDCO
59.	Shri Sanjay Kumar, Amritsar Smart City Ltd, ASCL
60.	Shri Mohd. Hausen, JE, HPDA, Hapur
61.	Shri Mahendra Meena, ATP NCR, Rajasthan
62.	Prof. Sri Renu Khanna, Voice Society, New Delhi
63.	Shri Kavas Kapadia, Ex. SPA
64.	Shri Mukesh Sharma, Statistical Officer, Planning Deptt. GNCT Delhi
65.	Dr. Charru Malhotra,
66.	Sh. Krishan Jindal, Adviser, DHAN Foundation
67.	Shri Achyut Shankar, CII
68.	Shri N B Johri, NCRPB
69.	Shri D K Sharma, DDA, AE©
70.	Ms. Anushka (Research Officer), IIPA, New Delhi
71.	Shri Arvind Gupta, AE (C)/DDA
72.	Shri Mohit Lohani,
73.	Ms. Geetam, Tiwari, IIT Delhi
74.	Ms. Anju, ATP, DTCP, Haryana
75.	Shri Suneet Gupta, TLPMC, Faridabad Smart City
76.	Ms. Ruby Moun, Indian Institute for Human Settlements

S. No.	Name, Designation and Designation
77.	Shri Surya P S IIT Roorkee
78.	Shri Asesh Sarkar, IIT Roorkee
79.	Shri Parag Gupta, Niti Aayog
80.	Shri D Bhowmik KPMG
81.	Shri Mahindra Singh, JD, DC Office, Bharatpur
82.	Ms. Debojyoti Mukherjee Jr. Technical Epxert, GIZ
83.	Shri Abhishek Kumar, Noida Sector, 16
84.	Shri Pramod Kumar Sharma, AE Civil HPDA
85.	Dr. Sachin Bansal, Chief Explorer & Founder Delhi Walks
86.	Shri Shrawan, City Explorer, Delhi Walks
87.	Shri Hitesh Vaidya, Director, NIUA

Annexure-I

CITIZEN CENTRIC PLANNING
Date: 20.01.2020
Venue: Silver Oak Hall, IHC, Lodhi Road, New Delhi

S. No.	Topics	Speakers
Session I: Inaugural session		
Chair: Shri Kunal Kumar, Joint Secretary, Smart Cities, MoHUA		
1.	Welcome Address	Shri Satish Prashar, Chief Regional Planner, National Capital Region Planning Board
2.	Perspectives on Citizen Centric Services by Post Bank of India	Ms. Manisha Sinha, Joint Secretary, Department of Posts
3.	Vision NCR 2041	Chair: Shri Kunal Kumar, Joint Secretary, Smart Cities, MoHUA
Tea Break		
Session II: Planning Experiences & Way Forward for NCR 2041		
Chair: Dr. Rakesh Kumar, Chief Advisor, UN Habitat, India		
4.	Planning Experiences & Way Forward for NCR 2041	Shri P M Bhuyan, Bhubaneshwar Smart City
5.		Shri R. Srinivas, Town & Country Planner, TCPO
6.		Shri Suneet Gupta, Team Leader, Faridabad Smart City
7.		Shri Anand Pandya, Consumer Voice
8.		Dr. Charu Malhotra, Professor, IIPA
9.		Dr. Rakesh Kumar, Chief Advisor, UN Habitat, India
Lunch		
Session III: Citizen Centric Planning: Perspectives of Non-State Bodies		
Chair: Shri Hitesh Vaidya, Director, National Institute of Urban Affairs		
10.	Citizen Centric Planning: Perspectives of Non-State Bodies	Prof. Tina Pujara, IIT Roorkee
11.		Prof. Kavas Kapadia, Former HOD, School of Planning and Architecture, Delhi
12.		Shri Vikas Kharagpuria, World Resources Institute

S. No.	Topics	Speakers
13.		Dr. Rumi Aijaz, Senior Fellow, Observer Research Foundation (ORF)
14.		Shri Hitesh Vaidya, Director, National Institute of Urban Affairs
Session IV: Citizen Centric Planning		
15.	Citizen Centric Planning	**Govt. of Delhi**: Smt. Manu Sahoo, Joint Director, Planning Department
16.		**Govt. of Haryana**: Shri Vijay Kumar, DTP, NCR Cell, Haryana
17.		**Govt. of Uttar Pradesh**: Shri S C Gaur, CCP, Coordinator, NCR Cell UP
18.		**Govt. of Rajasthan:** Officer attended. However, not prepared to present/speak
19.	Vote of Thanks	Shri Jagdish Parwani, Director (A&F), National Capital Region Planning Board

Workshop Title: **Housing Infrastructure and Zoning Regulations**

Date: **22.01.20 (Wednesday)**

Venue: **Scope Convention Centre, CGO Complex, New Delhi**

Brief Minutes of the Stakeholders Workshop on 'Housing Infrastructure & Zoning Regulations held on 22.01.2020 at Scope Convention Centre, CGO Complex, Lodhi Road, New Delhi for preparation of RP-2041 for NCR

1) Workshop on 'Housing Infrastructure & Zoning Regulations' was held on 22nd January 2020 for Preparation of Regional Plan-2041-for NCR at Scope Convention Centre, CGO Complex, New Delhi. The workshop was divided into various sessions to cover the major topics under the subject. The list of participants is enclosed.
2) The major topics of discussion included Housing Infrastructure and Zoning Regulations-Vision for NCR 2041; Experiences from Regional Planning & Housing Initiatives; Challenges & Strategies for Housing & Zoning Regulation in NCR; Perspectives of NCR states on Housing Infrastructure and Zoning Regulations.
3) The key contributors to the discussions and invitees included Dr. Sekhar Bonu, DG, DMEO, NITI Ayog; Shri Biswajit Banerjee, Joint Secretary, Rural Development; Prof. P S N Rao, Director, SPA Delhi; Smt. D. Thara, JS, AMRUT, MoHUA; Shri Shankar Deshpande, CTP, MMRDA, Mumbai; Shri K. Srinivas, Director Planning, HMDA, Hyderabad; Shri V.K. Ikkeri, Commissioner, BMRDA, Bangalore; Prof. Jignesh Mehta, Assistant professor, CEPT Ahmedabad; Ms. Vasudha Thawakar, Senior Urban Specialist, World Bank; Shri P.K. Gupta, CEO & MD, NBCC; Shri Prabhakar Singh, DG, CPWD; Shri Akhilesh Kumar, ED, HUDCO; Smt. Manika Negi, GM (C&P) HUDCO; Shri V.K. Gupta, Acting CMD, Hindustan Pre-Fab Ltd.; Shri N.S. Mehra, CEO, National Coop. Housing Federation of India ; Shri Ashish Agnihotri, PHD CCI (also on behalf of CREDAI); Dr. Sameer Sharma, DG & CEO, IICA & Chairman, National Urban Policy Framework; Shri Balvinder Kumar, Member UP RERA; Smt Alka Arya, Director Planning, DDA; Shri K Makrand, DG TCP Department; Shri Mukesh Mittal, Senior Town Planner; Shri Rajesh Prakash, Add. Commissioner NCR Cell; Ms. Jayshree, Magic Bricks amongst others. The list of speakers is placed at **Annexure-I**.
4) Session wise proceedings/ record of decisions are as under:

4.1 **Session-I** was the Inaugural Session which was chaired by Dr. Sekhar Bonu, DG, DMEO, NITI Ayog.

4.1.1 Shri Biswajit Banerjee, Joint Secretary, Rural Development shared his views, which included the following:

- NCRPB has taken up a very challenging as well as very interesting exercise of planning for our NCR that might be having more than 5 crore population which is expected to be 11 crore by 2041 (more than many developing countries) . NCR is covering various districts and an area of more than 55,000 sq. kms. With the kind of demography, cultural, social, economic flow from all sides, managing this region is a very challenging.
- Lately, the government has come out with Shyama Prasad Mukherjee Mission (SPMM), where there is scope of taking that nano-enterprise to micro or small enterprises and the gap between the rural and the urban could be minimized with the holistic development.

- NCR has villages and townships. The **aspirations & the soul of the village is different from Delhi**. In towns, people are very active and every taxpayer watches how the money is being spent, but villages have different needs.
- In Rural Mission 2016 **retaining the village spirit and have the urban convenience** is emphasized. Bridging gap is an important thing in planning. It should go with an optimum efficiency. Evidence based on data validated by Gram Sabha, has been used and score to these villages, as per the resources availability.
- MoRD has recently **started ease of living survey** but it is **particularly for public service schemes**. **The data can be shared with NCRPB.**

4.1.2 **Dr. Prof. P.S.N. Rao, School of Planning and Architecture**, New Delhi also shared his views on vision regarding NCR for Housing Sector. Key points included in the presentation are as mentioned below:

- One of the important areas for development in the region is housing infrastructure because **people have to work and play**. There are **lot of housing that are lying vacant and unsold** due to various reasons.
- **Haryana and Rajasthan have very good affordable housing policies**. They have very **good PPP policy**. There is encouragement being given to the affordable segment. **Macro level initiative in the earlier and forthcoming budget was seen**. That will probably stretch our affordability.
- **Housing and infrastructure are closely interlinked**. **Safety** is also important. Many places are perceived to be unsafe. So, projects take a very long time to be occupied.
- **Housing is a state subject** so State has a major role to play. Planning documents are guiding and policy documents. The implementation has to come from the local bodies, State Government and from the private and cooperative sector also. **Cooperative sector is not being promoted these days**. We need to come out of this so that **all supply modes are encouraged by giving suitable incentives.**
- The other characteristic of the **NCR** is industry as it **has large number of very good industrial estates**. **Industrial workers can be provided with housing**. Housing can be along with the other housing because there are long list of industrial estates in the NCR.
- Large numbers of villages that engulf in urban milieu, but are generally left alone. These **villages end up in laissez faire**. Transfer of development rights can play important role here. Everybody should have equal rights like FAR. This has partially been tried out in Maharashtra.
- It could be seen if land pooling can be done as there are both good and bad examples. Land Pooling appears more acceptable to the farmers. So a **pooling system in NCR so that agriculture should not be put to disappointment**, could be thought of. **Development rights can be used in a very structural manner**. Today when the entire sector develops, the village feels it is losing out. We **should introduce this new segment**.
- **Housing for the elderly** is popular these days. S**pecial encouragement should be givn to such projects**.
- Students are also looking for rental accommodation hence some kind **of model needs to be developed for rental accommodation** is possible.

- External development charges need to be spent at site of respective projects as large number of people in Haryana are concerned about.
- **The regional plan document is a broad policy level document, hence to achive actual results on ground, participation of the states and ULBs is important.**

- Discussions also brought out following few points:
  - Haryana has the Deen Dayal Awas Yojana. In addition they have land pooling scheme.

  - Need to have a redevelopment plan & scope for more housing. Lot of housing stock is more than 50years old, especially in towns like Gurgaon, Faridabad, Ghaziabad. DDA is already looking inti it

  - Explore possibilities of having different densities for different areas as towns develop in different ways. Noida and Greater Noida are industrial towns while Rohtak is developing as Institutional hub. As Housing is a state subject, States should also look into the matter

  - Board should also think to **develop areas which have a tendency of where population itself moves**. Areas beyong Gurgaon insouth of Delhi suchas Rewari & Nuh; beyond Ghaziabad in east of Delhi like Meerut, could be looked for future housing. However, water resources along with connectivity need also be looked into while planning such settlements. Planned RRTS network would open up both the directions and private sector involvement could also be looked into with provision of TDR & high FAR to save government from large expenditures involved.

4.1.3 **Dr. Sekhar Bonu, Director General (DG), Development Monitoring and Evaluation Office (DMEO), NITI Ayog** shared many important points which included the following:

- South Asian urbanization is different. It is very weak compared to East Asian countries. **Urbanization is agglomeration and basic driver of future growth.**
- NCR is going to be largest urban agglomeration in the world soon. To some extent **NCRPB planning exercises and massive infrastructure investment in NCR have contributed to the massive growth.** NCR has overtaken Mumbai. **The plan has to take care of growth.**
- **NCR will be one of the most important economic growth engines over the next 40 years.** It **will attract huge number of migrants**. It is very timely one should refer 'The Economist', which talks about mistakes done in housing sector. Migrants will need place to stay as they are important for economic growth. So idea is , **it is not ownership housing but a rental market.** It talks about **need for shifting housing to rental mode**.
- There has been a catastrophic failure here as the markets have failed in catering to the needs of the bottom of the pyramid. Cost optimization is important.
- One cannot anticipate how market is going to respond. **Government should create a grid like Manhattan and let market decide how it wants to stimulate growth**.

Looking into what has happened in the last 20 years based on various regulations and how much has it costed in terms of economic growth, could give a way forward.

- Housing & Zoning is a serious political issue that needs to be addressed. **Urban areas generated close to 70% of resources but not much of that is going back to ULBs**. **Hardly 1% of GDP is spent by ULB** whereas **in other countries it is 10%.** Lack of revenue disables the institutions to work effectively. There are some outstanding example of Tamil Nadu, even NCRPB has addressed doing plan for massive areas and providing soft loans. The soft money is going into sectors which are capable. Need to address the issue of public infrastructure which means building huge capabilities at state and city level.
- **In Maharashtra, MMRDA, SIDCO built around land pooling,** Gujarat has done the same in last 40 years. **If people can trust the government or scheme, they will volunteer.**
- **Regulation and zoning has to be relaxed a bit. Transit oriented development is critical**. We have metro and RRTS coming through. May be **integrated planning around RRTS and providing through regulation and subsidised land spaces for inclusive housing** could be seen.
- Next plan should anticipate the housing needs. **Need to see how zoning can help people to afford incentivize ownership housing.** This is a policy challenge. Capabilities are extremely low. **Even in multilateral system people do not want to invest in urban**.
- **NCRPB should also think to scale up and invest more on project development and support local bodies for developing projects and making sure that it is properly executed and also that built assets are maintained.**

4.2 **Session-II** was on – Regional Planning and housing initiatives.

4.2.1 **Smt. D. Thara, Joint Secretary, AMRUT, MoHUA** shared her valuable points during the session. Some key points are as below:

- In Urban agglomeration planning for housing, we are getting which is already existing and one has to **adapt to the existing realities**. Delhi has slums as necessary affordable housing was not available for them and encroachments could not be controlled. So need to work within the existing brown field cities.
- Regional Planning is composed set of overall planning. A City will work only if there is economic activity around it. To understand the economic nerve of the place we should understand villages. **Identify, where are the intense economic activity clusters**. It is not about providing housing but **providing housing for the relevant sections of the people** that is important**.**
- **Land planning to go with transport planning and water planning.**
- One should not apply same principle to all cities. We have to understand there is **different treatment to be given to different areas**.
- **Do not try and regulate private space and government space.** Planning is as important as understanding the dynamics of enforcement. We have urban land which is very precious.
- If planners say only 30% coverage is there then just define what has to be done? We need to **promote affordable housing** & **focus on safety of the citizens** on priority. The smaller the road is, the more is interaction with people, bigger roads no interaction.

Provide spaces for small bins, CCTV cameras, etc. There is **need for Improving accountability in housing sector.**

- The inbuilt industrial structures it also need to be taken care of. **While considering densification in city, need to look into densified matching infrastructure and matching governance as well.** There should be good practical and inbuilt system of O&M working or rules should provide for that. Densification clod be given along the corridors.
- **While developing EWS housing, public places are to be well thought of, ensuring that they have small developments. Alongside, water bodies, there should be a plan how to develop, augment and beautify water bodies**.
- Along with Urban areas, affordable housing is also required in peri-urban areas and the same needs to be planned for. Some villages are vibrant and planning for village peripheries is important. **During planning process, SOP and the plan should be linked together.**
- **An exercise by ULBs to** identify the slums and arrive at land required for rehabilitation of slums could be carried out and initiatives taken accordingly.
- In Regional plan 'housing' be taken as core issue and accordingly, the housing parameters need to be planned. **Affordable housing should be complemented, it should be next to the transit.**

4.2.2 Shri Shankar Deshpande, CTP, Mumbai Metropolitan Region Development Authority (MMRDA) while making his presentation on Housing Infrastructure and Zoning Regulations, shared the following aspects:

- **Urbanization – Share of Urban Population in India**
  - Urban Population: **377 million (31.2%) – 2nd largest in world and** Expected to increase by another **53% by 2050**
  - **46** -Million Plus cities - Projected million plus cities by 2030: **68**
  - **25%** of the Total Urban population in India lives **8 Metropolitan Cities**
  - Mumbai and Kolkata – Stagnant growth
  - Contribution of Tier 2 Cities - Increasing
- **Broad Housing Scenario**
  - 1950 - Government initiatives on housing and urban development
  - 1970 - HUDCO setup to provide affordable housing
  - 1976 - ULC Act for providing urban land to LIG
  - 1988 - First National housing policy announced
  - 1994- Revised NHP to increase supply land
  - 1998 - Housing and habitat policy- Shelter for all
  - 2007 - Goal of "Affordable 1950 - Government initiatives on housing and urban development
  - Pradhan Mantri Awas Yojna "Housing for all" mission is at the core to achieve India's urban aspirations
- **Housing Challenges of Mumbai Metropolitan Region (MMR)**
  - Slums-27% Slum Households(79% of which in Gr. Mumbai)
  - Unauthorized-Large Unauthorised Developments on city periphery
  - Vacant-11% of total housing Stock
  - Cessed Buildings-20,000 $^{+}$ buildings 6,00,000 tenements

- Dilapidated Houses-2% Dilapidated houses

- Out of total **8.7 Million houses** in MMR, Almost **50%** of the households in MMR live in either slums, dilapidated houses or unauthorized houses indicating that a **major share of the population does not have access to formal, affordable housing of an acceptable standard**.
- **Development Control Regulations – Inclusive Housing**
  - Dharavi Rehabilitation Scheme - SRA
    - Asia's Largest Slum
    - The Dharavi Slum Redevelopment Project- cost around Rs. 22,000 Crore
    - Build around **59,000 Houses** - 350 square feet minimum area
    - 200 acres to rehabilitate residents and build commercial units,
    - 100 acres for a community garden
    - 300 acres will be for sale and commercial complexes
  - Redevelopment of BDD Chawls, Worli
    - Around **12000 Rehab Units, with** Carpet Area of 500 sqft per Unit
    - Free Sale Component to Subsidies the scheme
  - Housing Affordability in MMR
    - About **60%** of households in MMR have monthly income less than **Rs. 25,000/-**
    - Affordable houses – Houses priced between **Rs. 15-18 Lakh** (5 times the annual household income) i.e **< Rs. 4000** per sqft for a 320 sqft house
- Need for Development of Affordable housing in Peri-Urban Areas of MMR well connected with Transport Network but Transforming Transportation in MMR would require USD 68 billion
- Integrated Land use, Housing and Transport- Way Forward
- Efforts are on for **"**Transforming MMR into a world class metropolis with enhanced accessibility, mobility, connectivity, safety, environment and quality of travel"
- **Changes in Socio Economic and Travel Characteristics in MMR**
  - Metro Projects-**337 Kms, 14 Lines, Over 225 Stations, 12.75 mn daily ridership by 2031, Rs. 1.4 lakh Crores**
  - **Impact of Metro on Mode Split - Congestion Reduction in MMR**
  - **Impact of Comprehensive transport study (CTS) Network (with US$ 70 billion investment in 2 decades)**
    - Accessibility to public transport within 500 to 800 m to residents of MMR
    - Reduction in Co2 per annum
    - Reduction in Particulate Matter per annum
    - Trigger the development along infrastructure
    - Additional built-up space near transit stations – TOD opportunities
    - Increase in revenue from property tax, Development Charge, etc.
    - GDP increase to 0.5 trillion by 2031

  - **Benefits of Urban Transport Plan for MMR**
    - The implementation of 337 km Metro Network by 2031 will result into
      - Investments on Metro : Rs. 1,400 billion (Rs. 1.4 lac Crore)
      - Value of Time (VOT) and Vehicle Operating Cost (VOC) savings: Rs. 120 billion (Rs. 12000 Crore) per annum

    - Reduction in CO2 emissions: 12.6 lakhs tons
  - Mumbai Metro Master Plan
  - Mumbai Trans Harbour Link (MTHL) – 22.5 Km Sea link)
  - Virar Alibaug Multi Modal Corridor (128 Kms, Cost: Rs. 20,000 crores)
  - Mumbai Monorail (Chembur to Sant Gadge Maharaj Chowk
  - Multi-modal Transport Hub, Mumbai
  - **Transit Oriented Development:** GoM/MMRDA is contemplating to take **Transit Oriented Development (TOD) initiatives through MMRDA along the proposed metro lines** with following objectives:
    - To integrate land-use and transport
    - To promote public transport
    - To make TOD as source of revenue generation
    - To make sustainable communities

4.2.3 **Shri K. Srinivas, Director Planning, Hyderabad Metropolitan Development Authority (HMDA),** Hyderabad shared following views:

- Hyderabad, the city of pearls has a Metropolitan region is created in 2009 with 39 municipalities. **Hyderabad Metropolitan Region** (HMR) came into existence in 2008 under the Hyderabad Metropolitan Development Authority Act 2008 dully merging the following:
  - Hyderabad Urban Development Authority (HUDA),
  - Cyberabad Development Authority (CDA),
  - Hyderabad Airport Development Authority (HADA) &
  - Buddha Purnima Project Authority (BPPA).
- The HMR jurisdiction covers 70 Mandals in 7 Districts covered by GHMC, 29 Municipalities, 6 Municipal Corporations & 1 Nagar Panchayats Jurisdiction - 7257 Sq. Kms.

- **Proposed Urban Nodes (Residential-R2)**
  - Identified second order development centers - 13 urban nodes spatially in all directions of HMR and have the potential to grow.
  - Developments are scattered all around the region -**interdependent on the urban growth pockets for work centers**.
  - Higher levels of facilities - health, education, finance are proposed in the growth pockets.

- **Proposed Urban Centers (Residential-R3)**
  - Identified 3rd order development as 46 urban centres - spatially which have potential to grow.
  - Scattered all around the region and are interdependent on work centers.
  - Higher levels of facilities - health, education, and finance can be proposed in these centers.
  - Allowed to grow independently ensuring better regional connectivity.
  - Settlements which are in close vicinity are clubbed together to form urban centre.

- **Proposed Transit Oriented Growth Corridors**
  - **Identified 13 Transit Oriented Development**
    - Designed to create connections between communities
    - Transit system – encourage walking, cycling instead of creating dependence on automobiles.
    - Pedestrian-oriented – reduce use of personalized vehicles and use mass transit more often -bicycle friendly
    - Transit stop - a center of activity
    - Easily accessible via all modes of transportation
    - Provides adequate amenities and open spaces for the linear city
    - Extremely efficient with respect to community

- **Proposed Contiguous Urban Area (Residential-R1)**
  - Urban areas contiguous to growth corridor :
    - First order development area which focuses on development and concentration.
    - Residential Zone falling - contiguous outside Growth Corridor,
    - Detailed planning of roads, urban use zones are proposed.
    - All the village settlements (Gramkantham) - are assigned as Residential Zone-4.
    - An additional 300 M wide belt outside the gramkhantam boundary shall be considered as Residential Zone-4 for Natural Expansion
    - To cater the natural expansion of settlements, except in Bio Conservation Zone.

- **Proposed Peri-Urban Use Zone**
  - **Earmarked as a belt of about 1 Km to 1.5 Km all along the Urban Areas Contiguous to ORRGC and Urban Nodes**
  - Acts as a continuum between Urbanizable and rural areas.
  - **Low intense activities with less ground coverage is permissible.**
  - Residential Use is allowed with ground coverage not exceeding 25% with 15 Mtrs & 18 Mtrs height restriction for Residential and Non-Residential uses respectively.
  - Transition space between the urban growth pocket and the rural areas.
  - Helps in controlling the urban sprawl.

- **Proposed Conservation Use Zone**
  - **Conservation use zone:** Area beyond the Peri-Urban Use zone which is almost all over the remaining area of the HMR is earmarked as Conservation (Agriculture) Use Zone

  - **Open space buffer (around foreshore of water bodies):**
    - No construction permitted in Open Space Buffer (buffer belt of minimum 30 meters around the FTL of existing water bodies),
    - Except for fishing, boating, and picnics along the banks provided - only construction allowed is open to sky jetties for boating, fishing platforms .
  - **Bio Conservation Use Zone**

- Restoration/protection of the 2 Reservoirs – Osmansagar & Himayathsagar and its catchment areas - through G.O.111 - by earmarking the areas as Bio Conservation use zone
- No construction activity is allowed in Bio conservation Use Zone except farming.

- **Water bodies:**
  - No construction is permitted in water body zone
  - No building/ development activity shall be allowed in the bed of water bodies and in FTL
  - The water bodies and courses shall be maintained as recreational/Green buffer zone, and no building activity other than recreational use shall be carried out within
    I. 30 meters from the boundary of Lakes of area 10 Ha and above;
    II. 9 meters from the boundary of lakes of area less than 10 Ha / kuntas / shikam lands
    III. 9 meters from the boundaries of Canal, Vagu, etc.
    IV. 2 meters from the defined boundary of Nala.
- **Terminals:**
  - Development of Integrated Freight & Passenger Terminals
  - Passenger Terminals - 2 (Manoharabad, Edulanagulapalli);
  - Freight Terminals - 1 (Ravulapalli);
  - Passenger cum Freight Terminals - 2 (Timmapur, Bhuvanagiri)
- **Logistic Hubs**
  - Development of 12 Logistic Hubs: (Edulabad; Somaram; Munirabad; Kollur; Koheda; Hamedullanagar, Rasheedguda, Gollapally Kalan; Aushapur; Mangalpally; Thimmapur; Batasingaram; Rudraram; Fatepur)
  - Proposed **Logistic Hubs and Transportation terminals** – Forecasting the future threshold.

- **Other important aspects**
  - Circulation Network -**Regional Ring Road** Connecting the radial roads from ORR
  - **Transit Oriented Growth Centers** along the ORRGC- enhancing multiple use zone.
  - Rural Urban Continuum with **Peri urban Use Zone**
  - Urban services boundary- Identification of **Urban nodes & Urban Centers**
  - **Environmentally suitable development** – Protecting Natural Resources (Water bodies, Forests, Heritage Buildings & Precincts, Defense / Military lands) by taking measures .
  - Conserving the 2 major reservoirs for HMR - Catchment Area Preservation Regulation - **GO 111 covering 84 villages with Bio conservation Use Zone**
  - No FSI in Hyderabad – maintained through Setbacks, Building heights,accesse roads and **Proposed land use Zoning Regulations.**
  - Climate Change and Energy Efficiency Policy

4.2.4 **Shri Jignesh Mehta, Center for Environmental Planning and Technology (CEPT).** Ahmedabad while sharing his views on planning and housing brought out the following points:

- From Panning Point of View:
    - Integration of land use and Transport Plan
    - **Differential FSI- delinking FSI and zones for transit corridor and heritage conservation needs- in clear demarcated areas**
    - **Promotion rather than regulation**- Shell defining and allowing increased freedom of design and planning
    - Increasing efficiency in Land Utilization
    - Promote Affordable Housing
    - Focus on **Safety for Citizens**
    - Improving **Accountability in Housing Sector**
    - Conservation of Green Area

- Planning a region is not same as planning a city. **Need to think of framework and not really plan**. NCR region is following the similar pattern.
    - First need is to identify the infrastructure. Framework would also include some policies. **Ultimately the land-use decisions are taken by ULB**.

- The Plan will have to play two roles,
    - **Robust enough so that it can preserve, conserve for the future in long term.**
    - **Space, land for road infrastructure, the land for conserving the green spaces, forests.**

- Latin American cities they are sprawling. In 1970, Manhattan was a small settlement. Identifying land for street network and open spaces was the challenge. Similar pattern was followed by Barcelona. We need to look at those examples.
- When it comes to the land development, there are **four different kind of land planning in India**.
    - First is, all your cities which are growing laissez-faire need planning. There are lot of cities in UP. Some cities have good Master Plan and Development Plan. On macro level plan, the micro level development is laissez-faire. Authorities continue to give permission as and when developer comes. They are not thinking about smaller cities.
    - Master Plan zonal plan model has been followed by Delhi. Master Plan is a macro level plan and zonal plan which is detailed Master Plan. **Delhi model is conceived as acquisition-based model.** Now it has been realized to shift from acquisition base. Since 1950, lot of the other cities in MP & UP and Jaipur they are following Delhi based model.
    - There is **next model which is development plan** and then we **make town level schemes not based on acquisition but based on land pooling.** This is what cities in Gujarat and Maharashtra is following. It creates win-win situation whether you have macro level plan or micro level plan.
    - In Gujarat, BPTP model in Magarpatta, it was a private model. In Magarpatta all the owners came on their own and develop.
- In Delhi developers come together to the Authority with the plan for approval. NCR is a region where we have diversity also the administrative authority. So as regional plan, how do we manage the land development? **Regional plan is more of Framework Plan**.

4.2.5 Views were also shared by Ms. Vasudha Thawakar, Senior Urban Specialist, World Bank, which included the following :

- Traditionally for urban areas master planning is focused. It is on pre-determined city area. When you talk about regional plan it is more about periphery areas.
- **Land is a central place in economic development as well as social transformation**. Serviced land is basic infrastructure, connection to transport and other basic facilities. Integration of transport, this needs to be done in the Master Plan or Regional Plan level. **Economist would argue that housing is private job. Government efforts to build houses always fall short.** Especially in India budgets are limited. Few complementary efforts can be taken.
- **Private party can come into housing but basic infrastructure has to be the responsibility of the government.** Periphery areas with roads, drainage and toilets etc. helps in leveraging private finance.
- Policy changes which can be considered
    - Housing is part of the system whether it is building bye-laws
    - Ways in which FSI etc. and other norms be defined so that private investment is leveraged
- In India large stock of vacant houses In-situ redevelopment slums are already in our cities that is informal settlements.
- City design needs to provide land rights. Overall even though there is lot of focus on using infrastructure some focus should be given to building up infrastructure.

Other suggestions which emerged during discussions included:

- Explore possibility of having a kind of flexible model for industrial estates, may be ownership model, affordable housing for workers by the industrial developer etc.
- In urban areas there is lot of pressure on the land and hence there is ownership of land concept. The incentive offered to the developer to surrender the land for them to come forward, is important.
- Need to use technology for protecting government land. Informal settlements come up wherever the land ownership is unclear.
- Service land should be developed together by the private and government. However, most of the Capex should still be the responsibility of the government. Private partnership could come in O&M

4.3 **Session-III** was related to 'Challenges & Strategies for Housing & Zoning Regulation in NCR'

4.3.1 Dr Manika Negi, GM, Consultancy and Planning Wing, HUDCO, on "Challenges and Strategies for Housing and Zoning Regulations" shared the following:

- The national urban housing policy has been talking of sustainable housing habitat having a symbiotic approach.
- **Guiding Principles**
    - **Housing being one of the necessities of life, n**eeds to be promoted in consonance with the SDGs and the NUA [Goal 11: Make cities inclusive, safe, resilient and sustainable]

- **Right** to adequate **housing** is a **fundamental right**
- **NUHHP 2007** promoting sustainable development of habitat in the country having **a symbiotic approach 'the Regional Planning approach'**
- **NUPF 2018:** integrated and coherent approach towards the future of urban planning that could be an Opportunity for course correction
- In addition, the national housing policy clearly articulate the difference between affordable and social housing
    - **Social Housing-** For these homes, full financing is made available to vulnerable segments of society that meets the eligibility criteria set up the govt.
    - **Affordable Housing-** Cost is benchmarked at rates deemed as 'affordable' by the government. These rates vary in accordance to the real income structure of the concerned area.

- **Issues and Challenges**
    - In wake of rapid urbanisation, requiring attention specific to housing in NCR would include:
    1. Migrant/ floating population, which if left unaccounted mars planned development 20%
    2. Housing ownership is prime in the NCR with 79.3% of self-owned housing and about 18.2 % is rented.
    3. Housing shortages in NCR is normally seen in the EWS and LIG categories with large inventory of vacant/ unsold houses in the affordable housing segment.
    4. NCR is a *rural-urban* region, as per Census 2011 NCR has huge number of vacant houses in NCR has housing shortage in rural areas.
- **Existing Scenario: Factors Instrumental**
    - Practicality of Affordable Housing
        - Housing affordability is a relative concept. Focus on EWS and LIG
        - Availability of Land : Location and Affordable Price.
        - Missing context specific solutions and service delivery configurations resulting in slowdown in absorption
    - Physical Planning Considerations
        - Initiatives reflect preceding land-use amendments: Bringing additional lands, allowing higher FAR and In-situ development of slums.
        - Exploitive land value / speculation
        - Land cost rationalisation: Lacking coordination and marketing policy.Need to plan ahead for future with broader planning intentions, seamless mobility and coordinated decision making
        - Data gaps Informed Policy based on demographic and economic aspects
    - Housing looked as a product not process
        - Requires commitment from stockholders from all.
        - Adequate housing not just Affordable housing required
- **Cultural Considerations - Intensive use of open spaces**
- **Affordability Consideration- Incremental Growth** Examples of LIG Demonstration Housing Project At Pimpri-Chinchwad Pimpri-Chinchwad New Town Development Authority (PCNTDA) & Housing Project For The Gas Tragedy Victims, Bhopal, Madhya Pradesh Housing Board (MPHB) were shared.

- **Responding to the needs of the end users:** Increase the happiness quotient and focus on Social Sustainability
- **Way Forward: Focused policies and programs/approaches**
    - Being a federal system **focus should be on policy**
    - **Prioritising the housing needs of the EWS and LIG section of the society in conjunction (not in isolation) with other initiatives addressing urban issues,**
    - Prioritising transformation areas, focusing on urban sprawl and fragmentation, duly considering the interplay of various other related initiatives. (Industrial workers, labour markets etc)
    - **Choice of land parcels for housing with due consideration to the land suitability/ vulnerability and development potential,** and,
    - Due consideration to upgrading of infrastructure at local and regional level to evolve a sustainable functional spatial order. (Eg- Minha Casa Minha Vida (MCMV), Access and Mobility: A Case for Transit-Oriented Low-Income Housing in Rio de Janeiro)
    - Plan to prevent from market forces impacting the development
    - HUDCO came up with low rise development for the Bhopal Gas victims.
- **In the light of prevailing housing issues, following is recommended :**
    - Focus on Urban Land and Urban Acupuncture Census towns
    - **Creation of land banks for the future requirements of EWS/LIG population** & ensuring its use for same, **considering land as a resource is short, land cost/affordability push this segment of the society to seek shelter in slums/Unauthorised**
    - Increase supply of affordable land by Proactively reserve land pockets
    - **Have an organised ecosystem for real estate and affordable housing with clarity on roles/responsibilities prior to creation of affordable housing stock**
    - Create **affordable densities**
    - Integrate existing informal settlements
    - **Refocus Social mission**
        - Investigate real preference for housing and to nurture collaboration with community to understand their hardships
        - Have context-specific solutions and service delivery configurations regulating competition and incentivising joint delivery of services to specific standards. Eg- Baan Makong (collective ownership), RWANDA (Clear difference between social and affordable)
    - **Have buyback options considering increase in affluence and aspirations**
    - **Build capacity to Collect Data for informed policy decision**
    - Data on demographic and economic aspects coupled with GIS
    - **Product Segmentation**
        - Allow people to have more choices, Emphasise housing options other than ownership housing. Built ownership housing is not the panacea. Promote Rental Housing (Rent to Own for improving access to housing for the society) Cooperative, Industrial Sector (for labour housing) and the Services/Institutional Sector (for employee housing)
    - **Ensure Housing Security and Adequacy**

- **Expected Outcome: Enable and Establish**
  - Better / desired housing output and check on land prices impacting affordability
  - Better coordination between service providers
  - Ensure project sustainability
  - Ensure cost matches the value attached to housing
  - Check proliferation of slums / unauthorised colonies and the need to legitimise these

4.3.2 **Shri Ashish Agnihotri, Joint Secretary, PHDCCI** while presented his views indicated the following:

- **Incentive Based Redevelopment Program**
  - Development of large integrated complexes with adequate infrastructure and services should be encouraged and facilitated through an Incentivized Redeveloped Programmed (IRP) for the old areas and an Incentivized Development Plan (IDP) for new areas. This can be achieved by giving suitable incentives coupled with provisioning of required infrastructure and services such as:
    - Green area sand waterbodies.
    - Parking and Traffic Circulation.
    - Water harvesting & Treatment and recycling of waste water.
    - Treatment of solid waste generated.
    - Walking Tracks for last mile connectivity from major transit hubs.
    - Playground and open spaces
    - Convenient shopping and other local services.
- **Suggestion/Proposal**
  - Incentive through Higher Floor Area Ratios (FAR) One of the most effective ways to encourage amalgamation/merger of smaller plots into large complexes is by way of granting higher FAR for larger plots through prescribing telescopic rates of FAR with increase in size of the complex.

- **Conceptual model for Public Private Partnership (PPP)**

  - **Concept A**
    - The arterial roads are at an interval of 1 km from each other which are connected through the system of sub-arteries and collector roads. The commercial districts on either side of arterial road are connected through subways, over ways and landscaped walkways forming an integrated urban system. These individual units of neighbourhood, work zone and amenities are integrated with each other by the help of open areas, pedestrian as well as vehicular collector roads.
  - **Concept B**
    - The arterial roads are at an interval of 2 km from each other which are connected through the system of sub-arteries and collector roads. The neighbourhood module is a self-sustaining complex with water treatment and Rainwater harvesting within the 120 acre area which proposes to meet the water demand of the 25000 population living in this complex.
- **Advantages of Integrated Development with Higher F.A.R:**
  - The Integrated development of individual dwelling units is conducive for better community interaction, efficient functioning of infrastructure facilities.

  - This will encourage lower ground coverage and thus large open areas utilizable for water bodies and wood lands.
  - Opportunity of integrating these neighborhood units with each other as well as the adjoining commercial belt will also help in reducing the transportation load.
- Available amenities and work place at a walking distance i.e. All these in a radius of 1 sq km around ones residential place, will entail the cut down of multiple cars ownership, transportation cost, traffic on roads, parking requirements.
- The zoning of land uses like residential, housing area parks and recreation, local shopping and commercial district segregates the pedestrian circulation from vehicular. This concept specifies reference modules which fit into each level of community hierarchy.
- Proposed neighborhood plans establishes the criteria of high F.A.R, high residential density, improved quality of life with better civic amenities, education and health facilities at walking distances, increased living area.

- **Preserving Sanctity of Industrial Areas in Delhi NCR**
  - ResidentialActivitiesshouldberestrictedarounddesignatedIndustrialAreas.
  - Buffer Zones around Industrial Areas should be closely monitored around industrial areas for unauthorized residential activities.
  - Manufacturing Sector should be given due importance during planning phase which may involve moderately polluting industry or MSME.
  - Incentives for providing Dormitories/Residential complexes within Industrial zones should be looked into.

4.3.3 Sharing his views on the matter, Shri P.K. Gupta, CEO & MD, National Building Code Corporation (NBCC) mentioned the following:

- Objective should be to make life easier for a common man, to create some richness in the society, and alongside, solve day to day problems within NCR region
- **Few suggestions in this regard would be:** :
  - While developing the area our **focus has been on creating residential area instead focus should have been on creation of employment first**. If this would been the case we would not have seen any residential lying vacant. People can go anywhere for employment but not for living.
  - **Focus should be on creating of infrastructure for employment, residences could come later on.**
  - While creating and developing any area, the focus should be on how that area will attract employment as that can help in decongesting the bigger cities.
  - Aspect of taking away employment out of Delhi could be explored as even in Delhi is facing mismanaged development. For marriages and banquet halls, whole of Delhi is looks at the outskirts of Delhi while some areas do not have commercial spaces.
  - For better planning, there is need to analyze the type of infrastructure deficiencies prevalent in a region and planning to be done accordingly and also local changes can be incorporated.
  - If the facilities are located at different places, transport requirement increases. Hence, plan should be such that it provides and permits for infrastructure deficiency in the area.

- Encourage public transport. Key issue of approachability and feeder services be looked into.
- Delhi NCR has adverse climate, so should **plan for covered walkway to the public transport.** And safety & security of women and commuters should be taken care.
- Development plan for cultural facilities, in future will become very important. Like in Delhi all cultural activity should not be concentrated in Mandi House area and more such avenues need to be there.
- Mixed development need be looked at as traditionally we have not been thinking of mixed development.
- Can have multi-story tower where in lower floors we can permit commercial activity and residential in upper floors
- As far as development within NCR is concerned, people are still coming in Delhi because of the industrial growth in and around Delhi. Commercial activity of all multinationals in Delhi and around needs to be controlled. An environment can be created so that these industries and multinationals can move to smaller cities.
- There is no policy by which they can acquire a large chunk of land. But the need is to provide for housing near to the center of activity or where they work.

4.4 **Session-IV** pertained to views from the NCR States.

4.4.1 Ms. Alka Arya, Director (Planning) DDA, Govt. of Delhi shared following views of DDA:

- Delhi Development Act clearly states the objective of the authority i.e "To promote and secure the development of Delhi according to the plan and for that purpose the Authority shall have the **power**
  to acquire, hold, manage and dispose of land and other property, to carry out building, engineering, mining and other operations to execute works for purposes of such development."
- In the Act itself it is mentioned DDA will acquire land in bulk and go for its development. Rohini, Narela, Dwarka could come due to this provision. However, it is difficult to acquire land & therefore the need to go for open land pooling. In pooling we have taken 60:40 ratios. 400 FAR could be enough. However, with the restriction of water supply, electricity and stakeholders' mass population, the FAR was reduced to 200. In Zone-M (North west part of Delhi) 70% of the accumulation of land is compulsory to qualify. DDA was kind of facilitator as it was felt that it is better for Government to facilitate rather than depending on private sector to come for housing, commercial and social infrastructure needs.
- Concept of TDR developed in the areas where it is difficult to acquire the land. First T&D project has recently announced Karkardoma project, where good housing schemes are being proposed.
- Another model for development, adopted was Redevelopment Model. Core areas of Delhi are getting older day by day and **about 40% of the housing demand can be catered within Delhi by redevelopment**.
- Redevelopment for cities like Delhi can have two important things first is to have an **optimal mix of volunteer redevelopment and mandatory redevelopment**. The second important component will be **incentivizing the redevelopment**. People may come for

redevelopment without having restriction of minimum area. The grid of comfortable walking unit can be at plot level also.

- Need handling of land as a commodity or a cultural resources type of development like Yamuna, Lutyens Zone etc. Low Density Residential Area (LDRA) would be a low intensity development like green belt areas of Delhi. **Both side of green belt need to be preserved**. Then implementation strategy should be planned.
- Delhi has almost 110 lakh population residing within core areas while urban extensions areas have 30 lakh population already. In 2021 plan, 42% of residential allocation in group housing. 55% urban poor will be catered 1 BHK or 2 BHK. Another issues is, how much residential supply is being accessed to which section?

4.4.2 Shri K. Makrand, Director General, T&CP, Govt. of Haryana presented views of Haryana w.r.t Housing Infrastructure & Zoning regulations. Key highlights are as follows:

- Haryana has the Policies to address the issue of affordable housing. Transport infrastructure has also been planned.
- In planning process, T&CP does activity of planning the land uses and regulating by way of licensing and granting change of land use permissions. The infrastructure part in these areas is done by HUDA. Required land acquisition is done by Urban Estate Department.
- ULB are different from T&CP. Particular areas are declared as Controlled areas as per act. It is **mandatory for the Government to prepare Development Plan of that area within one year.** The plan is prepared by town planners then submitted to Government and thereafter technical comments are requested from concerned District Level Authorities. After it is passed by the District Level Committees, it is sent to State Level Committees chaired by Chief Minister, and thereafter put up for suggestions and objections from the public. And then finally it is approved. When the plan is in place the licensing is done.
- There are some areas where individual want to have change of land use for their individual land. There are **different policies for the change of category of land.**
  In the agriculture we have restricted land use. Some category of education on particular approach road is allowed. The latest we have come up with affordable housing. *Deen Dayal Yojna* that is for affordable plot development. Government came up with 5 acre of land bank. We are hoping that it will get a good response. Haryana also has the Affordable Group Housing with cost ranging from 18-22 lakhs.
- Lot of efforts made by Haryana on conservation of the ponds which have now been mapped. There are provisions of density norms suggested by RP-2021. But while in Gannaur the minimum density norms is not being achieved, the maximum density norm is being exceeded in Gurgaon **The basic idea is to have every town with its own functionality.** The kind of density we require in *Gurgaon* may not be required in *Ganaur*. Flexibility of density has to be according to the town.
- **This should be either suggestive or there should be rephrasing that there is flexibility with the states as per their requirement**. It has some practical issues, if we restrict rules in the particular area, there will be sudden increase in land rates. So, it is bound to have a problem for us. There would be illegal colonization in that area wherever land rates are low in the private land. With NCZ, the issue which are creating bottlenecks for everybody may be taken into the plan but with proper delineation first. Plan should have enforceable concepts.

- Haryana is very small state. We have restriction along expressways and bypass. Restriction on either side ROW of 60 meter for NH, will create problem for Haryana. After Gurgaon when one enters small town, it is very difficult to provide 60 meter ROW. It may be seen if it could be reduced to 30 meters on both sides. Controlled areas form 27% parts of Haryana. Even outside controlled areas we have a Highway Corridor Zone as there is no regulation outside controlled areas. Outside controlled areas, there is lot of public resistance hence necessary amendments may be required.
- Zoning regulation of RP is prescribed for certain uses we cannot go beyond. Even our zoning regulation keep on changing based on the requirement. Every town has different zoning regulations. These are the main suggestion point. NCRPB can take on suggestive polices for all the participating states.

4.4.3 Sh. Mukesh Mittal, Senior Town Planner NCR Cell, Govt. of Rajasthan, Jaipur presented his views on behalf of Rajasthan state. . His pints include:

- NCR comprised of district *Alwar* and *Bharatpur* (Area – 13,447 sq.km 24.41% of total NCR) .
- Town planners always do work as per the demand and supply of the development and focus on areas that help to achieve the vision that is to promote growth in key sectors of industries, education and health.
- Vision for Rajasthan sub Region is "Rajasthan Sub-Region to have diversified & inclusive socioeconomic development based on its unique natural and manmade environment, achieving NCR's vision of promoting growth and balanced development of the National Capital Region".
- **Focus Areas**
  - Focus Areas to achieve the 'Vision' –
  - Promote growth on key sectors :
    - Industries,
    - Education and Health,
    - Housing,
    - Heritage and tourism,
  - Balanced settlement hierarchy.
  - Provide safe, reliable and efficient multi-modal transportation network. –
  - Provide adequate basic services & access.
  - Protect and conserve environment.
- **Housing Demand and Supply**
  - Shortage of 68,627 houses in rural areas of RSR
  - Surplus of 24,902 houses in urban area of RSR
- **Urban Housing**
  - Need for 2.76 lakh DUs till 2021 & is 2.97 lakh DUs till 2031.
  - Land requirement for development of housing is 8972 Ha. in 2021 & is 9758 Ha in 2031.
- **Currently enforce is the Rajasthan Township Policy 2010**
- **Chief Minister's Jan Avas Yojna-2015:** New policy has been prepared after review of existing policy and incorporating learnings from the past experiences, feedback from various stakeholders and new policy initiatives by the Government of India. This policy is named as "Chief Minister's Jan Avas Yojna-2015".

- Zoning is the way the Authority controls the physical development of land and the kind of uses to which each individual property may be put. Zoning regulations typically specify the areas in which residential, industrial, recreational or commercial activities may take place.
    - Besides restricting the uses that can be made of land and buildings, zoning regulation also may regulate the dimensional requirements for lots and for buildings on property located within the town according to the density of development.
    - Some zoning ordinances also regulate the extraction of natural resources from land within the zoned area, others provide space for hospitals, parks, schools, and open space and still others protect places of historical significance within the community.
    - The Development Promotion and Control Regulations will act as a mechanism to grant use premises permissions to the users and also to control the development to achieve planned growth.
    - The Development Promotion Control Regulation introduced to user flexible approach in dealing the use premises level. It provides for simplified planning parameters and norms. It also helps in drawing mechanism for plan implementation.

4.4.4 **Shri Rajesh Prakash, Additional Commissioner, NCR Planning & Monitoring Cell, Govt. of Uttar Pradesh** while sharing his views mentioned the following:

- As per RP, SRP should be in conformity with the Regional Plan. Further local plan should be in conformity with the SRP. What happens is that NCR plan has been made and due to rather negligence there are some deviations in SRP.
- Comparison of Regional Plan and Sub regional Plan, indicates that there are deviations, but, so far as zoning is concerned, it is felt that the State Government and Local Authorities must be given cushion.
- When the SRP is made there are very likelihood of abrasion and deviation. When we make such big plan, we must ensure that all the state governments and all the stake holders are already on Board.
- NCZ provision should be drafted in such language that it should be able to cope up with the problem. The **state government does not have machinery to enforce** and it is also unethical.
- There is no provision to stop a land owner in NCZ say farmer, to build structures, and this aspect needs to be addressed.
- Difficulties persist in regulating the private land

4.4.5 **Shri Balvinder Kumar, Hon'ble Member, UPRERA & Ex- VC, DDA** also shared his valuable views which included the following:

- If we see in a broad way, Delhi has a very conservative planning. DDA is a massive planning body. Pure bureaucratic no radical thinking in Delhi that is why we are facing all the problems which any big city can face.
- Massive area population and the problem in unauthorized colonies. We are **not doing anything regarding illegal pockets**. Recently government has announced authorizing illegal colonies.
- Land pooling policy, was looked into as a way to have land for future development. Earlier proposal of 400 FAR later reduced to 200.

- Introduced TOD policy suggesting high rise building should come along the metro lines. Redevelopment plan for redevelopment of all unauthorized colonies was also introduced. But despite all these three polices, nothing has happened. Delhi is not used to radical kind of planning.
- UP has excellent development as far as green areas are concerned. UP fails on two accounts. We have **very defective land acquisition policy** leading to lots of litigation court cases. Housing projects were delayed. There was **defective land allotment policy and land acquisition policy**.
- **Haryana have land allotment policy but they failed miserably on traffic**. Overall they are far better placed as compared to UP and Delhi. While Plans are prepared with great intentions, problem arises when plan implementing is initiated.
- In India, planning is extremely difficult. **90% of time, we failed in executing the plan**.
- **NCRPB can take care of bigger issues and also to share best practices among these four States**. Circulate these best polices among different states and seek their comments.
- **It may be seen if land acquisition policies of Haryana could also be** implemented in UP. Now the time has come we **should do some radical thinking and how to address problems which we have created in the past**. **Until & unless there is some very attractive redevelopment policies, these illegal pockets will continue to exist for infinite period**.
- It is very **necessary to have redevelopment of illegal colonies**. Attractive policy should be designed to take care of problems of land acquisition, air pollution, unauthorized colonies, and signs of global warning.
- **Rather than going for environmental audit we should go for CO2 audit**. Need to evaluate effect of all actions in terms of impact /add more on the global warming or not.
- **Green areas should be taken care of**. This is the most important thing we must address in the RP-2041.
- The focus should be to **connect all residential area to nature**. Because in future massive migration is expected in this place. In India people move from rural area to urban area. For last 10 years, we have not seen the reverse of migration.
- Board must circulate the best practices among the different states and seek their comments. It needs to be seen if building norms can be made applicable to *Lal dora* as currently, anybody can construct anything and no policy appears to be in place within village.

5 Conclusion

Hence, it could be concluded that a lot can be done in the Housing sector, with emerging policy interventions in zoning and changing requirements of owning to renting housing. NCR needs to adequately take into consideration the related issues and potential of NCR and address all related aspects keeping the future problems as well as potentials, in mind.

NCR could look to have housing as per economic potential and employment possibilities of sub regions and its towns. The interrelated aspects of Skill development, involvement technology, Corporate Houses etc. well as other private sector, deliberated in detail during workshop, should be considered while drafting the sector related policies for the region. The plan for 2041 need to

carefully address all aspects, aspirations and requirements, indicated and brought out for the Housing infrastructure and Zoning Regulations and thereby take into consideration views of maximum stakeholders as possible.

List of participants for the workshop on Housing Infrastructure and Zoning Regulations held on 22.01.2020

S.No.	Name, Designation & Organization
1.	Ms. Vasudha Thawakar, Sr. Urban Specialist, World Bank
2.	Sh. S. K. Singhal, CE(Hq), RHB, Jaipur
3.	Sh. R.D. Gupta, Dy. H.C., Kota, RHB, Jaipur
4.	Sh. Anand Kishore,B.I., Municipal Corporation, Sonipat
5.	Sh. Mukesh Mittal, STP, NCR Cell, Rajasthan
6.	Sh. Chintan Raj, Chief Programme Manager, Russian Mission, Ministry of Rural Development
7.	Sh. P.C. Sharma, Executive Engineer, Muzaffarnagar Development Authority, Muzaffarnagar
8.	Ms. Honey, Architect, DUSIB
9.	Sh. M. Sasi Kumar, General Manager, NBCC
10.	Sh. Amresh Passi, AVP, Corporate Strategy, M3M India Pvt. Ltd., Gurgram
11.	Sh. Biswajit Banerjee, Joint Secretary, Ministry of Rural Development
12.	Ms. Meena Bhargava, GM (Plg.), YEIDA
13.	Sh. V.K. Dalela, ACTP (W), Town Planning Department, Jaipur
14.	Sh. S. Dandwate, ACTP (E), Town Planning Department, Jaipur
15.	Sh. Vivek Beniwal, Municipal Engineer, MC, Jhajjar
16.	Ms. Archana Sharma, Associate Planner, NCR Cell, UP
17.	Ms. Jayashree Kurup, Magicbricks, FCG, NOIDA
18.	Sh. Rajesh Shukla, Manager, Architect, Hindustan Pre-Fab Ltd (HPL), New Delhi-14
19.	Sh. Ramesh Kumar Sharma, Executive Engineer, Municipal Engineer, Sonepat
20.	Sh.N.P. Aggarwal, Sr. Executive Director, NBCC (I) Ltd.
21.	Sh. Rajesh Prakash, Additional Commissioner, NCR Cell, UP
22.	Ms. Maya Krishnan G. IIT-Delhi
23.	Ms. Rashmi Bhardwaj, Dy. Chief, DMRC
24.	Sh.Rajeev Ratan Shah, Town Planner, GDA Ghaziabad
25.	Col. Prithvi Nath, DG, NAREDCO, Haryana
26.	Sh. P. Selvadurai, Director, AMDA

S.No.	Name, Designation & Organization
27.	Sh. Gaurav Jain, Admn. Officer, AMDA
28.	Ms. Sandya Rao, IIT-Delhi
29.	Sh. Mohita Jain, Accounts Officer, AMDA
30.	Sh. Arvind Kumar, SDO, Housing Board, Haryana
31.	Sh. Jignesh Mehta, Progam Chair FP CEPT University
32.	Dr. Shailesh Kr. Agrawal, Executive Director, BMPTC, MoHUA
33.	Sh. Pankaj Gupta, Dy. Chief, BMPTC, MoHUA
34.	Sh. Ishitiyak Ahmed, CTP, MDA, Meerut
35.	Dr. PSN Rao, Director, SPA-Delhi
36.	Sh. W. Sukhabir Singh, SM (P), GNIDA
37.	Sh. Vishal Goyal, DGM, NHB
38.	Ms. Anjali Pancholy, Associate TCP, TCPO
39.	Sh. PP Singh, Senior Town Planner, o/o DTCP, Haryana
40.	Sh. Manish Sagar, SE, Housing, DSIIDC, Delhi
41.	Sh. S.C. Deshpande, Chief MMRDA
42.	Sh. Ashok Patni, VC, RAJREDCO
43.	Sh. Manish Yadav, JE, MC, Ateli Mandi, ULB
44.	Sh. C.B. Dandekar, MMRDA
45.	Sh. Anand Pancholia, MMRDA
46.	Ms. Reeta Meena, ATP, North DMC
47.	Sh. Raman Kumar Singh, Urban Planner, NIUA
48.	Ms. Aiman Naseem, Planning Assistant, DDA
49.	Ms. Swati Sharma, Future Institute, Jasola, New Delhi
50.	Ms. Shatakshi Suman, BEE, MoP, New Delhi
51.	Sh. Reginald J. Sinclair, CREDAI
52.	Sh. Vikas Bhagchandka, MD-M2K Developers
53.	Ms. Rachna, ASO, NCR Cell, UP
54.	Ms. Bhawana, Planning Assistant, NCR Cell, UP.

S.No.	Name, Designation & Organization
55.	Sh. Ravindra Kumar, Addl. Stat. Officer, Meerut
56.	Sh. Udit Ratan, T&CP, TCPO
57.	Sh. K. Makrund, DG, T&CP, Haryana
58.	Sh. Jai Dev Sharma, ME,MC, Taraori
59.	Sh. N.K. Ramesh, Deputy Planner, CMDA, Ch-8
60.	Sh. Pramod Kumar Tomar, SE (F/5), PWD, GNCT-Delhi
61.	Sh. S.K. Mahajan, CE, DUSIB
62.	Ms. Debarpita Roy, Fellow ICRIER
63.	Sh. Mohd. Haroon, JE, HPDA, Hapur
64.	Sh. Probhat Paul, ATP, HPDA, Hapur
65.	Sh. Prem Singh, Bharatpur
66.	Ms. Neha Verma, Future Institute, Delhi
67.	Sh. Naresh Kumar, ,DTP, T&CP, Faridabad, Haryana
68.	Ms. Surekha Yadav, ATCP, TCP, Gurugram
69.	Sh. Pawan Sharma, Research Associate, NIUA
70.	Sh. Rohit Malik, NAREDCO
71.	Sh. K. Srinivas, Director, Planning, HMDA
72.	Sh. K. Vikas, Planning Officer, HMDA
73.	Dr. Manika Negi, GM, HUDCO, Delhi
74.	Ms. Mutum Chaobioana, Sector Coordinator NIUA
75.	Sh. Ramesh Chand, DTP (E), Faridabad
76.	Sh. Bhupinder Singh, CEO, CGEWHO
77.	Sh. P. Miraj, PO (BSUD), UD Department, GNCT-Delhi
78.	Sh. Anil Malik, ATP, o/o. STP, Faridabad, TCP, Deptt. Haryana
79.	Sh. Rajender T Sharma, District Town Planner, Muh & Palwal
80.	Sh. Rohan Anand, Director, JLL
81.	Ms. Dhriti Jade, RA, NIUA
82.	Sh. P.R. Beniwal, Sr. Town Planner, DMIC, Jaipur

S.No.	Name, Designation & Organization
83.	Ms. Shilpi Madhawat, Research Associate, MPMR Unit, DDA
84.	Sh. Uttam K. Roy, Assistant Professor, IIT, Roorkee
85.	Sh. Shri Ram, Assistant Director, GNCT-Delhi
86.	Sh. Vinod Kumar Chauhan, Executive Engineer, UIT, Bharatpur
87.	Sh. Dinesh Arora, AE, DUSIB
88.	Sh. Lalit Bhandari, DTP, JDA, Jaipur
89.	Sh. Sanjay Sharma, SE, JDA, Jaipur
90.	Ms. D. Thara, Joint Secretary, AMRUT, MoHUA
91.	Sh. Musolani, ULB, Chandigarh
92.	Sh. Dilip Singh, Urban Planner, MC, Modinagar, Ghaziabad
93.	Sh. V K Goyal, CCP, NCR Cell, Haryana
94.	Ms. Babita, DTP, NCR Cell, Haryana
95.	Sh. Om Prakash, ATP, NCR Cell, Haryana
96.	Ms. Divya, ATP, T&CP, NCR Cell, Haryana
97.	Sh. Angad Singh, JE, HPDA, Hapur
98.	Ms. Alka Arya, Director, Planning, DDA
99.	Sh. G.S. Rawat, Joint Director, GNCT-Delhi
100.	Sh. Joginder, Urban Planner, NPP, Shamli
101.	Sh. Sachin Kumar, JE, Nagar Palika Parishad, Sikendrabad,
102.	Sh. Pramod Kumar Sharma, AE, HPDA, Hapur
103.	Sh. Ashish Agnihotri, Joint Secretary, PHD, CCI, Delhi
104.	Sh. R.K. Gupta, CMD, NBCC
105.	Sh. Ram Babu Mathur, PS, Director
106.	Sh. Manvender Singh, Joint Director, Bharatpur
107.	Ms. Meera M.L., Research Associate, ICRIER,
108.	Sh. Balvinder Kumar, Hon'ble Member, UPRERA
109.	Sh. M.P. Singh, DPE

Annexure-I

HOUSING INFRASTRUCTURE AND ZONING REGULATIONS
Date: 22.01.2020
Venue: Scope Convention Centre, New Delhi

S. No.	Topics	Speakers
Session I: Inaugural session- Vision for NCR 2041		
Chair: Dr. Sekhar Bonu, DG, DMEO, NITI Ayog		
1.	Welcome address	Shri Satish Prashar, Chief Regional Planner, National Capital Region Planning Board
2.	Housing Infrastructure and Zoning Regulations- Vision for NCR 2041	Shri Biswajit Banerjee, Joint Secretary, Rural Development
3.		Prof. P S N Rao, Director, School of Planning and Architecture, Delhi
4.		Dr. Sekhar Bonu, DG, DMEO, NITI Ayog
Tea Break		
Session II: Experiences from Regional Planning & Housing Initiatives		
Chair: Smt. D. Thara, JS, AMRUT, MoHUA		
Co-Chair: Prof. P S N Rao, Director, SPA Delhi		
5.	Experiences from Regional Planning & Housing Initiatives	Smt. D. Thara, JS, AMRUT, MoHUA
6.		Shri Shankar Deshpande, CTP, MMRDA, Mumbai
7.		Shri K. Srinivas, Director Planning, HMDA, Hyderabad
8.		Prof. Jignesh Mehta, Assistant professor, CEPT Ahmedabad
9.		Ms. Vasudha Thawakar, Senior Urban Specialist, World Bank
10.		Prof. P S N Rao, Director, SPA Delhi
Lunch		
Session III: Challenges & Strategies for Housing & Zoning Regulation in NCR		

S. No.	Topics	Speakers
Chair : Shri P.K. Gupta, CEO & MD, National Buildings Construction Corporation Limited		
11.	Challenges & Strategies for Housing & Zoning Regulation	Shri P.K. Gupta, CEO & MD, National Buildings Construction Corporation Limited
12.		Smt. Manika Negi, GM (C&P) Housing and Urban Development Corporation Ltd.
13.		Shri Ashish Agnihotri, PHD CCI (also on behalf of CREDAI)
Session IV: Perspectives by NCR States		
Chair: Shri Balvinder Kumar, Member UP RERA		
14.	Perspectives of NCR states on Housing Infrastructure and Zoning Regulations	Shri Balvinder Kumar, Member UP RERA
15.		**Govt. of Delhi**: Smt Alka Arya, Director Planning, Delhi Development Authority
16.		**Govt. of Haryana**: Shri K Makrand, DG TCP Department
17.		**Govt. of Rajasthan**: Shri Mukesh Mittal, Senior Town Planner
18.		**Govt. of Uttar Pradesh**: Shri Rajesh Prakash, Add. Commissioner NCR Cell
19.	Vote of Thanks	Shri Jagdish Parwani, Director (A&F), National Capital Region Planning Board

Workshop Title: **Implementation Strategies**

Date: **24.01.20 (Friday)**

Venue: **Jacaranda Hall, IHC, New Delhi**

Brief Minutes of the Stakeholders Workshop on 'Implementation Strategies' held on 24.01.2020 at India Habitat Centre, for preparation of RP-2041 for NCR

1) Workshop on "Implementation Strategies" was held on 24th January, 2020 for Preparation of Regional Plan-2041-for NCR at Jacaranda Hall, IHC, New Delhi. The workshop was divided into various sessions to cover the major topics under the subject. The list of participants is enclosed.
2) The main topics discussed during the Stakeholder's Workshop includes (i) Challenges & Strategies for Implementation of NCR 2041 (ii) Perspectives on Implementation Strategies for NCR 2041 and (iii) Perspectives of Governments of NCR States.
3) The Workshop had speakers & participants from different Central & State, International Agencies, Practitioners & Consulting Organizations, Industries, Knowledge Institutions, NGOs, etc. Some of the major speakers & participants includes Shri Shankar Aggarwal, Ex-Secretary, MoHUA; Dr. Christoph Kessler, Country Head, KfW; Shri O.P. Mathur, Former Director, NIUA; Shri Parag Gupta, Advisor, Niti Ayog; V.C, GDA; PHDCCI; DG & CEO, CREDAI; Director, PWC, Prof. Arindam Biswas, Arch. & Plg., IIT (R); Ex-CTP, Chennai MDA; Prof. K.K. Pandey, IIPA; CEO, Feedback Infra; CEO, World Research Institute; Special Secretary, GNCTD; Dy. Director, Directorate Economics& Statistics, Rajasthan; Dr. S.K. Kulshrestha, Regional Planning Expert, etc. amongst others. The list of speakers is placed at **Annexure-I**.
4) Session wise proceedings/ record of decisions are as under:

4.1 SESSION-I was the Inaugural Session chaired Shri P K Sarangi. Commissioner, NCR Cell Uttar Pradesh. The views & suggestions of speakers are summarized as under:

4.1.1 Dr. Christoph Kessler, Country Head, KfW

i) KfW is the provincial bank of federal bank of Germany established in 1943 having headquarters in Frankfurt. KfW is not doing retail banking and the third largest bank. It is mainly promoting Germany and Europe economy by funding of municipal infrastructure. 1/3rd of KfW is for international funding. **KfW have the mandate to work with public sector entities and in India it has presence for more than 60 years** with current portfolio of about 1.0 billion Euros, KfW.

ii) Key areas of cooperation with the Indian Government and several public sector entities are mainly in three focal areas,
   - Energy (access to energy, renewable energy, energy efficiency)
   - Sustainable Urban Development (infrastructure, mobility)
   - Natural Resource Management (Forestry, Ecological Agriculture)

iii) KfW grant funds especially from money coming from German taxpayers to provide customers with soft loans and promotional loans of kfW are at quite affordable rates.

iv) **Financing for Plan 2041**
   a) **Detailed Feasibility Report**-Adherence to Timelines Technical & Financial Feasibility
   b) **Climate Orientation in Planning & Implementation**-Sustainability of Project International Environment & Social Standards
   c) Procurement Strategy-International Competitive Bidding

d) **Volume-** > Eur 100 mn

v) KfW need projects that are well prepared. They should be technically and financially viable. Everything is being done under the umbrella of climate orientation. Urban mobility is contribution to climate orientation. **KfW is bound to follow international social standards. There might be some gap between Indian and international standards.** Prominent example is solar power plants which do not require assessment in India.

vi) KfW do not fund solar power projects. Same thing applies to procurement strategies. KfW have to apply international competition bidding that might be contributor to national process.

vii) KfW need projects of certain substance of at least 100 million Euros. KfW consider projects, if approvals are in place, ready ROW issues or environmental studies have to be collected from other department if already in place it helps in speedy implementation of the project.

4.1.2 <u>Shri Prag Gupta, Advisor, Niti Ayog - *views on Implementation strategy*:</u>

i) Any plan is as good as its implementation is good. If one takes care of the implementation then only the vision of the plan is achieved. The whole work is stratified and if we lack in implementation, the whole grand planning would come to naught.

ii) **NCR is the financial hub of the country and the way our development is taking place, if not taken care it is largely to be rebounded**.

iii) **Challenges in NCR**

a) Increasing and migrating population,
b) Infrastructure,
c) Sanitation,
d) Labour,
e) Economic activities,
f) Transport
g) Zoning

iv) There are several aspects in different forms which need to be timely addressed and nd all should form part of the Plan. *For Example*, how planning for green field will take place in NCR, is not the responsibility of NCRPB alone but of all implementing agencies to have shared agenda and shared commitments for it.

v) Many places in & around NCR which are not urban today but are going to be urban in the times to come. The urban features are coming to the areas but if the road connectivity and infrastructure is not good they are going to become mess.

vi) NCR planning should focus housing, roads, sanitation in rural areas, etc. The goals and results should be same form the level of Plan (top) to implementation (grass route).

vii) **The Regional Plan should be able to offer quality of life to the people of urban and rural at same levels.**

viii) **Implementation should be timely, cost effective and sustainable.**

ix) **Implementation strategies should be more fine-tuned and should be forward looking for whole NCR region.**

x) NCR should present the model for the world to see.

4.2 SESSION-II was related to 'Challenges & Strategies for Implementation of NCR 2041' the viewpoints presented/ shared by the speakers are as under:

4.2.1 Smt. Kanchan Verma, V.C., Ghaziabad Development Authority – views on Challenges and Strategies for Implementation of NCR 2041:

i) **Regional/ Master planning**
   a) Growth as part of natural ecosystem.
   b) Development authority to plan and synchronize with the other components.
   c) To act as a roadmap for the private sector
   d) Plan for the infrastructure facilities.

ii) Land available under GDA Urbanization limit and status of land acquired under different Govt. Dept.
   a) Land area available under urbanization limit – 27,539 Hect.
   b) Land acquired by GDA-3703 Hectare
   c) Land acquired by awas vikas parishad-2041Hectare
   d) Land acquired by UPSIDC-1946 Hectare
   e) Land under central/state government offices use-180 Hectare
   f) Private ownership-19669 Hectare
   g) Highteck integrated-3200 Hectare

iii) Identified unauthorized colonies in Ghaziabad Development Area
   a) Unauthorised Colonies-321
   b) Colonies-840
   c) As per Masterplan land use-48
   d) Against the master plan use-273

iv) So many colonies have come up against the land use, showing the gap between the market forces and theoretical exercises undertaken.

v) UPSIDC, industrial authority of Uttar Pradesh has 9 Industrial belts with 2703 Hectare area. Ghaziabad was an industrial city, and still affordable housing has been limited to the EWS/LIG component of 20%.

vi) To comply with NGT/ Supreme Court Orders, technology up-gradation would require a major investment.

vii) Green Belt, open spaces Accounting to **3272 Hectare** in GDA**.** Even if it is assumed that 1000 Hectare has been developed in the past 20 years, there would still be a requirement for 2272 Hectare area and minimal Acquisition cost would be Rs. 50,000 crore.

viii) There is a need of practical Transferable Development policy.

ix) NGT does not allow, for marriage and Banquet spaces, which are usually in open spaces. Permissible land uses in Green belts are few. Such issues need to be deliberated/ addressed.

x) There are gaps in the demand of infrastructure. GDA has revenue of 7000 crores and has already financed Metro 1st and 2nd phase. Single (phase) metro cost 1600 crores.

xi) **Challenges in implementation of Regional Plan**
   a) Involvement of the highest-level decision making.
   b) Gaps in demand of infrastructure and revenues.
   c) Poor enforcement capacity of Authorities.
   d) Bye laws not in tune with NCR requirements and perceived goal.
   e) Poor coordination between other agencies in the district

xii) **Strategies for Implementation of RP-2041**
   a) Learn from the shortfalls of previous plans.
   b) Decide on the strength of each satellite of NCT. Work on that strength.

c) Think beyond the traditional industries and housing.
d) Need for a possible frameworks/bye laws which can facilitate the reality of NCR Plan 2041.
e) Exercise with other government agencies true to the Master plan.
f) Involvement of the highest decision makers.

4.2.2 Dr. P.S. Rana, PHDCCI shared his viewpoints which includes the following:

i) For good implementation, the plan and policies have to be in a right framework. **The basic objective of any plan is to facilitate supply and services, land for non-agriculture activities at a planned and affordable cost.**

ii) Implementation Strategy need to consider the following:

a) Polices : Govt Monopoly/PPP
b) Planning: Rigid Master plan/ Flexible Structure Plan
c) Land Assembly and use

iii) Need for Integrated Regional Development

a) The primary sector employment cannot sustain more than 10% of labor force.
b) Non-farm employment to take care of 90% of the labor force.
c) This is possible through integration of economic and social infrastructure at Regional level.

iv) **Need for New Towns**

a) Develop New Integrated Industrial urban growth centers with 1 to 3 lac population
b) Some of existing small towns could be upgraded as integrated towns.

v) Balanced Regional Planning

a) Towns to accommodate - 70%
b) Suburbs upto 30 min - 20%
c) Villages - 10%
d) At least one town within - 60 min.

vi) **Key Urban Infrastructure Required for an efficient and Smart urban area**

a) Transportation
b) Water Management
c) Power Supply
d) Communications
e) Waste Management

vii) Giving example of commuter's pattern of three cities i.e. Vadodara, Jaipur and Patna it was highlighted that people travel mostly by car or personal vehicles. Least mode of travel adopted was bicycle.

viii) Energy Requirement by Various Modes (Watt hr per Passenger km) is maximum for car and least for LRT (Light Rail Transit)

ix) **Use of Existing Rail-corridors**

a) The most cost effective, efficient and environmental friendly transport system is provided by having

- rail as the basic mode and;
- walk, cycle, rickshaws etc. feeders.
- Development of new rail-based transportation network in the existing cities requires substantial capital investment.

b) On the other hand, developing new urban centres along the existing rail corridors prove cost effective. If the government agencies take care of the primary infrastructure, then you develop self-contained townships along with the corridors. Cities which are growing faster should be planned with some satellite towns to such cities with rail as the basic mode and walk, cycle, rickshaw as feeders.

c) City is encircling the hinterland and any hinterland is encircling the cities if we develop the potential corridors.

x) Every village was surviving at the lake and ponds. About 5% of land-use should be for the perpetuated water bodies.

xi) NCR 12-15% is required to be urbanized & rest should remain hinterland. Even in Delhi 70% need redevelopment.

xii) **Variables Related to Development of Integrated Development of Group Housing** - Concept of FAR when family size reduced and densely area increases, FAR loses its significance. Density is the main and FAR is deriving parameter. Higher FAR in affordable in future. Incentives can be given if a person aggregates the area and build a complex. Up to 500 meter can be accepted as individual plots. But when we go for higher buildings, parking is must in the built up areas.

xiii) Incentive through Higher Floor Area Ratios (FAR) - One of the most effective ways to encourage Amalgamation/ Merger of smaller plots into large complexes is by way of granting higher FAR for larger plots through prescribing telescopic rates of FAR with increase in size of the complex.

xiv) When one aggregate colonies, the developer would be benefitted by aggregating of the plots.

xv) Along with main arterial road and metro, the maximum use for high commercial and residential with the common facilities in the middle.

xvi) The high street must be with the urban design. That is the area where plan need rigidity. For LIG you cannot built very high buildings. For MIG and HIG, large green area is to be maintained by the private people.

xvii) In implementation of any plan there has to be the availability dimensional database, 2-dimensional digitized maps, 3-dimensional built up map, use of space activity, ownership of space and self-occupied/ rented.

xviii) PHDCCI Approach:

a) Private Development- Land pooling /sharing by the owners and developers.
b) Government to provide city level infrastructure and collect Development charges per acre
c) Developer to provide local services.
d) Complexes need to be self-contained with respect to:
   - Waste Disposal

- Water recycling
- Health (primary)
- Education (upto school)

xix) Foreign Direct Investment in Real Estate Business

- FDI is permitted in Development of Township , housing, Built up infrastructure and construction Development projects
- FDI up to 100% under automatic route in townships, Specific guidelines for housing may be incorporated in the Plan in this regard.

xx) Modes of land assemble and Land Acquisition Act pre 2013, LAA 2013, approaches by government agencies / private agencies, land pooling. The main problem is fragmented pieces of land with irregular shape of some land owners may not agree to sell their land. LAAR 2013 Act was introduced to overcome these issues. However, the main issue of Consent of 70/80 percent of affected persons is considered as the Main hurdle. This issue can be resolved by taking consent of 70/80 % "Land Owning". Land pooling has done at various places even the DLF, Ansal, for instance.

xxi) Example of Amravati –Proposed Capital of AP

- More than 10000 Acres Pooled by the Govt of Andhra Predesh for capital city.
- Each Land owner gets: 25 percent of land contributed as developed plot(s) of land and Rs 50,000/ per acre/year for 10 years for handing over the plots.

xxii) Example of Magarpatta, Pune - land owners became shareholders of the development company. Reliable water management for everyone, source development, treatment of waste water at the point of pollution and reuse, metering and pricing for cost recovery is needed for water management.

xxiii) NCR should increase large reservoirs in *Yamuna* and *Hindon* area. River front redevelopment can be done following the model of Sabarmati river front development.

4.2.3 Shri O.P. Mathur, Former Director, NIUA:

i) Delhi Master Plan 1962 set the example that city needs to be planned in Metropolitan concept. It states about ring towns. Urban villages falling within the Delhi Municipal areas need separate kind of treatment.

ii) India Habitat Centre (IHC) – an example which was executed with meticulous planning of the time and cost with due diligence.
   a) Three organizations were collaborated, NIUA, TERI and HUDCO joined hands together and proposed construction and planning of IHC.
   b) All the three institutions requested for place for their offices to MoUD. They were given place at three different places in Delhi, however, Secretary, MoUD asked these institutors to get together and construct a cost efficient space.
   c) Architect, Joseph Stein, who planned India International Centre and US Embassy, was persuaded to do India Habitat Centre.
   d) There was a tennis court planned on the roof top but have to be dropped by AAI.
   e) For people who smoke, it was planned trees on two sides to absorb the smoke. It also did not take off. Maintenance of three institutions was very difficult. There were large numbers of trees here. There were 117 trees uprooted then and we replanted that many tree again.

iii) This is the kind of planning is expected when thinking to take up large projects.

iv) It should be the final viewpoint for consideration the Plan that who will maintain such projects.

4.2.4 Shri Abdul K. Rai, CREDAI – *views w.r.t. Magarpatta city Pune:*

i) Magarpatta is a case of land pooling. It is in the heart of Pune, set up by farmers. People, Purpose, Prosperity. It is people centric. It is India's first private land pooling scheme. We have given here carbon positive inclusive development.

ii) In 1990s rapid growth of urbanization was the scenario in Pune leading to fragmentation of agriculture land in smaller plots, wide spread unauthorized growth in suburban areas, huge amount of money received by land owners, social problems of pressure of urbanization, what to do with the land, selling was a negative mind set, if sold no solution to investment, development could not be stopped.

iii) Land Owners Facing Problems
- Pressures of Urbanization
- What to do with the land?
- Selling – a negative mindset
- If sold – no solution to investment
- Development could not be stopped

iv) Evolving of Concept - **Four aspects under consideration:**
- Benefit Original Landowners
- Planning and Development process
- Benefit Final occupier
- Contribution to City

v) **General awareness amongst Land-owners was that they have an opportunity*:***
- To become Venture Capitalists
- To become Investors in the form of other than cash
- To become "Entrepreneurs" by getting integrated in the Development process of Inclusive Growth
- No immediate Displacement

vi) First Generation Farmers -430 acres of land, 130 farmers they contributed their land. Land was not sold land was transferred via joint development agreement. Revenue will be shared by the farmers to the company.

vii) **An inclusive growth model**
a) Development Company formed by the original landowners. All Landowners are shareholders in portion to the land.
b) Joint Development Agreement with landowners
c) Revenue Sharing Model for determination of Cost of Land
d) Proportionate share in Equity
e) 2nd generation of Landowners trained to become entrepreneurs
f) Identification of capacities though Aptitude Test and one-to-one discussion
g) Identification of opportunities
h) Training on site and through other institutes
i) Formation of groups of 2-3 entrepreneurs
j) Funding of mechanism through Bank

viii) **OUTCOME -** Creation of over 250 Entrepreneurs in the field of:
- Manufacturing of construction material like Sand/Metal

- Setting up of infrastructural services
- Actual Building construction
- Vendor Development

ix) **Financial Model**

- Where built area is sold:
  - 30% of sale proceeds towards land cost – distributed in proportion to land holding on accrual basis
  - 70% to company for expenses
- Where plots are sold:
  - 60% of sale proceeds towards land cost – distributed in proportion to land holding on accrual basis
  - 40% to company for expenses
- On leased premises:
  - Asset capitalized at cost i.e. cost of construction + cost of development + infrastructure cost + overheads
  - Land cost determined on market value
- Land cost payment procedure
  - Land cost credited in Land owner's ledger every month
  - Land owner could withdraw his balance on application basis
  - Amount not withdrawn attracted Interest as per borrowing rate
  - Dividend distributed as Income from business and leased assets.

x) Advantages

- Minimal upfront payment
- Lesser Title Issues
- Lesser or no unrest
- Prosperity for all
- **Educational Up gradation-** Encouragement of Land owner's children to study in English Medium Schools
- **Social Up gradation-** Encouragement to stay in mixed Community, Encouragement to participate in community function

xi) Challenges

- Taxation (Capital Gains Tax)
- Trust and faith in the minds of Financial Institutions
- Disturbances created by Competitors

xii) **Asset creation for Landowners**

- Encouraged to invest at least 1/3 amount in Commercial / Residential units
- Creation of appreciating Asset and rental income

xiii) **Advisory Services**

- Creation of Cell to advice, file Income tax returns of land owners
- Legal advice
- Onsite training

xiv) **Integrated Township Based on Convenience of Living Walk to Work- Walk to School -Walk to Home**

a) 30% of total area is green cover . 25000 trees planted based on 1 tree for every 80 sq.mtr
b) 3 Schools Primary to High School with over 3000 children.

c) 275 bed multi-Specialty hospital and Poly Clinic.
d) Gymkhana ,Olympic size swimming pool, Skating Rink, basket Balls courts
e) Tennis Academy, Foot-ball Academy, Badminton Academy, Cricket Academy , Music Academy,
f) Day to day shopping complex , Mall and multiplex, Amphi-theatre for cultural activities
g) 7448 Residential units – bungalows, row Houses, 1, /2/3/4 BHK apartments with more than 40,000 residents.
h) 7.5 Million sq.ft. Cybercity Magarpatta (STPI/SEZ) and Other Commercial Space with more than 1 lakh people working direct and indirect.
i) Property Management Services – To take care of day to day maintenances of township.
j) Citizens council – Residents participation in City Management

xv) **Contribution to City-** Economic Findings Data as on 2017-2018 Sustainability Excellence Report (TERI- The Energy and Resources Institute) jointly along with (MCCIA) Maharatta Chamber of Commerce, Industries and Agriculture:
a) Creating employment opportunity to approximately 1,01,513 people involved directly and indirectly.
b) With total annual salary of 65,221 million INR i.e. Rs 6521.1 Cr.
c) Around 20,000 indirect employees creating a total impact of 344.23 million INR per month i.e. Rs 34.423 Cr. per month
d) More than 160 national and international companies have offices within Magarpatta City.
e) GDP of Pune City enhanced by 18,000 million INR per year i.e. Rs 1800 Cr. per year
f) 570 Million INR i.e. Rs 57 Cr. revenue to Pune Municipal Corporation towards development Charges.
g) Average Annual Property Tax payment to Pune Municipal Corporation – 21.12 C
h) Average Annual Power charges - Rs.21 Cr.
i) Investment in electrical installation – Rs.25 Cr.
j) Total Investment in infrastructure – Rs.730 Cr.
k) 1,65,000 Sq. meters Road Development in Magarpatta City.
l) Saving of Power units (kwh) due to installation of Solar Water heating systems –1.78 CR units per year
m) 4 MW Roof top solar plant installed saving 50 Lakhs units per year
n) Saving of power units (kwh) due installation of 622 LEDs - 3.43 lakhs units per year.
o) Recycling of water – 5 MLD per day – 1825 MLD per year.
p) Recycling of waste – 480 tons per month – 5760 tons per year.

4.2.5 Shri Shankar Aggarwal, Ex-Secretary, MoHUA shared his viewpoints which are as under:

i) Democracy existed only in those societies where there is high level of prosperity and literacy.
ii) Currently India is not only self-sufficient food grain production but also exporting food grain production. That credit goes to scientists and farmers.
iii) In 2008-09 entire world was going down but economy of India was going up, even other Nations wants to learn from our county, but still there are many people who do

not have good quality housing, education, water supply and all other such facilities. Unless we provide these facilities to all, this growth is meaningless.

iv) Planning should be done to hold hands of disadvantaged. Unless it is done this would not be a sustainable growth. India is in the process of rapid urbanization. Whenever the society is developed, people will migrate from rural to urban areas. Strategizes should be for taking advantage of this migration. This is a huge challenge.

v) NCRPB is playing a very important role because large number of people coming to NCR region. All these areas are over polluted. Strategizes should be formulated to make their life happier and purposeful.

vi) Regional Plan for NCR is a dynamic document that regulate huge collaboration and imagination in terms of implementation as well.

vii) Challenges are availability of land. It is extremely difficult to acquire land. **Land pooling is an excellent concept and way of getting the land available.** However, land pooling scheme of Delhi, if it is to be controlled by government it will not be successful. Government may create some kind of framework and it can be implemented the people. For every land parcel they will put some value. One give the value and based on that value the developed land is distributed. But before that retrofitting is required. That will give huge relief to the local people.

viii) Secondly redevelopment is required. All over the world most of the towns have been developed based on redevelopment.

ix) For Regional Plan, there are towns like Delhi, Noida, Greater Noida, Gurgaon, and Ghaziabad which requires attentions to address the need of their connections and quality infrastructure.

x) There is need of robust and reliable infrastructure of all short. For example there can be a **proposal for underground road from Akshardham to Airport**. Regional Plan has to suggest options for better connectivity including very good quality infrastructure for the pedestrian and public mobility.

xi) NCRPB should pay special focus on urban mobility.

xii) **Financial resources** - municipal bodies do not have enough financial resources. NCRPB can help development authorities draw money for various plans.

xiii) **New Moti Bagh was an excellent example of redevelopment**. The entire money has come from 5 acre of land which we sold to Leela Hotel. No extra burden on the government. Every drop of waste water is treated; entire solid waste is treated there itself. Utilities should be decentralized and huge amount of financial resources can be generated following such models.

xiv) **Governance** - biggest challenge. Piece of land may not be utilized because there is requirement of inter-departmental coordination. To get NOC from Railways it takes many years. To resolve such issues some models or empowered committee should be made.

xv) Metro's 50% equity is by State and 50% is with center, however, neither state nor center monitors the fund and functions of metro. It is done by the Board (DMRC) and nothing goes to the Ministry or Secretary and that is why most of the metro projects are completed in time.

xvi) To have a vision for future there is a need to create a Cell to take advantage of latest technology. Autonomous vehicle will become a norm in the next 10 years. Similarly, for EV there is a requirement to have robust infrastructure and Artificial Intelligence

(AI) should be utilized effectively. Because of AI lot of people will be jobless so there should be some work options for them.

xvii) **By sharing workplace, pressure on the roads will come down**. People will have more time for their families, if we take advantage of IT.

xviii) The technology should be harness including for master plan, town development and planning by which lot of money can be saved and quality service can be provided without any necessary interference from government bodies.

xix) **Planning should be sensitive to the local requirement and ethics,** otherwise all these plans will not be able to implement.

xx) **The power is to be given to NCRPB so that they should not go to the State Government. All the State should get together and demand this kind of regime for NCRPB**.

4.3 SESSION-III was on 'Perspectives on Implementation Strategies for NCR 2041'. The view points of the speakers are as under:

4.3.1 Shri Ravi Chandran, Director, Price Water Cooper mentioned the following:

i) NCR is behemoth of the region with **55,083 km²**, the area of NCR is greater than the total area of Netherlands.

ii) Amsterdam and NCR have similar areas, both are very vibrant with deep rooted culture. Both are working at 2041 Plan.

iii) Through careful holistic planning, adoption of technology and a push to local industries NCR stands to gain from utilizing its resources effectively and become a model platform for urban development.

iv) Urbanization can be tackled by effectively coming up with practical solutions for limited space and density and improving the everyday experience and lifestyle of the citizens

a) Accessibility of social welfare to all citizens
b) Universal Healthcare facilities
c) Transportation across the region for mobility
d) Planning for future avenues of growth and service delivery
e) Affordable Housing and planning for density
f) Investment in Infrastructure to drive growth and development

v) Singapore with more than 6 times the population density (8358 people per km²) of NCR (Delhi) (1349 people per km²) is a great example of sustained planning and upgradation to tackle Urbanization.

vi) Coordinated Development-Holistic Development in NCR, by mutual collaboration between states:- Central coordination with all member states to formalize policy making that leads to growth through shared resources

vii) Engaging with MSMEs to boost employment and growth in the economy by nurturing talent & skills of entrepreneurs and symbiotic growth of industries

viii) **Engagement with MSMEs - Counseling hub & incubator for MSMEs**

ix) There are best practices available, but perhaps micro focus on the needs of the NCR required.

x) NCR has stakeholders from four states and challenge exists in the perspective of their own priorities.

xi) **For coordinated development there should be some common minimum goals which should be identified by all the stakeholders**. Special focus can be laid down on MSME development.

xii) **Issue related to free movement of people and goods should be deliberate as this free movement throughout NCR will help in bolstering economic prosperity in the region**.

xiii) **There** is **an opportunity to examine where a platform can be crated for MSMEs where they can work collectively with government, corporate and academia. There can be a special focus on entrepreneurs who are females and differently-abled.** Startups should also be encouraged.

xiv) Skill Building - Scaling skills through forward linkages - While skill building is going to play a very prominent part to alleviate the stagnating labour force of NCR, pragmatic planning and right investments will lead to a multiplier effect in the gains, like:

a) Equitable skill development for all sorts of workers and entrepreneurs
b) Education facilities to ensure development of future citizens
c) Mentorship programs to nurture talent and provide them the right support
d) Technology based Skill Development to prepare for future labour markets
e) Vocational education to semi skilled labours for manufacturing jobs

xv) **Pushing boundaries through Technology- Using ICT & Emerging Technology -** Make leapfrogs by leading growth and implementation through tech:

a) Constantly monitoring, planning and accounting for changes in tech ecosystem. Eg. Planning for the integration of 5G to revolutionize various sectors, such as manufacturing, healthcare etc.
b) Readiness for Digital Payments and investing in adequate infrastructure to boost economy. Tying up with private players to provide seamless and payment services as well as innovation to drive transparency, consumption and equality
c) Social Welfare through unconventional methods to save cost and increase coverage. Adopting Direct Benefit Transfer to cut leakages. Using technology to keep track of welfare schemes and efficiently allocate resources
d) Technology enabled data gathering to generate effective insights. Reducing gaps in research and practice on field through fast innovation and implementation cycles leading to efficient project implementation

xvi) **Project Monitoring- Governance and monitoring of plans to achieve desired results -** Achieve potential through constant agile monitoring to ensure smooth implementation:

a) Transparency- Create transparency
- Live reporting of real-time information will allow for a unprecedented level of transparency in programs and portfolio's

b) Value add
- *Focus on value add*-Data gathering inputs to be automated allowing more focus on value added tasks like creating new insights that allow for successful project delivery

c) Scalable
- Flexible and scalable-A governance setup can up- and downscale effortlessly to meet the needs of the program or portfolio of projects

d) Tailored approach

- Tailored approach-Start with a selection of best practice templates and tailor them to the specific needs of NCR

xvii) Future need to be seen w.r.t. to emergence of 5G. Uber, Ola, Zomato, Swiggy would not be even around, what 5G will do for w.r.t. smart cars, smart devices, smart humans, etc. There might be chances that at home people will be getting information regarding air quality, etc. Therefore, **the plan needs to enabling leverage the technology based on things that are open.** Slowly India is aalso becoming a leader of digital payment globally.

xviii) The adoption of digital initiatives by government is still slow. The interlocking of the schemes available, creation of raw material banks, etc. should be done and it should be ensured that there are no leakages. Data should be considered as new oil to run the plans & economy.

4.3.2 Prof. Arindam Biswas, Arch. & Planning, IIT (Roorkee) presented the following:

i) **Regional Planning in India -Review**

a) District Planning Committees (DPCs) to consolidate the plans prepared by rural (panchayats) and urban (municipalities) local governments in the district and to prepare a draft development plan for the entire district,
b) Setting up of Metropolitan Planning Committees (MPCs) to prepare a draft development plan
c) Legal Provisions - All States have master planning through town planning acts.
d) Only seven states have the legal provision for spatial planning beyond urban boundaries, i.e. in the rural areas.
e) Moreover, six metropolitan regions have spatial plans for peri-urban and rural areas with the respective metropolitan region.

ii) **Issues**:

a) Neglected implementation of statutes, institutional dysfunctionalities, or unwillingness for distribution of power to rural areas.
b) Rural areas especially becomes relevant, as land is a finite resource and the right to access and to make use of land a matter of economic and political negotiations.

iii) **Regional Environmental Challenges:**

A. Threats from climate change and increasing pollution that may intensify further in future following a business as usual trajectory, action plans may be drafted for temperature rise, air quality control, unusual precipitation, drought and flooding at regional scale.
B. Large scale regional strategies should go together with the small-scale local strategies to curb air pollution and threats of climate change:
   a) Shape, density, and organization of settlement areas;
   b) Orientation and composition of subareas;
   c) Pattern and type of transportation systems;
   d) Shape and location of open spaces;

A) **Suggestion:** Land use planning with plans of reduced population density around industrial zones or in downwind direction can help in reducing exposure to the pollutants released from Industries.

C. We need a large regional perspective to identify the environment challenge, If we consider Chandigarh in isolation, it is impossible today. Similar thing may happen in

NCR. If there is flood in Gurgaon it will be very difficult to control it. As we are not prepared for it. Anticipation of growth direction within the region we need to recognize the overall economic structure, overall investment that is coming into our region.

B) **Suggestion:** Anticipation of growth direction within the region we need to recognize the overall economic structure, overall investment that is coming into our region. At the one hand we have to take advantage of the huge capital and also invest that capital to the region. In India in the two region, when we are talking of competitive global region, only NCR and Bangalore. There is a possibility we can further leverage global capital into our perspective.

iv) **Organisational Integration for Plan and Growth – *case of China***

a) **China is the only country which touches spatial plan for each of the sector**. Without those economic growth plans which is integrated with the spatial plan it is difficult to have effective and sustainable growth.

b) Regional coordination of infrastructures, public services, development priorities, ecological interests are carefully evaluated.

c) The Shenzhen master plan, 2010 is the first one in China featured with Growth Without Spatial Expansion.

d) It proposes economic restructuring, social transformation, as well as urban regeneration with a vision of city of harmony, livability and accessibility.

e) There is unique way of identifying regional growth and development. There is also need to have integration of different stakeholders of the government, educational institutions, environmental and civil society.

v) **Regional Development Strategy**

a) Spatial Strategy

- Integration of Economic data with spatial data/ population migration
- Polycentric region, multiple growth poles with propulsive firms
- Geographic cluster of industries connected with high speed mobility
- Flexibility in regional planning and looking beyond planned areas to provide cosmopolitan environment
- Increased inflow of low skilled labour migration
- Auxiliary sector –State support for housing for low skilled labor

b) Economic Strategy

- Looking Beyond Planned Areas
- Increased production quality and output efficiency
- Create a globally competitive region -Attract knowledgeable labour and capital
- Stimulate Innovation among knowledge networks
- Formation of geographical cluster network between Industry academia-Government-Society

c) Institutional Strategy

- 74th CAA more than 25 years old. Reform to strengthen regional planning board particularly within the backdrop of 14th/15th Finance Commission
- Reduction of transaction cost and time for horizontal and vertical integration between region and cities and settlements
- Spatial plan connecting region, city, village and clusters

- Financial incentive and institutional reform to implement regional growth projects by the regional planning board

4.3.3 **Shri P. Selvadurai, Ex-CTP, Chennai MDA** – *Chennai Metropolitan Development Area (CMDA) experiences:*

i) There is a need for planning for the whole urban area, including surrounding rural area, in the region and making our citizens happy.

ii) CMDA as the planning agency is responsible for planning and implementation part comes to the different departments. CMDA area is 1189 sq. km. and Chennai City Corporation area is 432 sq. km. having 8 municipalities and 11 town panchayats.

iii) Development in Chennai is regulated through master plan strategies. Since inception, CMDA prepared two master plans one from 1975-2008 and second from 2008 onwards. For micro areas the development is done through DDP.

iv) Strategies (mobility specific):

a) Moving people rather than vehicles
b) Integrating land use and urban transportation
c) Priorities to non-motorized transport (NMT)
d) Optimizing the existing road and transport infrastructure
e) Putting a parking policy in place
f) Redefining the role of para-transit
g) Segregating freight traffic from passenger traffic
h) Deploying various travel demand management (TDM) measures
i) Setting up a unified institutional framework encompassing all modes

v) Challenges for NCR Regional Plan-2041:

a) Master Plans and Development Plans of the Districts and Cities need to have a plan in line with the Regional Plan, 2041 (under preparation).
b) Vision of Regional Plan should match with the Vision of the District and the Cities within the constituent Areas
c) Land being a State Subject, State Government plays a pivotal role in implementation process.
d) Policies of State Government
e) Role of NCR Planning and Monitoring Cells.
f) Defining the boundaries of Counter Magnet Areas.
g) Developing Smart Regions matching with the available services.
h) Training and Capacity Building

vi) Suggestions

a) The Regional Plan should take into consideration all the proposals as proposed in the notified city level plans prepared within the constituent areas.
b) A single administrative unit to monitor all the Plans and Policies within the existing constituent areas.
c) To prepare Annual Action Plan and identify projects in line with SRP/RP/Functional Plans.
d) The planning boundary area may be considered.
e) Allied Service facilities may be proposed initially and accordingly the phasing of the plan may be done.

f) Utilization of expertise should be encouraged- all sectors
g) RP -2041 may asses the training needs of the Implementing Agencies and prepare a plan accordingly.

4.3.4 Prof. K.K. Pandey, IIPA - views on 'Challenges and Strategies for Implementation of NCR Plan' are as under:

i) **Economic Importance of NCR**
   a) Sixth best performing metro economies in the world
   b) Hub of FDI -20-25%,Rs 70000 Crores in 2018-19
   c) Strategic Location- Capital, Corridors, Fertile land
   d) 75%(2021) workforce in non farm sector, 92% GDP
   e) SDG-8/11(productive employment,Inclusive Sust./ResilientCities)
   f) Important role towards India with US$5Trillion Economy

ii) **Major Issues and Challenges**
   a) Slow pace of cross regional and state level follow up
   b) Variation in EoDB (99%Haryana to 32%Delhi)
   c) Disparities in income, economic activity including non-farm sector
   d) Intracity variation and mobility constraints in the central/R-NCR
   e) Untapped economic potential of s/m/Census towns(146/74)
   f) Stagnation of real estate and Circular economy
   g) Gaps in the regional infrastructure(NCTD and 3 States)
   h) 1.5 million micro enterprises (90%)-finance,Material , marketing
   i) Structural transformation :25% workforce/38% Population -8%GDP
   j) Concentration of Wholesale Trade/Offices in NCTD
   k) Variation in Tax structure-State to State
   l) Lack of level playing field for ED and Productivity

iii) **Economic Agenda**
   a) Global city region-Health/culture/Education/logistics/Services
   b) NCTD-Hi-tech(Manufacturing)+ 80% service sector
   c) C -NCR-supporting activities, relocation /intermediary link
   d) R-NCR-SEZ,Wholesale/T,HH& supporting manufacturing
   e) Cross-regional Actions -Agricultural Productivity ,Wholesale Trade, Cluster development /EoDB, Skill upgradation/ Training /Rural Industrialization, Common Economic Zone, Special/Sub- Component Plan

iv) **Recommendations**
   1. **Inter-regional Anchoring and Actions**
      a) Cross regional policies/plans /interstate convergence
      b) Plan for Common Economic Zone(Fiscal and Legal FW)
      c) Integrated Logistics Action Plan for NCR
      d) Corridor Development /Expressway Follow up
      e) NCR MSME Facilitation Council-Right to Business Act
      f) NCR Local Government Forum
   2. **Inter-state Fiscal Policy**
      a) Cognizance of NCR as special entity
      b) State and Local Taxation policy frame work
      c) Rich city poor city government
      d) Removal of uneconomic fee and toll

e) Improving Resource Imbalance-Local finance /SFC
f) Revisit state GST rates

3. **Intra-state-sub-regional Actions**
   - Intra-state economic convergence of NCR sub -region
   - Special/Sub-component Plan for Economic Development
   - Investment, interest subvention, retail centres, e-commerce plate-form ,VGF
   - Farmers/Producers/APMC/Marketing nexus using ENAM
   - State Logistic Plan using Wholesale Market Policy of MoC
   - Right to Business Act –Ease Regulatory Business Compliance
4. **Feedback studies**
   - Data base on Economic Indicators
   - Circular Economy Potential
   - Economic Potential of Additional Districts
   - Activation of Industrial Clusters
   - Status of Local Revenue and Services
   - Inter-local body cooperation for infrastructure and services
   - Impact of Recent Policies (GST etc.) in the region
   - Economic Efficiency of Urban/regional Transport
   - Real -estate synergy and Potential for Economic Development

4.3.5 Shri Abhilesh Babel, Feedback Infra Private Limited viewpoints includes the following:

i) While Planning for NCR-2041, energy, transport space and urban infrastructure are the three major aspects which should be considered and addressed without most care.
ii) **Transportation** is one of the major concern. While planning of 20 years vision – it should be taken in to account that what kind of transformation will be there, what will be cost & time of transportation.
iii) **Energy** – globally lot of countries going for significant change. In this regard NCR should consider the following:
   a) NCR vision of being priority to future global change
   b) Is NCR going to be a renewable economy?
   c) What will be the energy consumption of NCR?
iv) Governance is another important aspect, which should be addressed in Regional Plan.
v) **NCR should be compact and dense**. Has this can be done in cohesively with States, this aspect should be tackled accordingly.
vi) It should also be taken into cognizance that if we are not going to plan for 50 years how contracts can be signed for 60 years?
vii) To provide and support airport as Jewar, execution has to be at scale. For the development and quality living in NCR, its planning should ensure that the execution/ development of projects in not taking place in silos.
viii) There is a need to plan for PPP and partnership. Service delivery happening from government to private entities across sectors is falling. There is requirement to programme for mobility.
ix) Delhi airport has 3000 parking and half of it is always closed. For better implementation, the government has to get out of implementation. Government role

should be to define and monitor. Private sector people would be happy to implement and be accountable.

4.3.6 Shri Sameer Sharma, Director General (DG), Indian Institute of Corporate Affairs (IICA) highlighted the following:

i) Land-use planning, and transport cannot be separate.

ii) First, prepare transportation plan and objective should be to provide 100% employment. For this purpose, lot of travelling that goes on. There are People who travel from Barelly to Noida. Look at pedestrians in Chandni Chowk and Karol Bagh. This is a great opportunity to understand that which part of the city is to be designed for which transport plan. RRTS, this is what we should be planning at Regional level.

iii) Second, environment is a regional phenomenon. Also, NCR is an economic region which generates huge employment. All such aspects should be well thought for RP.

iv) Focus of planning should also be on farm based planning along with master planning for urban areas. Farm-based planning should be motivated and incentivized. Government is providing loans to farmer at nominal rates.

v) Proposals of the Plan should be doable. The idea of growth boundaries & planning should be to move people Intracity and intercity.

vi) Environment solutions/methods must be adopted at local level and regional level to reduce pollution. This should also get place in planning.

4.3.7 Shri O.P. Agarwal, CEO, World Research Institute highlighted the following**:**

i) As a country, India is 18% of world population and have 2.5% of total land area. Land is premium for us. Optimum use of land is critical for country like India. 400 million people in urban area today. In last 30 years our urban population have doubled to 800 million.

ii) Delhi is second largest after Tokyo which is largest. Tokyo's population is declining whereas Delhi's population is leaping. In next 4-5 years, India will be the largest urban agglomeration. There is no country from where India can learn from. We have to find our own solution.

iii) China has adopted concept of cluster planning. We are part of the largest urban agglomeration of the world's population which is 35 million looking at 50 million. NCR is extremely important.

iv) **Main challenge is bringing four states on one platform.** How do you get them with the marginal part of other state? Politically it is governance question. Multiple things that need to be done.

v) Execution of plan should be given to people who are best placed to do that. Best power is fund. NCR plan should allocate money to that plan. We are planning for a different world for our children. There is no need to plan for huge parking areas instead plant more trees there. The moment we start shared economies like Uber or Ola less parking space would be required. That is why there is need to create space for planting trees.

vi) Leveraging technology to implement multitude of activities. How do we use data to make our plan more scientific? The time for hunches has gone. Today is the time for

data. We want PPP models because they do not have the money but because of greater efficiency and they can be held accountable. At the same time we need to make sure that they have a capacity to do it.

vii) Capacity building is a requirement. Good solid capacity building is pre-requisite in our country.

4.4 SESSION-IV was related to 'Perspectives of Governments of NCR States'. The viewpoints of the speakers are as under:

4.4.1 <u>Shri S.K. Bhandari, Special Secretary (UD), Govt. of Delhi</u>:

i) DDA does the master plan and implementation is done by Delhi Government along with five ULBs and DDA. Delhi is divided into three municipal corporations, Delhi Cantonment Board and Delhi Govt.

ii) NCRPB was established due to the problems of the Delhi way back in 1980's. Delhi's main problems are pollution, population, environment, unauthorized construction, slums, sewerage, legacy based sewage dumps, health, housing, in migration and law & order. Delhi by 2028 will have largest population of the world, overtaking Tokyo by 2028.

iii) **Strategic Planning**

a) While the MPD-2021 addressed issues related to environment, transportation etc, planners say, it has largely remained on paper due to lack of clarity on strategy for implementation.
b) Experts of global repute are assisting in chalking the strategy for future development of Delhi as it readies itself to accommodate more and more people, likely to enter it in the times to come.
c) In such a scenario, keeping the pollution under control levels is the biggest challenge for authorities.
d) The strategic plan of Delhi will address various issues, including transport, water, sewerage, solid waste, power, land use, etc.
e) The Master Plan of Delhi-2041 will lay down guidelines for the next 20 years on how and where Delhi builds its homes, offices, schools and industrial zones etc.
f) There should be a third party evaluation of the implementation of the plan.

iv) **Diversity of Settlements in Delhi**

a) Approved Colonies :442
b) Urban Villages :135
c) Rural Villages :191
d) U/R Colonies :567
e) Unauthorized Colonies :1639
f) Resettlement Colonies :45
g) JJ Clusters :729
h) Industrial Areas :28
i) Dairy Colonies :09

v) **Solid Waste Management In Delhi**

C) Existing MSW Management:

a) Collection of Waste from Residential, Commercial (shops, community centres, hotels and restaurants, Other sources (roads, pavements, drains, etc.) using Auto Tippers, Cycle rickshaw, Tractor trolley, Wheelbarrow
b) Collected waste using trucks are transferred to Processing facility.
c) Some of the bulk waste generators have started in-situ processing

D) Proposed Planning for MSW Management

a) Segregation at Source
b) Door to Door Segregated Collection
c) ICT Monitoring
d) GVP Transformation
e) Sweeping
f) IEC Activities
g) Decentralized Waste Processing
h) Centralized Waste processing
i) Remediation of landfills

E) Initiatives Taken By Municipal Corporations of Delhi

a) Door to Door Garbage Collection
b) ICT Monitoring of Garbage Collection Vehicles
c) ICT Monitoring of Garbage Collection Vehicles
d) GVP Transformation
e) Slum Beautification – Wall Painting
f) No Plastic Campaign
g) IEC & Behavior Change
h) De centralized Processing - Compost Pit
i) Processing at Narela-Bawana Waste Plant with Installed Capacity (MWe)-24 MWe
j) Processing at Oklha waste Plant with Installed Capacity (MWe)- 16 MWe

F) Remediation of landfill:

- **Operations**
  - Corporation hired Tromels with sieve size of 30mm as suggested by consultant.
  - Corporation are getting three fractions i.e. <30mm, heavier +30mm and lighter +30mm.
  - Fraction less than 30mm having inert, plastic, glass and small metals etc.
  - Heavier +30% are mostly C&D waste.
  - Lighter +30mm is combustible.
  - All the segregated material are lying at the site.
- **Issues**
  - Machinery are not readily available.
  - Land constraint for installation of machine and stacking of material.
  - Disposal of material.
  - Effect of weather on operation.
  - Alternate land for discontinuation of fresh waste on existing site.

G) C&D Waste Scenario in Delhi

a) Generation of C&D Waste : 5000 MT per day

b) C&D waste per day collected : 4500 MT per day
c) C&D Collection Sites : 167
d) C&D waste processing facilities :02 North Delhi (2000 TPD & 150 TPD)
:01 East Delhi (500 TPD)
e) Proposed C&D waste processing facility :01 South Delhi, Bakarwal 500-1000 TPD
: North Delhi, Ranikhera 500-1000 TPD
: Capacity enhancement of Shastri Park

H) CHALLANGES & ISSUES

a) Enforcement of segregation at source.
b) Decentralized / semi waste processing due to non availability of suitable & sufficient land.
c) Uncontrolled / unplanned development & subsequent regulation without civic infrastructure
d) Multiplicity of agencies
e) Cumbersome procedure of environmental clearance and project
f) NIMBY syndrome
g) Registration of waste management Vehicles of more than 2000 CC
vi) For the development of Delhi coordination among various agencies GNCT Delhi is important. DDA is not under Delhi Govt. If Delhi problems get resolved then NCR will be developed.

4.4.2 Shri V.K. Goyal, CCP, NCR Cell, Govt. of Haryana- ***views on implementation strategies:***

i) Last regional plan had a Chapter on Implementation Strategies where various measures were suggested. Policy implementation by identifying the agencies that are responsible: In the state, there are number of agencies responsible for Implementation of plan. Even Land Acquisition Act, Municipal Act, Panchayti Raj Act. Rural development agency has been set up to speed up the development of rural areas.
ii) In the regional plan 2041, it should give flexibility to the State agencies and State government which are involved in implementation to tailor-made and modify the suggested policies given in the regional plan.
iii) Haryana has developed KMP which is a 135 km expressway. NH is bypassing through Delhi which has led to deviation of number of vehicles more than 50,000 vehicles.
iv) **In the state drainage plan, mobility plans have been prepared and a Pond Development Authority for water recharging areas has been established**.
v) Active role of the private sector in various projects is appreciable. State of Haryana has been a torch bearer in this.
vi) HSIIDC - responsible for industrial model townships which are self-contained townships with modern infrastructure.
vii) State has identified the Natural Conservation Zone (NCZ). However, there have been issues in its delineation and state feels before marking, it should be clearly identifiable at the site.
viii) **Area Development Authority should be created**.
ix) A Steering Committee under Chairmanship of Chief Secretary is constituted having members of administrative Secretaries and MD of corporations. State has developed

system of EDC, IDC which are charged on pro rata basis from the developer and money is spent on the infrastructure development only.

x) MRTS Haryana has constituted authorities to oversee HMRTC and which is monitoring the metro work in NCR.

xi) Rail authority has been created to provide orbital rail corridor on the pattern of KMP. DPR has been prepared. Matter being taken up with the Railways. For optimum utilization of land, as land is a scarce resource, it has to be optimally used.

xii) State has prepared SRP for all 9 districts as well newly added areas.

xiii) Number of issues which we have felt during the regional plan since land is a State subject hence; **regional plan should focus on the broad things**, physical and social conditions and polices need to suit the State Govt. and proposal which is to be made should be flexible.

xiv) With the expansion of the NCR it has become very diverse. It should share some best practices in planning and implementation. Example of Magarpatta should be shared in the Regional Plan 2041. Innovative steps from India need to be deliberated in the plan to help the State in land pooling.

4.4.3 Smt. Indira Choudhary, CTP, NCR Cell, Govt. of Rajasthan:

i) Rajasthan Sub-Region of NCR comprises District Alwar and Bharatpur in the State.
- Area – 13,447 sq.km
- 24.41% of Total NCR.
- 04% of the Total area of State.
- Kota and Jaipur have been identified as Counter Magnet Areas of NCR.
- Sub-Regional Plans of both the districts were prepared in conformity with RP-2021.
- Policies and proposals of Regional Plan and Sub-Regional plans are required to be implemented by the state government.

ii) To implement Regional/ Sub-Regional Plan, main nodal Department/ agencies for the planning and coordination are:-

a) Urban Development and Housing Department, Government of Rajasthan

b) Office of Chief Town Planner, NCR Cell, Government of Rajasthan

c) Local Self Government Department, Government of Rajasthan

d) Development Authorities (JDA / BIDA)

e) Rajasthan Town Planning Department

f) Delhi Mumbai Industrial Corporation (DMIC)

g) Rajasthan State Industrial Development and Investment Corporation Limited (RIICO)

h) Urban Improvement Trust, Bharatpur/Alwar/ Kota.

i) Municipal/ Corporation/ Council /Boards/ Rural Local Bodies

iii) A two-tier system for co-ordination & monitoring of implementations of various development policies and proposals of Regional Plan in Rajasthan Sub-Region exists in the State.
- At the **State level, a Steering Committee** has been constituted under the chairmanship of Chief Secretary, Government of Rajasthan. The Member Secretary

of NCRPB and Secretary incharge of various concerned departments are members of this committee. The Urban Development and Housing Department is the administrative department of this committee.

- At **District level, a District Monitoring Committee** has been constituted under the chairmanship of District Collector for Alwar Sub-Region. The district level officers of various concerned departments are members of this committee.

iv) Problems in implementation

a) There is lack of Proper coordination and management between the multiple agencies involved in implementation of policies / proposals of RP/ SRP.

b) Lack of implementation strategies in various implementing department/ agencies for development.

c) Lack of awareness regarding the Regional Plan and the Sub-Regional Plan amongst the elected representatives of the Urban/ Rural Local Bodies and citizens.

d) Development is a large resource consumer. It requires large investments for planning, development and operation of rural, urban and regional facilities, physical and social infrastructure with long gestation period. However, the conventional sources such as, the government budgetary source are drying up and inadequate to meet the projected monetary investment.

e) Shortage of manpower with lack of expertise in their field such as GIS/ IT professionals in NCR Cell of the State.

f) Issues w.r.t. land use

- Modification in plan is required
- due to change in any state policy/ state priority in public interest.
- due to change in development proposals of various departments/ agencies.
- Need to address these issues in Regional Plan 2041 and policy guideline/ mechanism for modification at State level may be incorporated in RP.
- If an use-activity is not specified in use zone of Regional Plan (chapter-17) but which is compatible to that use zone, then State should be given flexibility to allow in SRP.

v) Way Forward

a) Need for State Level Policies for proper coordination and management between the multiple agencies involved in implementation of policies / proposals of RP/ SRP.

b) Sector wise priorities should be identified and accordingly action plan be prepared and implemented

c) Need for formulation of implementation strategies in various implementing department/ agencies for development.

d) It is necessary to mobilize resources by the state through new and innovative measures and credit them to a dedicated fund to promote development.

e) Rajasthan Sub-region has more potential for development but there is scarcity of funds/ resources with the implementing agencies. This need to be overcome by providing soft loans of differential rate of interest to various projects.

f) Rajasthan sub region can be extended special financial package which can be in the form of grant, interest subsidy, taxation based policy etc.

g) Private sector should be encouraged to participate in the development programmes and for this to happen, an environment of mutual trust and understanding should be created between private and public agencies to form Public Private Partnership.

h) For discharging its enhanced role in securing balanced growth of the sub-region, NCR Planning and Monitoring Cell, would require substantial upgradation of the existing manpower with expertise in the field such as GIS/ IT professionals.

i) Awareness regarding the Regional Plan and the Sub-Regional Plan amongst the elected representatives of the Urban/ rural Local Bodies and citizens.

j) Conducting Impact Assessments of projects/ development works and undertaking corrective measure, where necessary.

4.4.4 Shri Rajender Prasad, Govt. of Rajasthan - *views on Sustainable Development Goals -2030:*

i) **Millennium Development Goals -2015**

A) SMDGs were implemented during 2000 to 2015 (01-01-2000 to 31.12.2015)

B) 8 Goals, 21 Targets and 60 Global Indicators

C) At National level 8 Goals, 12 Targets and 35 Global Indicators were adopted

D) India has achieved 5 targets completely as envisaged (1,4,7,8,&18), 2 partly (5 & 10) and rest 4 were remained under progress (2,3,6 &9). No statistical measures were laid down for Target 11 (Improvement in the lives of slum dwellers)

E) Major Targets laid down were

a. Halve the level of poverty (income less than one $ per day) - 21.92% (2011-12) 14.71%

b. Halve the level of underweight children in under three years of age - 33.7% (NFHS 15-16) 36.7%

c. Universalization of Primary Education for 7-14 years children NER in Primary 87.30% (2015-16) 79.20% GER 99.21% (2015-16) 100.43%

d. Eliminate gender gap in school education and empowerment of Women GPR in Primary 1.03 (2015-16) 0.98 Literacy ratio 0.91 (2011) 0.70

e. Reduction in Under 5 mortality (Reduced by 2/3) and MMR (Reduced by 3/4)

- 43 per 000 live birth(2015) 50 per 000 live birth
- 167 per lakh live birth (2011-13) 244 per lakh live birth

f. Reduction in the prevalence of HIV/AIDS/Malaria/TB and other communicable diseases 0.25% / 0.64 per 000/ 195 per lakh 0.38% / 0.87 per 000/ 195 per lakh

g. Increase in forest cover area 21.4% of GA 4.73% of GA

h. Conservation of bio-diversity

i. Promotion of clean fuel

j. Increase in access to an improved water source and Sanitation

- 89.9% HH NFHS 2015-19 85.5% NFHS 2015-19 48.4% NFHS 2015-19 45% HH NFHS 2015-19

k. Make available the benefits of new technologies especially IT & C
   - Tele density 81.83% 31.12.15 82.17% 31.12.15

ii) **Sustainable Development Goals -2030**

a) SDGs build on the principles agreed upon in resolution entitled "The future we want" This was a non binding document released as a result Rio conference held in 2012. India is signatory of the UN Resolution and committed to implementation of SDGs.
b) Along with 193 Member States at the historic UN General Assembly summit in 2015.
c) SDGs adopted by the United Nations in 2015 and came into effect from January 1, 2016.
d) It is a universal, integrated and transformative vision for a better world.
e) Several goals are to be achieved before 2030 and some by 2020.
f) 17 Goals, 169 Targets and 244 Global Indicators (9 repeat in other goals- net 232)
g) For achieving and monitoring this 17 Goals, 169 Targets at national level 306 National Indicators Identified.
h) Addressing three dimensions of development: Social, Economic & Environmental
i) SDGs are guided by three Principles:
   - Leaving No one Behind, Universality, Integrated Approach to Sustainable Development (People, Planet, Prosperity, Peace and Partnership)

iii) **National Action on SDGs**

a) NITI Aayog has been entrusted the task to coordinate and overall monitoring of the SDG implementation in India.
b) Ministry of Statistics and Programme Implementation (MoSPI) is monitoring the progress, developing the national indicators, Capacity building and implementation of SDG at national level.
c) 'Sustainable Development Goals National Indicator Framework (NIF) Baseline Report 2015-16' was released by MoSPI.
d) SDG India Index Baseline Report 2018 was released by NITI Aayog in 2018.
e) NITI Aayog has released SDG India Index 2019-20 on 30th December, 2019.
f) Some Sectoral indices are also prepared by NITI Aayog and Share with State.

iv) **State Action on SDGs**

(A) Institutional set up

a) Planning Department has been declared as nodal department for SDG's implementation and monitoring in the state.
b) A dedicated cell/center has been established in Directorate of Economics & Statistics for effective implementation of SDG's in the state.
c) SDG Nodal & Focal point officers has been Nominated in various 53 associated departments.
d) Rajasthan SDG Status Report 2018 and 2020 Prepared by DES and share with concern agencies.
e) A total of 215 indicators have been identified from NIF to depict the latest status of Rajasthan. Status of Schematic (191) and Priority indicators (62) also mentioned.

(B) **Monitoring System**

a) State level SDG implementation and monitoring committee has been set up under the chairmanship of **Chief Secretary**, **Government of Rajasthan.**

b) As per recommendation of above state level committee, **seven sectoral working groups** were constituted for effective implementation, monitoring and achieving SDG's.

c) For better planning and implementation of SDG's at grassroots level, Government of Rajasthan has constituted District level SDG's implementation and monitoring committee under chairmanship of District collector.

d) All districts have constituted district level committees. 25 districts have already convened meeting of committee.

e) A circular regarding mapping of budget heads with sustainable development goals has been released on 5-09-2019 by finance (income - expenditure section) department.

f) Detailed directions for mapping of schemes and their budget allocations with SDGs have also been issued by Planning Department vide order dated 10.12.2019.

g) Evaluation department entrusted the task to prepare output and outcome budget on the line of SDGs.

h) Development of state dash board has been initiated by DES for generating district/block wise indices for various indicators.

i) Rajasthan SDG Index have been developed on 31 indicators for which district wise data is available.

j) It comprise 12 goals (leaving goal 10, 12, 13, 14 & 17) and 23 global targets.

k) These indicators were selected from list of Priority indicators of NITI Aayog and methodology of NITI Aayog used for computation of Index.

l) Targets set by NITI Aayog were used.

m) Normalization of the indicators done using the formula of NITI Aayog .

(C) **Details of Global/National IF**

a) Still National Indicators has to be decided for 41 Global Targets, only 128 have been covered so far.

b) 306 National Indicators covered 16 Goals

c) Indicators for Goal 17 has yet to be decided.

d) MoS&PI have released meta data for 192 NIs only.

e) NITI Aayaog identified 191 schematic indicators and 62 priority indicators for measuring progress of SDGs at national level.

f) SDG dash board developed by MoS&PI to disseminate progress

g) IEC for SDGs at various platforms

h) Full time staff along with one Dy. Director posted for regress monitoring in SDG centre at DES.

v) **Comparison of State Score and Rank on SDI of Niti Aayog**

a) Rajasthan index score is declined from 59 to 57 (SDG India Index-2018 composite score 59 and SDI 2019-20 score 57). Rajasthan Rank has also declined from 12 to 18

b) 5 indicators of Goal 14 were not included in Index computation because only 9 state's are coastal states.

vi) **Terms of reference of Sectoral Working Groups**

a) Finalize SDG Road Map & Strategy and submit their report to state Level committee - Examine the strategic context.

b) Prioritize issues/concerns that need to be addressed in context of achieving SDGs

c) Conduct gap analysis with respect to monitoring indicators & also examine gaps in the related data reporting systems.

d) Suggest state specific indicators for each SDG that shall have the 2015 value as the baseline and targeted value to be achieved by the state by 2020, 2023 and by 2030.

e) Identifying and scaling up the accelerators within government schemes and programmes for achievement of SDG targets for the State.

f) Identifying and introducing technological innovation in public service delivery, some of which have already been adopted elsewhere and same can be adapted for the state.

g) Identify collaborative departments which are critical for planned interventions. In doing so, also identify the mechanism for coordination to work with other departments.

h) Define steps to be taken by departments for timely, disaggregated and reliable data availability for the SDG indicators.

i) Suggest specific recommendations for achieving gender equality and empowerment of women & girls.

j) Identify capacity building requirement in related departments and suggest plan for capacity building activities.

k) Suggest specific strategy for localization of SDG.

4.4.5 Shri S.C. Gaur, CCP, NCR Cell, Govt. of Uttar Pradesh:

i) Spatial planning in NCR is mandated through the NCRPB act 1985. NCRPB secretariat plays an important role in achieving the NCR plan objectives. Under section 22 of the NCR planning board act 1985 funds are constituted for resource mobilization. To achieve the goals and objectives of the regional plan for national capital region there are various tiers of functioning.

ii) **Hierarchy for Implementation of the Regional Plan of NCR**

a) With the advent the notification of the regional plan the concerned states of the national capital region are stipulated to prepare the sub-regional plan of their respective areas.

b) The hierarchy of the various plans is follows:

- Regional Plan

- Sub-Regional Plan (Approved 2021)
- Master Plans (12 Approved)
- Zonal Development Plans (01 Zonal Plan Approved)

iii) **Development Areas of all the Authorities in UP Sub Region**

a) In order to achieve the broad vision and conceptual framework for the balanced and harmonized development of the region the Uttar Pradesh state has prepared the sub-regional plan 2001 and 2021 of up sub-region of NCR

b) All the development and industrial development authorities have their approved master plans as per the provisions of the up SRP- 2021

c) All the development activities within the controlled/regulated areas are governed by the approved master plans of the respective authority for aiming to carry on planned development in the UP sub region.

iv) **Controlling/Development/Regulating Agencies in UP Sub Region**

a) In order to achieve the objectives of the regional plan followed by the sub-regional plan there are various implementing agencies in the state
   - The development authorities (catering to all the development activities in the entire up sub-region)
   - The industrial development authorities (catering to all the development activities in the entire up sub-region)

b) For the planned development in the national capital region the sub regional plan is taken into account while formulating the master plans in the up sub-region

c) All the policies and proposals are being taken into the framework for the preparation of the master plans

d) At present all the districts of up sub-region have an approved master plans for the perspective year 2021

e) Under the GoI AMRUT scheme GIS based master plans for the perspective year 2031 of the towns of Ghaziabad, Loni, Modinagar, Meerut, Muzaffarnagar, Shamli, Hapur, Bulandshahr & Baruat are being prepared by the state agency

v) Implementation of major infrastructure projects in up sub-region with the financial assistance from NCRPB
   - First 6 lane largest Hindon elevated road in India connecting up gate to Rajnagar extension in Ghaziabad district of Uttar Pradesh
   - Noida -Greater Noida Metro rail (aqua line)

vi) Implementation of Other Projects in UP Sub-Region with State Agencies' Own Financial Resources
   - Delhi–Ghaziabad metro rail-red line connecting Dilshad garden in state of Delhi to new bus stand in Ghaziabad , state of Uttar Pradesh
   - Delhi–Ghaziabad metro rail-blue line connecting Dwarka in state of Delhi to Vaishali in Ghaziabad , state of Uttar Pradesh

- State of art construction of eastern & western peripheral expressway by the coalition efforts of the states of NCR in which eastern peripheral expressway is in up sub-region
- Implementation of rapid rail transit system (RRTS) in UP sub-region

vii) **Issues in Implementation**

a) As under AMRUT GIS based master plans for the perspective year 2031 of the towns of Ghaziabad, Loni, Modinagar, Meerut, Muzaffarnagar, Shamli, Hapur, Bulandshahr & Baruat are being prepared by the state agency, the problem arrives when the hierarchy of the preparation of the various plans is not in in sync with the higher order plan

b) The perspective year of the lower hierarchy plan should be in sync with the higher order plans

c) The Regional Plan should be more flexible in order to enable the state governments to implement

d) Issues in implementing interstate projects

4.4.6 Dr. S.K. Kulshrestha, Regional Planning Expert views are as under:

i) In infrastructure, emphasis on transport is very good. NCR make EPE and RRTS a reality. A region will not develop if mobility is not there. Once that base is established then gap filling is required.

ii) Energy is another very important infrastructure. A proper emphasis has to be given to energy particularly renewable energy part.

iii) Conservation of water at regional level to be thought of.

iv) Lot of stress is being given that NCR is urban biased and there are no rural development policies / plans. A proper importance is being given to rural development and this would only be possible by governance.

v) Our governance system is urban biased. As far as governance is concerned planning, implementation, the 74^{th} and 73^{rd} amendments are important. Those provisions should be appropriately coordinated with the plan. All the sub regional plans must be translated further into district plan and district plan in terms of micro region to be administered by panchayat under mission funds are available. This aspect of governance should be appropriately considered and applied for.

vi) Under the governance various sectors like transportation 45%, power 11%, industrial development 13%, Sewerage 12%, water supply 14% was the funding situation which was limited. These should be made part of the Plan and only then finance should be easier to work out. There should some kind of mechanism for coordination where all agencies which have been identified with their part can share the information. This will be able to do better implementation.

vii) Funding to NCRPB to be increased – it is a recommendation. Huge amount of funds available in different sectors and through convergence these can be clubbed together.

5. Conclusion:

A new & innovative strategy is required to be worked out that could enable the implementation of the Regional Plan. Also, performance indicators with respect to the services and infrastructure should be institutionalized so that the monitoring of the projects is benchmarked against these indicators. Participating States have to go beyond their token approval to the Plan, and have to recognize the Regional Plan as their own Plan and accept the responsibility of implementing its policies, projects and proposals through their physical and financial effort, reflecting it in their five-year and annual plans and work programmes.

NCPRB may consider leveraging the funds from the various schemes / missions launched by the Ministry of Housing and Urban Affairs like Smart Cities, AMRUT, Swachh Bharat Mission, HRIDAY, Urban Transport, Prandhan Mantri Awas Yojana, and Deendayal Antyodaya Yojana National Urban Livelihoods Mission, etc. and also leveraging of funds for rural development from schemes / missions of Rural Development Ministry like Gram Swaraj Abhiyan, PMAY-G, RURBAN (NRuM) and Swachh Gram, etc. Land pooling is an excellent concept and way of getting the land available for various projects.

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List of participants "Implementation Strategies" 24.01.2020

S. No.	Name, Designation and Organization
1.	Shri Anil Kumar, Planning Assistant, NCR Cell, UP
2.	Ms. Rachana Kharwar, ASO, NCR Cell, UP
3.	Shri P. Selvadurai, Director, AMDA & Ex-CTP, CMDA
4.	Shri Gaurav Jain, AO, AMDA
5.	Shri Mukesh Mittal, STP, Rajasthan
6.	Shri S.A. Haider, Ex. Engineer, EDMC
7.	Shri Kana Ram, IAS, Secretary, UIT, Alwar
8.	Shri P.K. Saranagi, Commissioner, NCR Cell, UP
9.	Shri Rajesh Prakash, Additional Commissioner, NCR, Cell, UP
10.	Shri S.C. Gaur, CCP, NCR Cell, UP
11.	Ms. Archana Sharma, Associate Planner, NCR Cell, UP
12.	Ms. Bhawna Bisht, Draughtsman, NCR Cell, UP
13.	Shri Rudan Singh Meena, DTP, Bharatpur
14.	Ms. Mandeep Kaur, STP, Patiala, PDA
15.	Shri Harinder Pal Singh, ATP, PDA
16.	Shri Pankaj, Dy. Commissioner, Nuh
17.	Smt. Indira Chaudhary, CTP, NCR Cell, Rajasthan
18.	Shri Mohit Jain, Accounts Officer, AMDA
19.	Shri Navender Solanki, STP, Rohtak Circle, Town & Country Planning, Haryana
20.	Shri Mandeep Sihag, DTP, Rohtak, Town & Country Planning, Haryana
21.	Ms. Ishita J Kumar, DTP, Alwar
22.	Ms. Saiba Gupta, Research Assistant, NIUA
23.	Shri Anand Kumar Sharma, STP, EDMC
24.	Dr. Manika Negi, GM, HUDCO
25.	Shri Rajinder Sharma, Liaison Officer, Haryana Tourism
26.	Shri S.H. Jafri, Executive Engineer, EDMC
27.	Shri Rajendra Prasad Chulut, DD, Directorate of Eco. & Stat., Govt. of Rajasthan, Jaipur

S. No.	Name, Designation and Organization
28.	Shri Mukesh Kumar Sharma, Director (Oprs.), Delhi Transco Ltd.
29.	Shri Umesh Chand Upadhyay, ADM, Bulandshahr
30.	Shri R.D. Gupta, Dy. H.C., R.H.B., Jaipur
31.	Shri Harinder Singh Bajwa, CTP, Punjab
32.	Shri Nidhi Satokar, Senior Associate, Directorate of Urban Local Body, Haryana
33.	Shri Anuj Kumar Gahlaut, DGMC (Planning), Delhi Transco Ltd.
34.	Shri K.S. Meena, Special CEO, DDMA, Delhi
35.	Shri Bharat Tiwari, Manager, Delhi Transco Ltd.
36.	Shri Ravindra Kumar, Sr. Statistical Officer, TCP, Meerut
37.	Shri S.K. Singhal, Chief Engineer, Housing Board, Rajasthan
38.	Shri Naveen Kumar, ATP O/o DTP, Panipat
39.	Shri Ajmer Singh, ATP O/o DTP, Karnal
40.	Ms. Gurpreet Kaur, AD (CBQT), AMDA
41.	Ms. Sandhya Dameniya, RA (NIUA), DDA
42.	Shri Bharat Bhushan, CTP, SDMC
43.	Shri Alok Kumar, ADM (HR), Muzaffar Nagar Revenue Department, UP Govt.
44.	Shri Sudheer Kumar LBO(LDM Office), Greater Noida, Gautam Budha Nagar, UP
45.	Shri Ishityaq Ahmed, CTP, MDA
46.	Shri B.S. Meena, EE (P), NDMC
47.	Ms. Neelanjali, DD
48.	Shri Sumeet Malik, ATP O/o DTP, Haryana
49.	Shri W. Sukhabir Singh, SM (P), GNIDA
50.	Shri Chrisoph Lessler, Director, KfW
51.	Shri Jai Karan, ATP O/o DTP (P), GGM
52.	Ms. Usha Kiran, STP (ULB), Haryana
53.	Shri Neeraj Gupta, JE, BBKDA, Baghpat
54.	Shri Totak Acharya, AD(Plg.), AMDA
55.	Shri V.K. Goyal, CCP, NCR, Panchkula
56.	Shri Jiju J.S., Technical Officer, MoEF&CC
57.	Ms. Ekta Mehra, KfW

S. No.	Name, Designation and Organization
58.	Dr. Rajani Ved, Executive Director, NHSRC
59.	Shri Animesh Kr. Singh, Asstt. Director (Plg.), MPMR, DDA
60.	Shri Vinod Kumar, Dy. Commissioner (INDS), GNCT-Delhi
61.	Shri Om Parkash, ATP, NCR Cell, Haryana
62.	Shri Pramod Kumar, Asstt. Manager (Tech.), DTL
63.	Shri Rajesh Aggarwal, Joint Director, Technical Education, Haryana
64.	Shri R. Srinivas, Town & Country Planner, TCPO
65.	Shri Naresh Kumar, DTP, Faridabad, T&CP, Haryana
66.	Dr. P.S. Rana
67.	Shri Reginald J. Sinclair, GM – CREDAI
68.	Shri Atul K. Rai, CEO & DG, CREDAI
69.	Shri Abhinav Aggarwal, Engineering Intern (JE), DUSIB
70.	Ms. Babita Gupta, DTP, NCR Cell, Haryana
71.	Shri Vijay Kumar, DTP, NCR Cell, Haryana
72.	Dr. Gurdev Singh, Delhi Cantt.
73.	Ms. Neha Yadav, ATP, TCPO, Haryana
74.	Shri P.K. Jain, Ex-FAO, NCRPB
75.	Dr. Monika Rana, SPO, Delhi Govt.
76.	Shri Ravi Parkash Sihag, Sr. Town Planner, Faridabad
77.	Shri A.D. Biswas, Chief Town Planner, North Delhi Municipal Corporation
78.	Dr. B. Singh, Additional Commissioner, EDMC
79.	Shri P.K. Tomar, SE, PWD, GNCT-Delhi
80.	Shri R.K. Gupta, SE, MDA, Muzaffar Nagar
81.	Mohd. Shafqat Kamal, VC, Bulandshahr Khurja Development Authority
82.	Shri K. Mohan, Town Planner, Town & Country Planning, Deptt. of UP, Lucknow
83.	Dr. Shiv Singh Rawat, SE, Irrigation, Gurugram
84.	Shri Ram Mehar, Tracer, O/o DTP Bhiwani, Haryana
85.	Shri Karamdeep, Asstt. Director (Planning), DDA
86.	Shri Rajender T. Sharma, DTP, Palwal & Nuh, Haryana
87.	Shri Mohd. Haroon, JE, HPDA, Hapur

S. No.	Name, Designation and Organization
88.	Shri Probhat Kr. Paul, ATP, HPDA, Hapur
89.	Dr. S.K. Kulshrestha
90.	Shri Sandeep Kumar, Joint Director, O/o DTP, Charkhi, Dadri
91.	Shri S.K. Singh, IAS, Secretary, UP Govt.
92.	Shri Shankar Agarwal, IAS
93.	Shri Virender Kumar, Asstt. Town Planner, Rewari
94.	Shri Udit Ratna, Town & Country Planner, TCPO
95.	Shri Gulshan, Deputy Collector, Baghpat, UP
96.	Dr. Arindam Biswas, IIT, Roorkee
97.	Shri Viraj Malik, JE O/o DTP, Rewari
98.	Shri B.R. Bansal, Chief Engineer, North, DMC
99.	Ms. Jyoti Vijayan Nair, RA, NIUA
100.	Shri S.K. Bhandari, Special Secretary (UD), Delhi Govt.
101.	Shri R.C. Kesarwani, Joint Secretary (Health), Delhi Govt.
102.	Shri N.K. Sharma, Manager (T), Delhi Transco Ltd.
103.	Shri Angad Singh, JE, HPDA, Hapur
104.	Shri S. S. Rawat, Joint Director (UD), GNCT-Delhi
105.	Ms. Alka Arya, Director (Planning), DDA
106.	Shri Rajeev Chadha, KPMG
107.	Shri K.K. Pandey,
108.	Shri V. Ravichandran,
109.	Shri Sushant Jain, Architect, Urban Student, The Teak House
110.	Shri O.P. Mathur
111.	Shri N.T. Krishna, Joint Director (Plg.), GNCT-Delhi
112.	Shri Manvendra Singh, Joint Director, Bharatpur
113.	Shri Abhilesh Badel, CEO, Feedback Infra.
114.	Shri Pramod Kumar Sharma, AE, HPDA, Hapur
115.	Shri Nayan Prakash Gandhi, Phd Scholar, LNCT University,
116.	Shri D.P. Singh, Dean & Director, Amity School of Architecture & Planning
117.	Prof. Sandeep Kumar, Associate Professor, Amity University

S. No.	Name, Designation and Organization
118.	Shri Sameer Sharma, Former AS, MoHUA

Annexure-I

IMPLEMENTATION STRATEGIES
Date: 24.01.2020
Venue: Jacaranda Hall, IHC, Lodhi Road, New Delhi

S. No.	Topics	Speakers
Session I: Inaugural Session		
Chair: Shri P K Sarangi. Commissioner, NCR Cell Uttar Pradesh		
1.	Welcome address	Shri Satish Prashar, Chief Regional Planner, National Capital Region Planning Board
2.	Implementation Strategies	Dr. Christoph Kessler, Country Head, KfW
3.	Implementation Strategies	Shri Parag Gupta, Advisor, Niti Ayog
Tea Break		
Session II: Challenges & Strategies for Implementation of NCR 2041		
Chair: Shri Shankar Aggarwal, Ex-Secretary, MoHUA		
4.	Challenges & Strategies for Implementation of NCR 2041	Smt. Kanchan Verma, V.C., GDA
5.		Shri O.P. Mathur, Former Director, NIUA
6.		Dr. P.S. Rana, PHDCCI
7.		Shri Atul K Rai, DG & CEO, CREDAI
8.		Shri Shankar Aggarwal, Ex-Secretary, MoHUA
Lunch		
Session III: Perspectives on Implementation Strategies for NCR 2041		
Chair: Shri O.P. Agarwal, CEO, World Research Institute		
9.	Perspectives on Implementation Strategies	Shri Ravi Chandran, Director, PWC
10.		Prof. Arindam Biswas, Arch. & Plg., IIT (R)
11.		Shri P. Selvadurai, Ex-CTP, Chennai MDA
12.		Prof. K.K. Pandey, IIPA
13.		Shri Abhilesh Babel, CEO, Feedback Infra

S. No.	Topics	Speakers
14.		Shri O.P. Agarwal, CEO, World Research Institute
Session IV: Perspectives of Governments of NCR States		
Chair: Dr. S.K. Kulshrestha, Regional Planning Expert		
15.	Perspectives on Implementation Strategies by NCR States	**Govt. of Delhi**: Shri S K Bhandari, Special Secretary, GNCTD
16.		**Govt. of Haryana**: Shri V K Goyal, CCP NCR Cell, Haryana
17.		**Govt. of Rajasthan**: Smt. Indira Chaudhury, NCR Cell, Rajasthan
18.		**Govt. of Rajasthan:** Shri Rajendra Prasad, Dy. Director, Directorate Economics& Statistics, Rajasthan
19.		**Govt. of Uttar Pradesh**: Shri S C Gaur, CCP, NCR Cell UP
20.		Chair: Dr. S.K. Kulshrestha, Regional Planning Expert
21.	Closing Remarks	Smt. Archana Agarwal, Member Secretary, National Capital Region Planning Board
22.	Vote of Thanks	Shri Jagdish Parwani, Director (A&F), National Capital Region Planning Board

Annexure-3/II

राष्ट्रीय राजधानी क्षेत्र योजना बोर्ड
NATIONAL CAPITAL REGION PLANNING BOARD
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भारत पर्यावास केन्द्र, / India Habitat Centre,
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आवासान और शहरी कार्य मंत्रालय / Ministry of Housing and Urban Affairs
दूरभाष/Phone: 011-24642284, 24642287 फैक्स/Fax: 011-24642163

स्वच्छ भारत
एक कदम स्वच्छता की ओर

No. K-14011/24/2019-NCRPB (Vol I)

Dated: 11.02.2020

Minutes of the First Meeting of the Core Advisory Committee for the Preparation of Regional Plan 2041 for the National Capital Region (NCR) held on 29.01.2020

Please find enclosed the Minutes of the above mentioned meeting held on 29th January 2020 under the Chairpersonship of Member Secretary, NCR Planning Board, for your information and necessary action.

2. This issues with the approval of Competent Authority

11-2-2020

(Satish Parashar)
Chief Regional Planner
Member Convenor

Encls: As above.

Copy to:

i) Vice Chairman, Delhi Development Authority(DDA)
ii) Principal Secretary, Town & Country Planning, Govt. of Haryana
iii) Principal Secretary, Housing & Urban Planning, Govt. of Uttar Pradesh
iv) Principal Secretary, Urban Development, Govt. of GNCT of Delhi
v) Principal Secretary , Urban Development & Housing, Govt. of Rajasthan
vi) Director, School of Planning & Architecture, New Delhi
vii) Dr. S. K Kulshreshtha, Urban & Regional Planner, New Delhi
viii) Director General, The Energy and Resources Institute (TERI)
ix) Managing Director, National Capital Region Transport Corporation (NCRTC)
x) Director General, Bureau of Energy Efficiency, Ministry of Power
xi) Director, National Institute of Urban Affairs (NIUA)
xii) Director, National Health Systems Resource Centre (NHSRC)
xiii) Chairman, All India Council for Technical Education (AICTE)
xiv) PS to MS, NCRPB- for kind information

जारी / Issue....11/2/2020.....
/Date.....

Minutes of the First Meeting

Core Advisory Committee for the Preparation of Regional Plan 2041 for the National Capital Region (NCR) held at 11:00 AM on 29.01.20 in the office of N C R Planning Board, New Delhi.

1. At the outset Smt. Archana Agrawal, Member Secretary-cum-Chairperson welcomed members and participants to the first meeting of Core Advisory Committee (CAC) and initiated deliberations that objective of constituting the committee was to coordinate, monitor and oversee the preparation of Regional Plan 2041 for National Capital Region. After a brief introduction Sh. Satish Parashar, Chief Regional Planner-cum-Member Convener was advised to initiate the discussions, who again welcomed all participants and informed that this meeting is convened to apprise the CAC members regarding ongoing actions as well as in furtherance actions proposed to be initiated to fetch precious advice /feedback for Preparation of Regional Plan 2041 of the National Capital Region (NCR). He thereafter requested Sh. Abhijeet Samanta, Deputy Director (Tech), NCRPB for presentation regarding course of action initiated in this regard.

2. List of participants is at **Annexure-I**.

3. Deputy Director (Tech), NCRPB made a brief presentation giving details of action taken so for and seeking inputs on what should be the further course proposed to be taken. The presentation and deliberations are summarized below:

i) Through presentation, the members were apprised that NCRPB has already completed review exercise of Regional Plan 2021 through various study groups, population projections were completed for current NCR of year 2041. Both, Review Report of RP 2021 and Population Projections for 2041 of NCR report, had been placed before Board and both stand approved in the 38th Board meeting, held on 13th September 2019. It was informed that current NCR with an area of about 55,083 sq. km. was expected to have population of about 11.3 Cr by 2041. It was further told that the Data collection work was also initiated by NCRPB for various sectors vis-à-vis NCR participating States, through formats specifically prepared and circulated for this purpose and that the Member Secretary, NCRPB-cum-chairman has continuously been taking its review and follow-up meetings. In addition to this, video conferences have been held to expedite the said process.

On this, all the members present, highly appreciated the advance course of action taken and so adopted by the Board.

ii) The members were informed about 'Inaugural Conclave on NCR 2041-Planning for Tomorrow's Greatest Capital Region', which was organized by NCRPB at Vigyan Bhawan on 11.11.19, where Secretary, HUA, GoI was kind enough to grace the occasion by inaugurating and Chairing the Conclave. The invitees to the Conclave included officials from all NCR States, important Ministries/Departments of Govt. of India, Knowledge Institutions, Industry, Housing Associations, Experts, Field Officers from Districts, and other important stakeholders, which witnessed significant active and positive participation.

iii) Members were also informed that after the grand success of Conclave, NCRPB organized 17 nos. workshops where exhaustive deliberations, series of discussions & dialogues covering 17 probable sectors, topics that could be taken up in Conclave on Regional Plan 2041 formulation, were held. These 17 full day Workshops started from 3rd December 2019 till 24th January 2020 and were held on topics of Transport and Mobility; Power and Energy; Water and Drainage; Sanitation and Comprehensive Waste Management; Environment and Disaster Management; Agriculture; Rural Development; Health; Education; Tourism and Heritage; Economic Growth and Income Generation; Sports Skill and Social Support System; Safety and Security; Digital Technology and Platform; Citizen Centric Planning; Housing Infrastructure and Zoning Regulations; and Implementation Strategies. These Sector wise Stakeholders Consultation Workshops had participation from all NCR States, concerned Ministries/Departments of Govt. of India, Knowledge Institutions, Industry, sector related departments, Experts, Field Officers from Districts, and other concerned stakeholders. A dedicated session was reserved in each of the 17 workshops, for all 4 NCR States to share their vision on the topic of the day. Brief summary about the speakers and topics, in each of workshop was shared with members present in meeting, who unanimously applauded and appreciated the efforts made by the Board.

It was noted by the members that speakers included high rank senior officials like Additional Secretary and Joint Secretary levels from related sectors of Central as well as NCR States Ministries, NITI Ayog, Experts and Knowledge Institutions within and outside Government like SPA, TERI, IIT Delhi, IIT Roorkee, IIPA, other Metropolitan Authorities, Sector specific Institutions, Skill Development Councils, Consultants alongwith NGOs, associations, district level officials, which helped to include inputs from maximum concerned stakeholders.

iv) It was also conveyed that MS, NCRPB had verbally and through D.O. letters in November 2019, already requested Chief Secretaries of NCR participating State Governments for active participation of concerned state officers, departments, respective District Magistrates (DMs)/ District Collectors (DCs), Authorities/ Corporations/ Industrial Development Authorities/Urban Local Bodies/ Improvement Trusts, Zila Panchayats etc. as applicable with advice that district administrations should hold necessary prior consultations amongst all stakeholders including elected representatives in their areas, for a comprehensive inputs for the workshops. The States were also informed that after these workshops, Sub Region wise Conclaves, are proposed which would tentatively be held in February 2020, under the chairmanship of the respective Hon'ble Chief Ministers of NCR States, as per their time and convenience, wherein all stakeholders be invited. The venues shall be in respective States as convenient to States, and accordingly it was suggested that advance action in this regard be taken. Member Secretary, NCRPB also requested Chief Secretaries of all 4 States on phone in November/December 2019, to seek convenience of their Hon'ble Chief Ministers, for these State level conclaves. All the concerned Members of States, assured necessary action in this regard.
The Chairperson also appreciated active participation of respective States, and expressed hope that States will have their respective Conclaves in February 2020 of which and expenses so incurred will be reimbursed by NCRPB after approval of Board.

v) Members were further appraised that in accordance with the directions of Board, NCRPB undertook exercise for NCR delineation and draft of report was placed before the Board in its 38th Board meeting, wherein after deliberations the Board appreciated the action taken by Committee constituted for Delineation of NCR and Chairman, NCRPB had suggested that a workshop be organized inviting experts and stakeholders to discuss the Options suggested in the report. In accordance with which NCRPB held a Conference in Vigyan Bhawan, New Delhi, on 17.01.20, of which the status is proposed to be placed in the next Board meeting, as per Board directions. The two options (area of about 35,483 sq.km & 45,583 sq.km) along with current NCR (55,083sqkm) was presented to the CAC, on which most of the members expressed their views and were largely of the view that NCR should be contiguous but should be of a manageable size.

vi) Principal Secretary, Urban Development, GNCTD & Director, NIUA agreed to work in close coordination for organizing State specific Conclave for Delhi, since NIUA is already engaged with the Delhi Master Plan work for 2041. It was also suggested that the Conclave in states could cover a) Vision of State as part of NCR; b) Specific learnings and issues of the State; c) Expectations

from Regional Plan 2041- way forward. The list of invitees by States should also include, all DM/DCs, Zila Panchayat/ Parishad heads, Heads of Authorities, Statutory bodies, Associations etc. of NCR region along with various agencies involved in development works. It was suggested by States that NCRPB needs to increase its financial assistance portfolio, to make real time impact as per its potential. The Chair also suggested that States should submit an advance list of projects for which they intend to take financial assistance from NCRPB, so that NCRPB may plan for funds accordingly and in time.

vi) Members also deliberated on whether it would be better that next Regional Plan-2041 could be structured as "Outcome Based Plan" in place of sector wise chapters as in RP-2021. The broad heads proposed included Ease of Living; Quality of Life; Ease of Mobility; Polycentric Growth/Development; Economic Networking; Infrastructure Collaboration/ prioritize spatial planning; Re-Densification, Redevelopment, FAR innovations; Responsible Resource Use; Resilience & Security; Heritage & City Signatures; and Inclusive, Citizen Centric & Futuristic Planning. Principal Secretary, T&C, Haryana suggested that under 'Ease of Living', the concept of 'Live, Work and Play safe & all abled spaces', could be considered. Secretary, UD, GNCT of Delhi suggested aspect of mandatory play areas within green spaces should be considered in the plan. Further, the land use in and around historic monuments need to cater to adequate support systems of food etc. for tourists. Director, NIUA added that, an aspect of Institutional Mechanism and Monitoring Framework should also be addressed adequately in the next plan. Director General, Bureau of Energy efficiency (BEE), added that while much is said about supply side, there should be some guidelines from the Demand side as well. Possibility of having a Green Building Code for all developments in NCR could be thought of. Secretary, UD, GNCT of Delhi added that while giving Green ratings, aspect of utilization of construction material type, especially C&D waste, should also be seen. Chair added that aspect of Circular economy would also be important for consideration.

As the comprehensive subject required more time, it was decided that while outcome based RP-2041 should be prepared, members may think over the components of Outcome Based Plan, and give their suggestions/comments in a week's time. Accordingly proposed list may be revised/updated.

vii) While concluding the discussions, Chairperson reiterated that NCRPB intends to again seek time with Hon'ble Chief Ministers of NCR states, to discuss about Regional Plan 2041 as well as to

discuss the ways to have a forward looking agenda for the forthcoming Board meetings, as was also directed by Chairman, NCRPB in the 38th Board meeting held in September 2019. Secretary, UD, GNCT of Delhi also informed that works of NCR Planning & Monitoring Cell, for Delhi were now under Urban Development Department, and an official communication shall also be sent to NCRPB in this regard. It was also informed that subsequent to the constitution of the Core Advisory Committee, Chairman, All India Council for Technical Education (AICTE) has been made member of the Committee.

4. Shri. Satish Parashar, Chief Regional Planner-cum- Member Convener, expressed his gratitude to all participants and members for positive and constructive deliberations for preparation of RP-2041. The meeting ended with a vote of thanks to the Chair.

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ANNEXURE-I

Participants of the first meeting of Advisory Core Committee for the Preparation of Regional Plan 2041 for the National Capital Region (NCR) held at 11:00 AM on 29.01.20 in the office of N C R Planning Board, New Delhi, under the Chairpersonship of Member Secretary, NCRPB

1.	Ms. Archana Agrawal, Member Secretary, NCR Planning Board	**In Chair**
2.	Shri A.K. Singh, Principal Secretary, Town & Country Planning Department, Haryana	Member
3.	Ms. Manisha Saxena, Secretary (UD), GNCT Delhi	Member
4.	Prof. Dr.P.S.N.Rao, Director, School of Planning and Architecture	Member
5.	Shri Abhay Bakre, Director General, Bureau of Energy Efficiency	Member
6.	Shri Hitesh Vaidya, Director, National Institute of Urban Affairs	Member
7.	Shri Rajesh Prakash, Addl. Commissioner , NCR, Uttar Pradesh – Representating Principal Secretary, Housing & Urban Planning, Govt. of UP	Member
8.	Ms. Indira Choudhary, Chief Town Planner, Town Planning Department - Representating Principal Secretary, UDH, Govt. of Rajasthan	Member
9.	Dr. K. Srirangan, Addl. Commissioner (Plg.), DDA – Representing Vice Chairman, DDA	Member
10.	Shri Satish Parashar, Chief Regional Planner, NCRPB	Member Convener
Haryana		
11.	Shri Jitender Sihag, Chief Town Planner, Town & Country Planning Department, Haryana	
12.	Shri Vijay Kumar, District Town Planner, NCR Cell, Haryana	
Delhi		
13.	Shri G.S. Rawat, Jt. Director (Plg.), UD Deptt., GNCT Delhi	
Uttar Pradesh		
14.	Shri S.C. Gaur, chief Coordinator Planner, NCR Planning & Monitoring Cell UP, Ghaziabad	
Bureau of Energy Efficiency		
15.	Ms. Shatakshi Suman, Sector Expert, Bureau of Energy Efficiency	
NCRPB		
16.	Shri Jagdish Parwani, Director (Admn. &Fin.)	
17.	Shri Abhijeet Samanta, Deputy Director (Tech.)	

Annexure-3/III

राष्ट्रीय राजधानी क्षेत्र योजना बोर्ड
NATIONAL CAPITAL REGION PLANNING BOARD
प्रथम तल, कोर–IV बी, / 1st Floor, Core-IV-B,
भारत पर्यावास केन्द्र, / India Habitat Centre,
लोधी रोड, नई दिल्ली–110003 / Lodhi Road, New Delhi-110003
आवासन और शहरी कार्य मंत्रालय / Ministry of Housing and Urban Affairs
दूरभाष / Phone : 011-24642284, 24642287 फैक्स / Fax : 011-24642163

No. K-14011/24/2019-NCRPB (Vol.-I) Dated: 27.02.2020

Minutes of the Second Meeting of the Core Advisory Committee for the Preparation of Regional Plan-2041 for the National Capital Region (NCR) held on 25.02.2020

Please find enclosed the Minutes of the above mentioned meeting held on 25th February, 2020 under the Chairpersonship of Member Secretary, NCR Planning Board, for your information and necessary action.

2. This issues with the approval of Competent Authority.

(Satish Parashar)
Chief Regional Planner
Member Convenor

To,

i. Vice Chairman, Delhi Development Authority (DDA)
ii. Principal Secretary, Town and Country Planning Department, Govt. of Haryana
iii. Principal Secretary, Housing & Urban Planning Department, Govt. of Uttar Pradesh
iv. Principal Secretary, Urban Development, Govt. of NCT of Delhi
v. Principal Secretary, Department of Urban Development & Housing, Govt. of Rajasthan
vi. Director, School of Planning and Architecture , New Delhi
vii. Dr. S. K. Kulshrestha, Urban & Regional Planner, New Delhi
viii. Director General, The Energy and Resources Institute (TERI)
ix. Managing Director, National Capital Region Transport Corporation (NCRTC)
x. Director General, Bureau of Energy Efficiency, Ministry of Power
xi. Director, National Institute of Urban Affairs (NIUA)
xii. Executive Director, National Health Systems Resource Centre (NHSRC)
xiii. Chairman, All India Council for Technical Education (AICTE)
xiv. PS to MS, NCRPB – for kind information

जारी / Issue.....27/2/20.....
दिनाँक / Date.....
हस्ताक्षर / Signature.....

Minutes of the Second Meeting

Core Advisory Committee for the Preparation of Regional Plan 2041 for the National Capital Region (NCR) meeting held at 12:00 Noon on 25.02.20 in the office of NCR Planning Board, New Delhi.

1. Member Secretary, NCRPB & Chairperson, Core Advisory Committee (CAC) welcomed members & participants in the meeting. Initiating discussion she stated that objective of constituting the committee was to monitor, coordinate and advice in preparation of Regional Plan 2041 for National Capital Region (NCR). After a brief introduction Chief Regional Planner & Member Convener was requested to initiate the discussion that this meeting is convened to apprise the CAC members regarding ongoing action as well as in furtherance action proposed to be taken and get valuable advice for preparation of Regional Plan 2041. Thereafter, Deputy Director (Tech.), NCRPB made a presentation regarding action taken so far in this regard.

2. List of participants is at **Annexure-I**. It was noted there was no representation from Govt. of Haryana.

3. Deputy Director (Tech), NCRPB made a brief presentation giving a recapitulation of discussions held in the last meeting, for the benefit of all participants. The presentation and deliberations are summarized below:

i) Members and participants were apprised that NCRPB has already completed review exercise of Regional Plan 2021 through 14 Study Groups and Population projections have been carried out for NCR for year 2041. It was informed that NCR with an area of about 55,083 sq. km. is expected to have population of about 11.3 Cr. by 2041.

ii) Further formats for data collection were designed and work for data collection had been initiated by NCRPB for various sectors vis-à-vis NCR participating States. NCRPB is continuously reviewing the data collection process through follow-up meetings and video conferences, to expedite the data collection.

iii) Subsequent to *'Inaugural Conclave on NCR 2041-Planning for Tomorrow's Greatest Capital Region'*, held on 11.11.19, NCRPB had also organized 17 full day Workshops from 3rd December 2019 till 24th January 2020 on probable sectors/topics for Regional Plan 2041. The workshops were attended by Senior Officers from Ministries/Departments of Govt. of India, all NCR States, Knowledge Institutions, Industry, Housing Associations, Experts, Field Officers

from Districts, NGOs and other stakeholders and exhaustive deliberations, series of discussions & dialogues were held.

iv) NCR Delineation exercise undertaken and directions of the Board to have a workshop organized inviting experts and stakeholders to discuss the Options suggested in the draft Report. Accordingly, a Conference was organized by NCRPB on 17.01.20 and the status in this regard is proposed to be placed in the next Board meeting. It was informed that as per last meeting, most of the members were largely of the view that NCR should be contiguous but should be of a manageable size.

v) NCR States were also suggested to have Conclaves related to Regional Plan 2041 in their respective sub regions, and indicative topics & probable participants were also discussed in last meeting, the same are still to be held.

vi) On suggestion of States that NCRPB needs to increase its financial assistance portfolio, to make real time impact as per its potential, States were requested to submit an advance list of projects for which they intend to take financial assistance from NCRPB, so that NCRPB may plan for funds accordingly and in time. The list was still awaited and States were again requested to submit the list at the earliest.

vii) Members & participants were also apprised about the deliberation on whether it would be better that next Regional Plan-2041 could be structured as "Outcome Based Plan" in place of sector wise chapters as in RP-2021. It was informed that the broad heads proposed, were shared with members but no comments were received. It was decided that the same may again be shared and members may submit their comments /additions/ suggestions within a week as the work on same is to be initiated accordingly.

The proposed topics included, *Ease of Living; Quality of Life; Ease of Mobility; Polycentric Growth/Development; Economic Networking; Infrastructure Collaboration/ prioritize spatial planning; Re-Densification, Redevelopment, FAR innovations; Responsible Resource Use; Resilience & Security; Heritage & City Signatures; Fitness & Sports and Inclusive, Citizen Centric & Futuristic Planning.*

4. Further, Members and participants of CAC, deliberated on the matter and gave their suggestions as follow:

a) Director, NIUA suggested that, an aspect of Implementation Strategies & Performance Indicators, Institutional Mechanism and Monitoring Framework along with financial modalities, could come under a separate chapter. He also highlighted the need to arrive at 'how do we intend to position NCR in the country' through a vision statement.

b) Executive Director, NHSRC while mentioning that formal comments will be submitted shortly, indicated that 'Health' has a comprehensive base and is related to education, sanitation etc. and needs to be captured accordingly.

c) Representative from Govt. of Rajasthan mentioned that comments on the 'Outcome base' approach will be submitted shortly. She also added that Rajasthan has always advocated that all land intensive activities could be shifted to Rajasthan sub region.

d) Representative from DDA, highlighted the need to cover the 'Climate Change' aspect that is directly affecting Delhi & NCR. He also mentioned that formal comments from DDA will be sent within a week.

e) Committee felt the need to address issues related to Inclusive Planning like vulnerable categories/ beggars/ elderly population, etc. Efforts of Board need to be such that financial assistance being provided by it leads to local population getting employment as well.

f) Dr. Kulshreshtha highlighted that while the new approach of Outcome based is welcomed, there is a need of marriage of the traditional sectoral approach with the outcome based approach. We need to understand that Regional Plan could limit itself to being a policy document and leave the detailing of issues like beggars/ urban spaces/ night shelters etc. to the Master Plan level. Regional Plan could identify the depressed districts and let districts come up with a plan for its development /betterment.

g) Chairperson mentioned that while micro detailing will be in respective Sub Regional Plans and Master/Development Plans, Regional Plan should play its role in providing a broad workable framework to be micro detailed out in the plans down the hierarchy. Committee agreed that the principles of planning need to be established at Regional Plan level. Implementation through lower hierarchy of plan should be responsibility of States, as they need to have flexibility on the aspect. Challenge will be make the RP have guidelines with sufficient detailing to ensure future-ready NCR, while allowing flexibility to States and districts.

5. Deputy Director (Tech.), NCRPB further apprised the CAC that towards a structured approach for undertaking preparation, finalization & notification of Regional Plan 2041 for NCR, a tentative schedule has been worked out (in a reverse order from September, 2021 i.e. the date of expiring of the horizon year of current Regional Plan) and a chronological time frame has been prepared. The said tentative schedule was presented before the CAC and after discussion & deliberations on the same CAC observed that First Draft of RP-2041 has to be ready for discussion in the Planning Committee by 15th April 2020 which is a very limited time (about 45 days) for undertaking the humongous task of Regional Plan preparation. Yet the committee agreed that at present, this was the only and best option available.

6. The matter regarding writing the chapters of the Regional Plan-2041 was also discussed. Various options like constitution of Expert Committee(s), or engagement of SPA, or engagement of individual experts were deliberated. In this regard, Director, NIUA was of the view that constitution of Expert Committee may not work due to limited time and experience of NIUA was quoted. It was further felt that if individual experts are engaged, level of detailing will vary in case of individual subject experts, therefore, these options would not be very fruitful. It was also felt by Committee that while SPA would be a good option, but may not be able to do this in the time we have at hand, since their faculty is also fulltime.

7. Chairperson suggested that since all the above three options seem to unworkable for various reasons, we may engage experts from various fields / sectors who contributed in the 17 workshops held for preparation of RP-2041 for NCR and experts from SPA. These experts may guide in-house team of NCRPB.

8. CRP, NCRPB suggested the need for engaging some experienced sectoral Experts in-house for RP-2041 preparation, for various sectors like Transport, GIS, Statistics & Demography, Environment, Health, Education, etc. considering the limited strength of existing technical officers at NCRPB. Committee agreed and CRP was advised to put-up such proposal in next 3-4 days.

9. After detailed discussion and deliberations, it emerged that experts from stakeholder workshops be explored/approached who can help NCRPB's in-house team in writing the chapters and the work can be further supervised by the experts from SPA. CAC also decided that required manpower should be hired for hand holding of existing in-house team at NCRPB.

10. As the comprehensive subject required more time, it was decided that while outcome based RP-2041 should be prepared, members may think over the components of Outcome Based Plan, and give their suggestions/comments in a week's time. Accordingly the proposed list of titles of sections may be revised/ updated.

11. CRP & Member Convener expressed gratitude to all members and participants for positive & constructive deliberations and suggestions for preparation of RP-2041. The meeting ended with a vote of thanks to the Chair.

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ANNEXURE-I

List of participants of 2nd meeting of Core Advisory Committee for Preparation of Regional Plan 2041 for NCR, meeting held on 25.02.20 at NCRPB office, under the Chairpersonship of Member Secretary, NCRPB

1.	Ms. Archana Agrawal, Member Secretary, NCR Planning Board	**In Chair**
2.	Shri Kuldeep Pakad, Spl. Secretary (UD), GNCT Delhi (*representative of Secretary (UD), GNCT Delhi)*	Member
3.	Shri Rajesh Prakash, Addl. Commissioner, NCR Planning & Monitoring Cell, Ghaziabad *(representative of Principal Secretary, Housing & Urban Planning Department, Govt. of U.P.)*	Member
4.	Ms. Indira Chaudhry, Chief Town Planner, NCR Planning & Monitoring Cell, Rajasthan *(representative of Principal Secretary, UDH, Govt. of Rajasthan)*	Member
5.	Shri Hitesh Vaidya, Director, National Institute of Urban Affairs (NIUA), Lodhi Road, New Delhi.	Member
6.	Dr. Rajani Ved, Executive Director, National Health Systems Resource Centre (NHSRC), New Delhi	Member
7.	Shri Jayesh Kumar, Chief Engineer (G), NCRTC, New Delhi *(representative of MD, NCRTC)*	Member
8.	Dr. S. K. Kulshrestha, Urban and Regional Planner Expert	Member
9.	Dr. K. Srirangan, Addl. Commissioner (Plg.) III, DDA, New Delhi *(representative of VC, DDA)*	Member
10.	Ms. Shatakshi Suman, Sector Expert-Building, Bureau of Energy Efficiency, Ministry of Power, New Delhi *(representative of DG, BEE)*	Member
11.	Shri Satish Parasher, Chief Regional Planner, NCRPB, New Delhi	Member-Convener
Delhi		
12.	Shri Ajay Kumar, Assistant Director, UD Deptt., GNCT Delhi.	
NCRPB		
13.	Shri Jagdish Parwani, Director (A&F), NCRPB	
14.	Shri J. N. Barman, Consultant (Plg.), NCRPB	
15.	Shri Abhijeet Samanta, Deputy Director (Tech.), NCRPB	
16.	Shri Naresh Kumar, Assistant Director (Tech.), NCRPB	

Annexure-5/1

2019

DRAFT REPORT

DELINEATION OF NATIONAL CAPITAL REGION (NCR)

Prepared by
NCRPB

REPORT ON DELINEATION OF NATIONAL CAPITAL REGION

1.0 Background

1.1 National Capital Region Planning Board (NCRPB) was constituted under the NCRPB Act, 1985 (An Act of the Parliament) with mandate to prepare the Regional Plan for the development of National Capital Region (NCR). NCRPB Act provides the original area for NCR under its Schedule placed at **Annexure-I**.

1.2 NCRPB prepared the Regional Plan-2001 which was notified in year 1989, for the then area of NCR (30,242 sq. km.) as per Schedule II of the NCRPB Act, 1985. Subsequently, the geographical area of NCR increased to 33,578 sq.km at the time of preparation of the Regional Plan-2021 (notified in 2005) and then to 34,144 sq. km when whole of Alwar district became part of NCR. Thereafter the geographical area of NCR increased to 45,888 sq. km. in 2013 after inclusion of three more districts, namely, Mahendragarh & Bhiwani from Haryana and Bharatpur from Rajasthan. Subsequently, four more districts, namely, Jind & Karnal from Haryana and Muzaffarnagar in 2015 and Shamli from U.P. in 2018, were included in NCR. Thus, the area of NCR has increased from 30,242 sq Km in 1989 to 55,083 sq. km in 2018. The Notifications of year 2013, 2015 and 2018 are given at **Annexure-II.**

2.0 Provisions in NCRPB Act, 1985 regarding addition or exclusion of area

2.1 Section 2(2)(*f*) of the NCRPB Act provides that the Central Government with the consent of the Government of the concerned participating State and in consultation with the Board, may, by notification in the Official Gazette, add any area to the Schedule or exclude any area there from.

3.0 Delineation of NCR - Background

3.1 The Board in its 35th meeting held on 09.06.2015 while considering and approving the proposal for inclusion of Jind, Karnal & Muzaffarnagar districts in NCR, also discussed the matter regarding Delineation of NCR. Chairman, NCRPB had then stated that *there is a school of thought, which emphasizes linear development along transport corridors such as National Highways, State Highways, Rail*

Corridors etc. Such corridor centric development in conducive to protect good agricultural land, since it involves minimum fresh land acquisition which implies that farmers may not get affected. He suggested that instead of including a complete district in NCR, such linear areas around transport corridors could be considered. States can develop rest of the district as per their policies. He added that more industries, institutions, infrastructure facilities etc. could be provided within limited resources in such corridors. Chairman, NCRPB further added that a Committee under the chairmanship of Member Secretary, NCRPB could look into this. Accordingly, the Board decided that a Committee under the Chairmanship of Member Secretary, NCRPB be constituted for undertaking a Delineation Study for NCR.

4.0 Action Taken by the Committee

4.1 Accordingly, a Committee was constituted (**Annexure-III**) and its meetings were held on 08.09.15 and 29.10.15. During the meetings, it was deliberated that considering the unprecedented growth of NCR (about double), there is a need to deliberate on well-defined parameters through a detailed Study for inclusion of further area in NCR. The committee opined that it would be administratively & financially difficult to sustain/deal with growth & development of such huge area and hence a Study could recommend both inclusion as well as exclusion of areas in/ from NCR. The Committee, after detailed deliberation, *inter-alia* recommended the following in its 2nd meeting held on 29.10.15:

- *Considering the already huge geographical area of NCR, for any new proposal for addition of any area in NCR, a Delineation Study be undertaken considering the future development proposal of that particular area. The broad principles/ criteria/ parameters, as per the Minutes of the first Meeting of the Committee held on 08.09.15, be considered as a starting point in undertaking the Delineation Study.*
- *The recommendations of the Committee be placed before the Board, before undertaking any such Delineation Study. With respect to the aspect of exclusion of certain areas from NCR, the matter be also placed before the Board, so that Board may take a view to authorize to examine the exclusion*

of certain areas from NCR based on the outcomes/recommendations of the aforesaid Delineation Study.

- *Once the Delineation Study is undertaken, a view may be taken by the Board with respect to the new proposal (s) w.r.t. addition or exclusion of any area in/from NCR.*

4.2 Subsequently, the matter was discussed in the 65th meeting of the Planning Committee and also placed before the Board in its 36th meeting held on 15.06.16 wherein it was directed that the recommendations of the aforesaid Committee be sent to the participating States for their views/comments and the matter be placed before the Board in its next meeting after examination of the same. Accordingly, the recommendations (Minutes of the Meetings) were circulated in July, 2016.

4.3 In response, the views/ comments were received from the Govt. of Rajasthan (21.12.16) and DDA on behalf of GNCT Delhi (03.04.17) wherein it was suggested that high density corridor centric developments (ToD) should be targeted. Further, Govt. of Rajasthan also suggested that instead of including the whole district in NCR, tehsils may be included/ excluded from NCR based on their development potential. Subsequently, views/ comments were also received from Govt. of Haryana (02.11.17), wherein it was primarily suggested that the tehsil may be considered as the smallest administrative unit for inclusion or exclusion in NCR and appropriate weightage should be assigned to the delineation parameters.

4.4 Matter was deliberated by the Board in its 37th meeting held on 04.12.17 wherein it was noted that the comments from Govt. of Uttar Pradesh are awaited. Therefore, the Board directed the Govt. of Uttar Pradesh to provide views/comments expeditiously and thereafter the Committee, formed for this purpose, may examine the views/comments and submit its recommendations to the Board.

4.5 Subsequently, comments were received from Govt. of Uttar Pradesh (letter dated 31.08.18) suggesting that the Zila (District) may be considered as smallest administrative unit for inclusion or exclusion in NCR. Apart from this, aspects such as physical continuity, mutual economic activities, potential of development

in terms of historical, religious, traffic and transport, public services, industries and other physical development aspects, need also be considered. Summary of comments of NCR participating States is as under:

NCR constituents	Views/Comments
Haryana	• Administrative unit for inclusion/exclusion of area should not be below Tehsil level • Weightage be assigned to parameters and an index be worked out for assessment • Headquarter of administrative unit instead of any part of its hinterland, should be considered for assessment of connectivity with mother city • State Development plans/ Controlled Area Plans/ proposals and state regulatory/plan enforcement mechanism may also be considered • Selection criteria of each parameter need also be elaborated (whether high or low values of defined parameter enables inclusion/exclusion)
Rajasthan	• The tehsils around transport corridors having development potential should be considered for purpose of delineation of NCR • High density corridor centric development (TOD) should be targeted while preparing lower hierarchy plans (Master Plan/Development Plan /Local Area Plan etc.) • Tehsils having development potential should be included instead of whole district and those tehsils not having the potential should be excluded
Uttar Pradesh	• Zila boundary may be considered as the smallest administrative unit for inclusion or exclusion in NCR. • Apart from this, taking into account the aspects such as physical continuity with NCR, mutual economic activities, potential of development in terms of historical, religious, traffic and transport, public services, industries and other physical development aspects, shall also be creditable
NCR Delhi	• ToD policy drafted as part of Transportation chapter of MPD 2021 and it has been suggested that high density corridor centric developments (ToD) should be targeted.

4.6 It may be mentioned that NCRPB also received a proposal from Govt. of Uttar Pradesh (letter dated 03.04.18) recommending inclusion of five new districts, namely, Saharanpur, Bijnor, Aligarh, Mathura, and Shamli in NCR. Out of these Shamli district was included in NCR through Notification dated 16.04.18 (as per the decision of the Board taken in its 37th Meeting held on 04.12.17) as it was part of erstwhile Muzaffarnagar District.

4.7 Meanwhile, matter related to expansion of NCR was deliberated by the Study Group-I constituted for the Review of Regional Plan-2021. The Study Group vide its Report dated 12.06.19 has recommended that increasing the extent of area of Regional Plan on the demand of participating States without carrying out delineation study will not be advisable because the area of NCR is almost double, compared to the Regional Plan of NCR prepared by TCPO, which may result into:

- There will be thin spread of limited resources
- This may occur in sparse development
- Provision of infrastructure in integrated manner will be costly affair
- Delhi the capital of the country and mother city may lose its primacy
- It would be administratively and financial difficult to sustain / deal with growth and development of such huge area

The relevant extract of the Report of Study Group-I is given at **Annexure-IV**.

4.8 The matter was discussed in the 3rd and 4th meeting of the Committee constituted for undertaking a Delineation Study for NCR, held on 10.10.18 and 15.07.19 respectively. In 4th meeting held on 15.07.19, detailed deliberations were held and different scenarios were discussed. A presentation on Night Light data from NIC (NASA) for the year 2012 and 2016 for NCR which provides urban spread/ sprawl and direction of development in NCR, was made before the Committee. The Committee observed that NCT Delhi and CNCR have a contiguous development and beyond it, there is linear development along Transport Corridor radiating from Delhi /CNCR. Committee further observed that while corridors along NH-1, Delhi-Panipat and Delhi-Meerut and Delhi-Gurgaon-Bhiwadi have high growth, the Alwar and Bharatapur corridors have the least growth.

4.9 Committee deliberated on the development potential/ urban spread of Delhi, CNCR and beyond and observed that area within 100 km from Center of Delhi would generally have contiguous development and beyond that development will take place along Transport Corridors and the areas in between corridors may not witness high development due to their remote location and may continue as per normal growth / be retained as green wedge/ agriculture.

4.10 Committee noted that TCPO, Govt. of India, while preparing the Regional Plan-1981 for NCR, in 1973 analyzed various models of urban development. Committee discussed the concept of Finger Plan form of development and further, the Development Plan of Greater Copenhagen area, Denmark, where they restricted contiguous development beyond certain limits and allowed development along the Transport Corridors.

4.11 After detailed discussions the Committee recommended that the delineation of NCR should be carried out, based on its suggested parameters. These parameters were further deliberated by the Planning Committee in its 67th Meeting held on 15.07.19 and the Planning Committee agreed on the parameters. The recommendations of the Planning Committee are as under:

(i) *The delineated NCR can be upto 100 km from the centre of Delhi as contiguous areas. In case 25% area or more area falls within 100 km range, entire Tehsil may be considered for inclusion in NCR.*

(ii) *In the case of Transport Corridor, minimum 1 km width on either side of NHs, Expressways, railways, RRTS radiating from Delhi upto maximum distance of 200 km or closest large town, whichever is earlier, to be considered. In case 25% of area of a Tehsil is covered in the Transport Corridor, the entire Tehsil may be considered for inclusion in NCR.*

(iii) *In case most of the Tehsils i.e. 75% falls in a district, whole districts may be considered for inclusion.*

(iv) *In case majority of the Tehsils. (i.e 75%) of a district falls within a notified controlled/ development areas/regulatory areas of a town, the entire district may be considered for inclusion while where 25% of area of a Tehsil falls within notified controlled/ development areas/regulatory areas of town, entire tehsil may be considered for inclusion in NCR.*

(v) *Parameters such as contiguity, proximity to CNCR, population density and rate of urbanization etc. may be considered for delineation.*

(vi) *Dr. D.S. Meshram, Former Chief Planner, TCPO & Expert Member and Prof. Mahabir, SPA, Expert Member, based on above mentioned parameters will delineate the NCR and prepare a report with the resulting delineated area and submit the same within two weeks. The Experts may take necessary assistance from the Chief Town Planner/ Chief Coordinator Planner of NCR participating States. The delineation report will be placed before the Board for consideration.*

Planning Committee agreed with the above and recommended that the report with the resulting delineated area may be placed before the Board for consideration.

5.0 Delineation of NCR

5.1 While the experts could not undertake the work as envisaged by the Committee, an in-house exercise was undertaken by NCRPB secretariat, based on the suggested parameters agreed upon and frozen in the Delineation Sub-committee meeting on 15.07.19 and later on in the 67th Planning Committee held on 15.07.19 and a Draft Report on Delineation of NCR was prepared.

5.2 As per aforementioned recommendations, mapping of various components was carried out to analyze various scenarios. Concentric circles considering Delhi as centre were created with 50 km, 100 km, 150 km and 200 km radius. Boundaries of districts and tehsils falling within 200 km were marked. Transportation network i.e. Expressways, NH, Railways, RRTS, DFC, Orbital Rail Corridor & DMRC network, etc. Further, district headquarters, railway junctions, controlled/ development areas of towns falling within 200 km were also mapped. The controlled/development area of last town on the proposed corridor(s) has been marked, however, the controlled areas of small towns falling on transport corridor have not been considered.

5.3 The nightlight data pertaining to year 2012 and 2016 was also incorporated in the GIS database to see the urban sprawl and growth edges along transport corridors.

5.4 Though the Committee has suggested to consider minimum 01 Km. width on either side of Transport Corridors, however, while carrying out the exercise/ analysis it was agreed upon, in consultation with the Experts, to consider width of 02 Km. on either side of ROW, keeping in view the potential and development expected in next 20-25 years along these Transport networks. It is also observed in certain cases that the development is taking place along SH/ MDR, as these are major connecting roads for places of tourism, recreational, historical and administrative importance. Therefore in addition to NH and Expressways other important roads (SH/ MDR) considered as critical links, especially in Bharatpur, Alwar, Bhiwani & Kaithal districts, have also been taken/analyzed.

5.5 All administrative/ controlled/ development area boundaries, transportation networks are tentative and subject to finalization/ records at local level.

5.6 Observations/ findings w.r.t. each recommended parameter (as at para 4.11) are summarized as under:

(i) The delineated NCR can be upto 100 km from the centre of Delhi as contiguous areas. In case 25% area or more area falls within 100 km range, entire Tehsil may be considered for inclusion in NCR.

5.6.1 Observations/ findings:

Under this parameter all tehsils falling within 100 km circle have been analyzed w.r.t. existing area of NCR. Accordingly, in addition to entire districts, namely, **Panipat, Sonipat, Rohtak, Jhajjar, Rewari, Gurgaon, Faridabad, Palwal and Mewat (Nuh)** of Haryana and **Ghaziabad, Baghpat, Meerut, Hapur, Gautam Budh Nagar** of Uttar Pradesh, the tehsils identified for inclusion / exclusion are given in **Annexure-V.** Also, refer Map No. 01, Map No. 02 and Map No. 03.

(ii) In the case of Transport Corridor, minimum 1 km width on either side of NHs & Expressways, Railways & RRTS radiating from Delhi upto maximum distance of 200 km or closest large town, whichever is earlier, to be considered. In case 25% of area of a Tehsil is covered in the Transport Corridor, the entire Tehsil may be considered for inclusion in NCR.

5.6.2 Observations/ findings:

(a) Rail Corridors & Junctions (RRTS/ DFC/ DMRC/ Railways/ Orbital Rail):

In case of Rail based corridors, railway lines, DFC/ DMIC, RRTS, DMRC network and Orbital Rail have been analyzed. The alignment of DFC and RRTS are tentative and are subject to final alignments at local level.

- Further, it was observed that generally busy railway junctions have more potential for growth than normal railway lines in remote areas. Major railway junctions adjacent to 100 km circle and within 150 km circle are as under:
  1. Kurukshetra Junction
  2. Jind Junction
  3. Narwana Junction
  4. Hisar Junction
  5. Loharu Junction
  6. Alwar Junction
  7. Mathura Junction
  8. Hathras Junction
  9. Aligarh Junction
  10. Gajaraula Junction
  11. Muazzampur Junction
  12. Saharanpur-Tapri Junction

These can be the potential junctions for regional growth and need to strengthen rail based transport and allied facilities, considering their proximity & connectivity to Delhi.

- Other railway junctions falling between 150 km-200 km circle are as under:
  1. Ambala Junction
  2. Jakhal Junction (Punjab)
  3. Rajgarh-Sadulpur Junction
  4. Bandikui Junction
  5. Bayana Junction
  6. Bharatpur Junction
  7. Agra Junction
  8. Kasganj Junction
  9. Chandausi Junction
  10. Raja ka Shashpur Junction
  11. Moradabad Junction
  12. Kashipur Junction (Uttarakhand)
  13. Najibabad Junction
  14. Laksar-Haridwar Junction (Uttarakhand)

(b) NH and Expressway Corridors:

(i) There are 05 major NHs & Expressway directly radiating from Delhi. As per the parameters, following towns are identified for corridor development:

Table 1

Transport Corridor (NHs & Expressways)	Closest first large town within 200 km
NH-44 (Delhi-Panipat-Karnal – Kurukshetra-Ambala)	Karnal
NH-48 (Delhi-Jaipur)	Kotputli
NH-09 (Delhi- Hisar)	Hisar
NH-09 (Delhi-Moradabad)	Moradabad
NH-19 (Delhi-Mathura-Agra) & Yamuna Expressway	Mathura

Following towns, located on other NHs, also qualify for corridor development, as per the criteria:

Table 2

Transport Corridor (NHs & Expressways)	Closest first town within 200 km
NH-248A (Gurgaon-Nuh-Alwar-Malakhera-Thanagaji –Viratnagar -Shahpura-Jaipur)	Alwar
NH-48 (Dharuhera-Rewari-Narnaul-Jhunjhunu)	Narnaul
NH-334B (Sampla-Jhajjar-Charkhi Dadri-Loharu)	Loharu
NH-352A (Sonipat-Gohana-Jind)	Jind
NH-709B (Delhi-Baghpat-Shamli-Nanauta-Saharanpur)	Nanauta
NH-34 (Ghaziabad-Meerut-Khatauli-Muzaffarnagar-Roorkee)	Muzaffarnagar
NH-34 (Ghaziabad-Bulandshahr-Aligarh)	Aligarh

(ii) It is also observed in certain cases that development is taking place along SH/ MDR, therefore in addition to NH and Expressways other important roads (SH/ MDR) considered as critical links, especially in Bharatpur, Alwar, Bhiwani & Kaithal districts, have also been taken/ analyzed.

(iii) Further, the above mentioned Road corridors (NH, Expressways and other important roads i.e. SH/ MDR, considered as critical links) have been analyzed by creating a corridor of 01 km and 02 km width on either sides of the ROW. NCRPB technical experts were of the opinion that while detailing the areas at sub-regional/ local level the revenue boundary of villages should be considered for actual demarcation of area. Wherever 25% or more area falls within the recommended width on either side of the road, the entire revenue village should be considered. The tentative tehsil wise coverage under the corridor is shown in **Map No. 06**.

5.6.2.1 As per the parameters the following tehsils are identified for inclusion based on the corridors, as a 2nd Layer:

Table 3

Tehsil identified for inclusion based on area falling under transport corridor as 2nd layer
➢ **Haryana**
1. **District Jind**
a) Tehsil Jind (part)
2. **District Hisar**
a) Tehsil Hansi (part)
b) Tehsil Bass
3. **District Bhiwani**
a) Tehsil Loharu (part)
b) Tehsil Bawani Khera
4. **District Charkhi Dadri**
a) Tehsil Badhra (part)
5. **District Mahendragarh**
a) Tehsil Mahendragarh (part)
b) Tehsil Narnaul (part)
6. **District Karnal**
a) Tehsil Karnal (part)

Tehsil identified for inclusion based on area falling under transport corridor as 2nd layer
➢ **Uttar Pradesh**
1. **District Saharanpur**
a) Tehsil Deoband (part)
2. **District Muzaffarnagar**
a) Tehsil Muzaffarnagar(part)
b) Tehsil Jansath (part)
3. **District Bijnor**
a) Tehsil Bijnor (part)
4. **District Jyotiba Phule Nagar**
a) Tehsil Hasanpur (part)
5. **District Aligarh**
a) Tehsil Gabhana (part)
b) Tehsil Koil (part)
c) Tehsil Khair (part)
6. **District Mathura**
a) Tehsil Chhata (part)
b) Tehsil Mant (part)
c) Tehsil Mathura (part)
d) Tehsil Sadabad (part)
➢ **Rajasthan**
1. **District Alwar**
a) Tehsil Ramgarh (part)
b) Tehsil Alwar (part)

Refer Map No. 04, Map No. 05 and Map No. 06

(iv) **In case most of the Tehsils i.e. 75% falls in a district, whole districts may be considered for inclusion.**

(v) **In case majority of the Tehsils (i.e. 75%) of a district falls within a notified controlled/ development areas/regulatory areas of a town, the entire district may be considered for inclusion while 25% of area of a**

Tehsil falls within notified controlled/ development areas/ regulatory areas of town, entire tehsil may be considered for inclusion in NCR.

5.6.3 Observations/ findings:

Notified controlled/ development areas/ regulatory areas of towns falling within Tehsils between 100 km – 200 km circle were analyzed w.r.t. area coverage at tehsil and collectively at district level. The analysis regarding tehsil coverage (25%) is given in Map No. 07. Further, the coverage of district area (75% tehsils) is given in Map No. 08.

As per the parameters the following tehsils are identified for inclusion based on the corridors as 3rd layer:

Table 4

Tehsil identified for inclusion based on notified controlled/ development / regulatory areas of town (25% coverage) as 3rd layer
➢ **Haryana** 1. **District Karnal** a) Tehsil Nilokheri
➢ **Uttar Pradesh** 1. **District Aligarh** a) Tehsil Koil 2. **District Mathura** a) Tehsil Chhata b) Tehsil Mathura
➢ **Rajasthan** 1. **District Alwar** a) Tehsil Alwar b) Tehsil Behror 2. **District Bharatpur** a) Tehsil Bharatpur

Table 5

District identified for inclusion based on coverage of tehsils (75% coverage) as 3rd layer
➢ **Uttar Pradesh**
1. District Shamli
2. District Bulandshahr

As explained earlier, the controlled/ development area of last large town has been marked to indicate the end node of the identified corridors. The controlled areas of small towns falling on transport corridor have not been considered.

Refer Map No. 07 and Map No. 08

(vi) **Parameters such as contiguity, proximity to CNCR, population density and rate of urbanization etc. may be considered for delineation.**

5.6.4 Observations/ Findings:

Parameters regarding contiguity, proximity, etc., have already been analyzed & presented in the above maps.

Further, parameters w.r.t. population density and rate of urbanization were examined and it was observed that during last 10-20 years the areas of many districts and tehsils were reorganized. Therefore, it was not possible to analyze population density and rate of urbanization appropriately at tehsil level with the available data.

However, in order to broadly understand these parameters the nightlight data from NIC (NASA) pertaining to year 2012 and 2016 has been utilized and examined. It is evident from the nightlight data that following corridors have high growth and can be the potential nodes for attracting the development:

1 Delhi-Sonipat-Panipat-Karnal-Kurukshetra
2 Delhi-Rohtak-Hisar
3 Delhi-Meerut-Muzaffarnagar
4 Ghaziabad-Hapur-Moradabad
5 Delhi-Palwal-Mathura
6 Noida-Bulandshahr-Aligarh
7 Delhi-Gurgaon-Bhiwadi-Kotputli-Jaipur

Refer Map No. 09 – Nightlight data year 2012

Refer Map No. 10 – Nightlight data year 2016

Refer Map No. 11 – Nightlight data 2012 & 2016 (Fused)

6.0 Conclusion - Potential NCR Area

6.1 The report is prepared based on the available information/ digital data. The available data was analyzed in GIS considering the broad parameters which were finalized by the Delineation Sub-Committee on 15-07-19 and which were again agreed to by the Planning Committee on 15-07-19 wherein Haryana agreed in the staggered Planning Committee meeting on 18-07-19. Accordingly, based on

specified criteria/ parameters, two Options have been prepared/ suggested for Proposed NCR Delineation.

6.2 The First Option is the suggested re-delineated NCR is presented in **Map No. 12 (Option-I).**

6.3 Another option has also been worked out considering the Transit Oriented Development (TOD) based model for NCR which is presented in Map No. **12A (Option-II)**. Under this option large size towns have been identified as nodes within 150 Km.–200 Km circles on the transport corridors and their controlled/ development Area has been taken as an end node on these identified corridors.

6.4 Based on the above said two options, the summary of districts and tehsils to be included or excluded in/from NCR is given in **Annexure-VI**:

Table-6: Sub-region wise summary of coverage of district and tehsils

Sub-Region	OPTION-I			OPTION-II		
	Area (Approx.) Sq. Km	Area No. of districts	No. of Tehsils (Approx.)	Area (Approx.) Sq. Km	Area No. of districts	No. of Tehsils (Approx.)
NCT Delhi	1,483	Entire NCTD	-	1,483	Entire NCTD	-
Haryana	16,300	09-entire 06-part	27	21,400	10-entire 07-part	43
Rajasthan	2,500	02-part	07	6,700	06-part	31
Uttar Pradesh	15,200	06-entire 07-part	24	16,000	07-entire 07-part	42
Total	35,483		58	45,583		116

6.5 As per the analysis under **Option-I, partial area along either side of the transport corridors** of **06** tehsils from Haryana, **02** tehsils from Rajasthan and **12** tehsils from U.P. qualifies to form a part of the re-delineated NCR. Further **06** tehsils of Haryana and 08 tehsils of Alwar district along with entire district Bharatpur of Rajasthan is identified for exclusion from the notified NCR. The approximate area of the re-delineated NCR as per Option-I is about **35,000 sq. km**, which is subject to final delineation with actual administrative boundaries at local level.

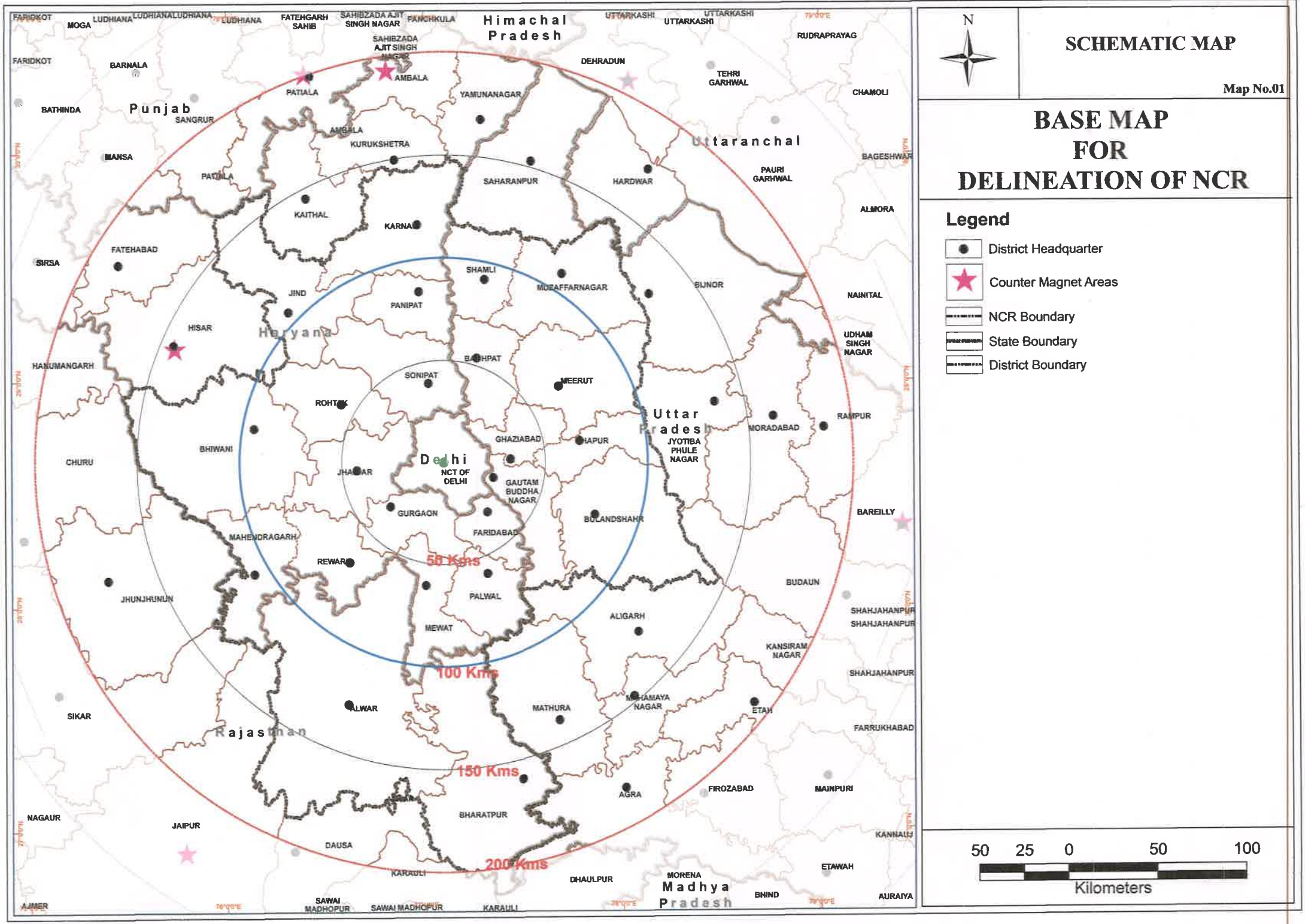
6.6 As per **Option-II, partial area along either side of the transport corridors** of **14** tehsils from Haryana, **25** tehsils from Rajasthan and **16** tehsils from U.P. qualifies to form a part of the re-delineated NCR. Under this option only **01** tehsils of Alwar district of Rajasthan i.e. Bansur is identified for exclusion from the notified NCR. The

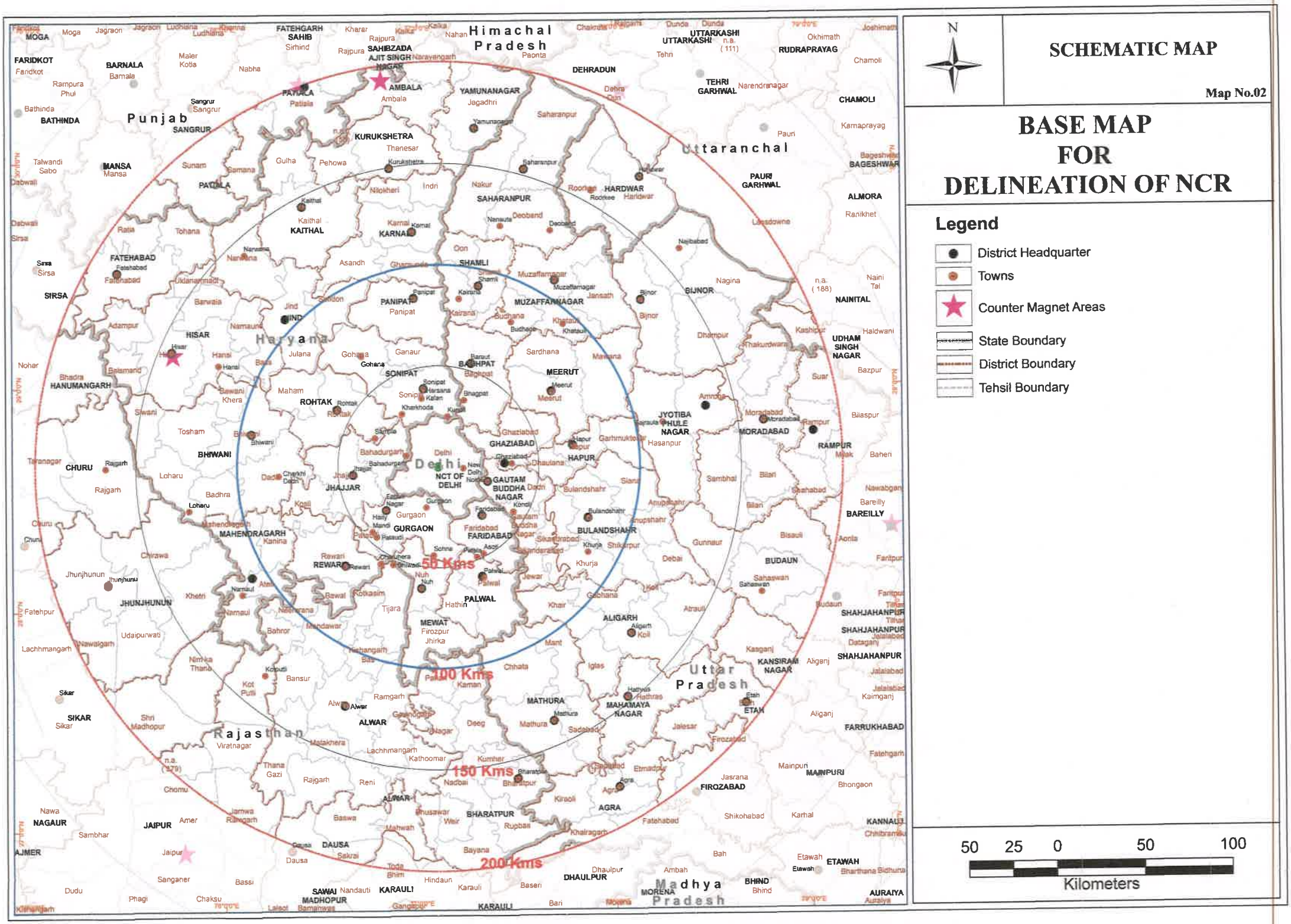
approximate area of the re-delineated NCR as per this option is about **45,500 sq.km**, which is subject to final delineation with actual administrative boundaries at local level.

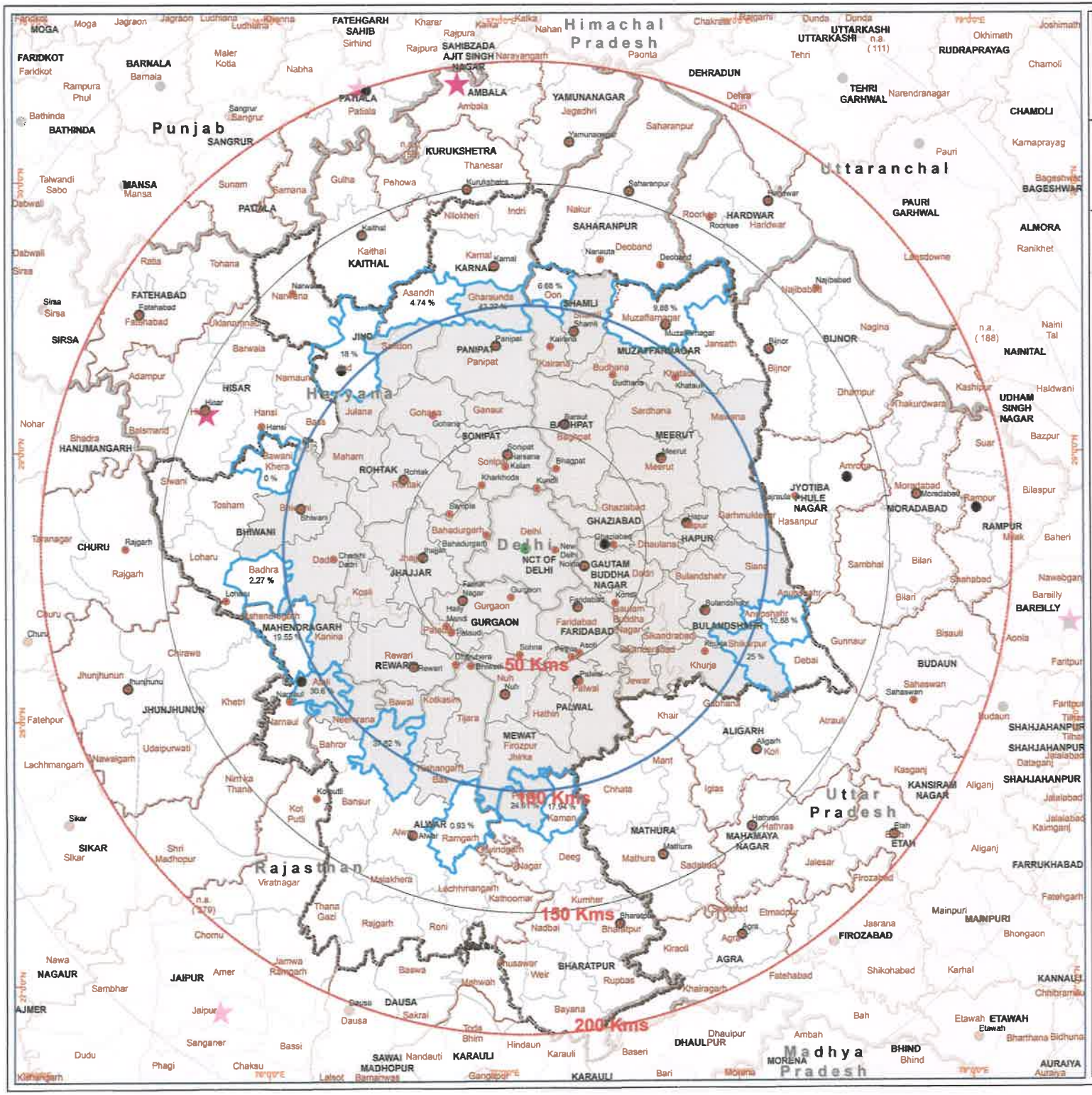
6.7 It is imperative to mention here that as per the policy of the notified Regional Plan-2021 Highway Corridor Zone (HCZ) was proposed to be developed in order to control the large scale urban development along the important highways in the region, outside the controlled / development / regulated areas, to regulate the zone. Also, green buffer of 100m , 60m, 30m was proposed along the transport networks (expressways, national highways, state highways & railways, respectively) from the either side of ROW. If the TOD policy of MoHUA, Govt. of India is to be followed for undertaking the development along the transport corridors, amendments need to be carried out in the notified Regional Plan-2021, else, the proposal of TOD may be considered for addition in the next Regional Plan. The TOD policy of MoHUA, Govt. of India is at **Annexure-VII**.

6.8 It is also suggested that once NCR is finally delineated, all requests regarding further additions to the thus finalized NCR, should be assessed only during the Review and revision of the Regional Plan which is to be carried out only after every five years from the date of coming into operation of the finally prepared Regional Plan as per Section 15 of NCRPB Act.

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N
SCHEMATIC MAP
Map No.01
BASE MAP
FOR
DELINEATION OF NCR
Legend
District Headquarter
Counter Magnet Areas
NCR Boundary
State Boundary
District Boundary
50 25 0 50 100
Kilometers
Himachal Pradesh
Punjab
Uttaranchal
Haryana
Delhi
NCT OF DELHI
Uttar Pradesh
Rajasthan
Madhya Pradesh
50 Kms
100 Kms
150 Kms
200 Kms
AMBALA
PATIALA
YAMUNANAGAR
KURUKSHETRA
SAHARANPUR
HARDWAR
KAITHAL
KARNAL
SHAMLI
MUZAFFARNAGAR
BIJNOR
PANIPAT
JIND
HISAR
SONIPAT
BAGHPAT
MEERUT
ROHTAK
GHAZIABAD
HAPUR
MORADABAD
RAMPUR
BHIWANI
JHAJJAR
GAUTAM BUDDHA NAGAR
GURGAON
BULANDSHAHR
FARIDABAD
MAHENDRAGARH
REWARI
PALWAL
ALIGARH
MEWAT
MATHURA
ALWAR
ETAH
AGRA
FIROZABAD
MAINPURI
BHARATPUR
DAUSA
KARAULI
DHAULPUR
MORENA
BHIND
AURAIYA
ETAWAH
KANNAUJ
FARRUKHABAD
SHAHJAHANPUR
BUDAUN
BAREILLY
PILIBHIT
NAINITAL
ALMORA
BAGESHWAR
PAURI GARHWAL
TEHRI GARHWAL
CHAMOLI
RUDRAPRAYAG
DEHRADUN
UTTARKASHI
SIKAR
JHUNJHUNUN
CHURU
NAGAUR
JAIPUR
AJMER
SAWAI MADHOPUR
HANUMANGARH
SIRSA
FATEHABAD
BATHINDA
MANSA
SANGRUR
BARNALA
FARIDKOT
MOGA
LUDHIANA
FATEHGARH SAHIB
SAHIBZADA AJIT SINGH NAGAR
PANCHKULA
UDHAM SINGH NAGAR
JYOTIBA PHULE NAGAR
KANSIRAM NAGAR
MAHAMAYA NAGAR


SCHEMATIC MAP
Map No.02
BASE MAP
FOR
DELINEATION OF NCR
Legend
District Headquarter
Towns
Counter Magnet Areas
State Boundary
District Boundary
Tehsil Boundary
50 Kms
100 Kms
150 Kms
200 Kms
50 25 0 50 100
Kilometers
Himachal Pradesh
Punjab
Uttaranchal
Haryana
Delhi
Rajasthan
Uttar Pradesh
Madhya Pradesh
NCT OF DELHI
GAUTAM BUDDHA NAGAR
JYOTIBA PHULE NAGAR
UDHAM SINGH NAGAR
MAHAMAYA NAGAR
KANSIRAM NAGAR
SHAHJAHANPUR
GURGAON
FARIDABAD
GHAZIABAD
MORADABAD
BAREILLY
BUDAUN
MEERUT
SONIPAT
PANIPAT
KARNAL
KURUKSHETRA
AMBALA
YAMUNANAGAR
SAHARANPUR
HARDWAR
DEHRADUN
MUZAFFARNAGAR
SHAMLI
BIJNOR
NAINITAL
ALMORA
PAURI GARHWAL
TEHRI GARHWAL
CHAMOLI
RUDRAPRAYAG
UTTARKASHI
BAGESHWAR
PATIALA
SANGRUR
BARNALA
BATHINDA
MANSA
FATEHGARH SAHIB
FATEHABAD
SIRSA
KAITHAL
JIND
HISAR
BHIWANI
ROHTAK
JHAJJAR
CHURU
JHUNJHUNUN
SIKAR
NAGAUR
JAIPUR
AJMER
DAUSA
ALWAR
BHARATPUR
DHAULPUR
KARAULI
SAWAI MADHOPUR
REWARI
MAHENDRAGARH
MEWAT
PALWAL
HATHIN
HAPUR
BULANDSHAHR
ALIGARH
MATHURA
ETAH
KASGANJ
FARRUKHABAD
FIROZABAD
MAINPURI
AGRA
ETAWAH
KANNAUJ
SHIKOHABAD
BHIND
AURAIYA
MORENA
SHAMLI
Ambala
Panipat
Karnal
Kurukshetra
Jind
Hisar
Rohtak
Sonipat
Ghaziabad
Gurgaon
Faridabad
Rewari
Nuh
Palwal
Alwar
Bharatpur
Dholpur
Mathura
Aligarh
Etah
Kasganj
Firozabad
Mainpuri
Etawah
Auraiya
Kannauj
Shahjahanpur
Bareilly
Budaun
Moradabad
Rampur
Bijnor
Muzaffarnagar
Meerut
Baghpat
Hapur
Bulandshahr
Sikandrabad
Khurja
Debai
Gunnaur
Sambhal
Amroha
Jyotiba Phule Nagar
Udham Singh Nagar
Nainital
Haldwani
Kashipur
Rudrapur
Pilibhit
Lakhimpur
Sitapur
Hardoi
Unnao
Kanpur
Fatehpur
Banda
Chitrakoot
Jhansi
Lalitpur
Gwalior
Morena
Bhind
Dholpur
Karauli
Sawai Madhopur
Tonk
Ajmer
Nagaur
Sikar
Jhunjhunun
Churu
Bhiwani
Jhajjar
Rohtak
Sonipat
Panipat
Karnal
Kurukshetra
Ambala
Yamunanagar
Saharanpur
Haridwar
Dehradun
Tehri Garhwal
Uttarkashi
Rudraprayag
Chamoli
Pauri Garhwal
Almora
Bageshwar
Nainital
Udham Singh Nagar
Bijnor
Muzaffarnagar
Shamli
Meerut
Baghpat
Ghaziabad
Gautam Buddha Nagar
Bulandshahr
Hapur
Gurgaon
Faridabad
Rewari
Mahendragarh
Nuh
Palwal
Mewat
Aligarh
Etah
Kasganj
Shahjahanpur
Budaun
Bareilly
Moradabad
Rampur
Jyotiba Phule Nagar
Amroha
Sambhal
Gunnaur
Debai
Khurja
Sikandrabad
Bulandshahr
Hapur
Ghaziabad
Meerut
Baghpat
Muzaffarnagar
Shamli
Bijnor
Nainital
Udham Singh Nagar



N

SCHEMATIC MAP

Map No.03

DELINEATION OF NCR

Criteria - I

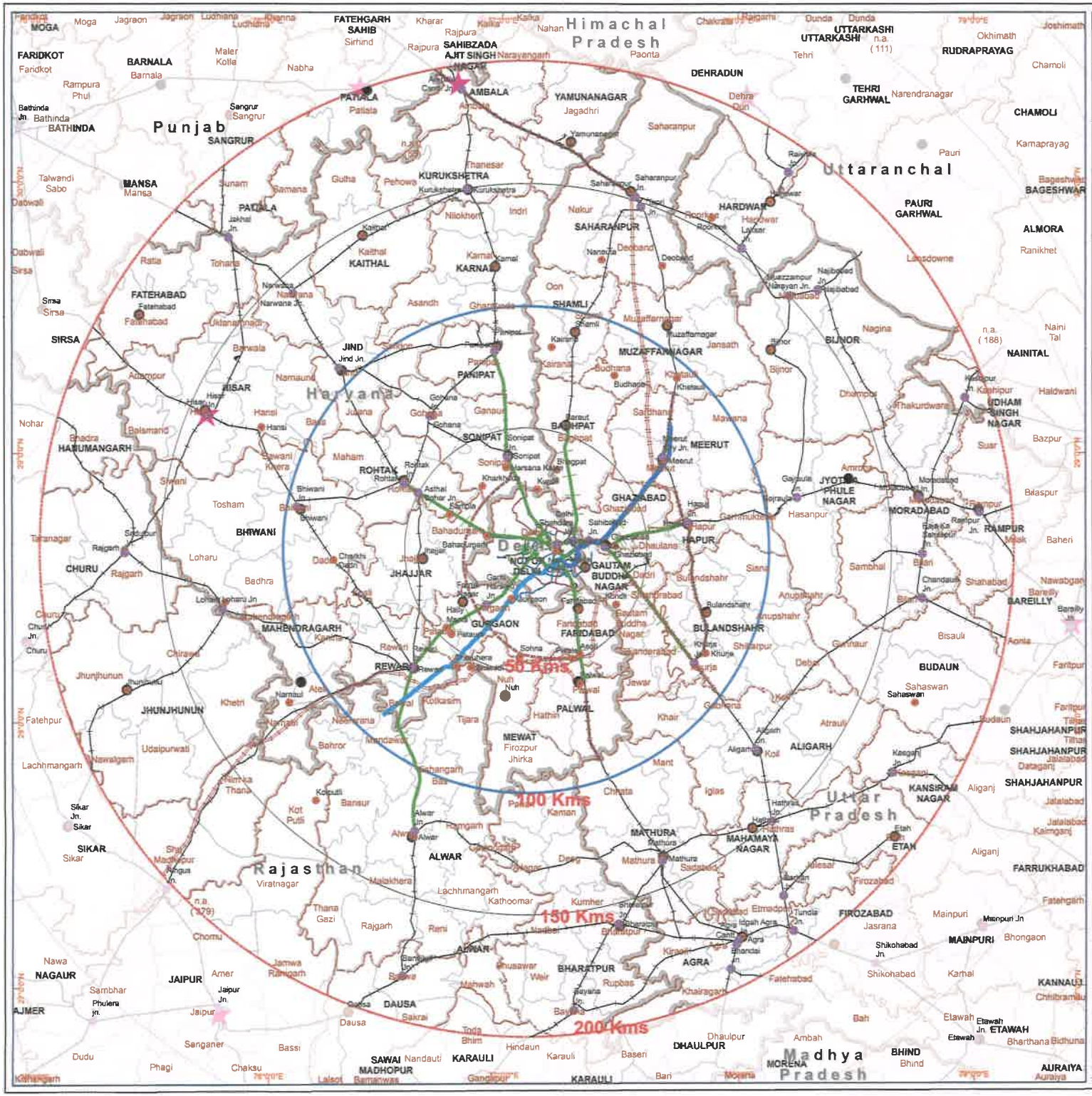
Coverage of Tehsils falling within 100 Km

Legend

- District Headquarter
- Towns
- Counter Magnet Areas
- NCR Boundary
- State Boundary
- District Boundary
- Tehsil Boundary
- Tehsils with ≥ 25% Areas falling within 100 KM

50 25 0 50 100

Kilometers



N

SCHEMATIC MAP

Map No.04

DELINEATION OF NCR

Criteria - II (b)

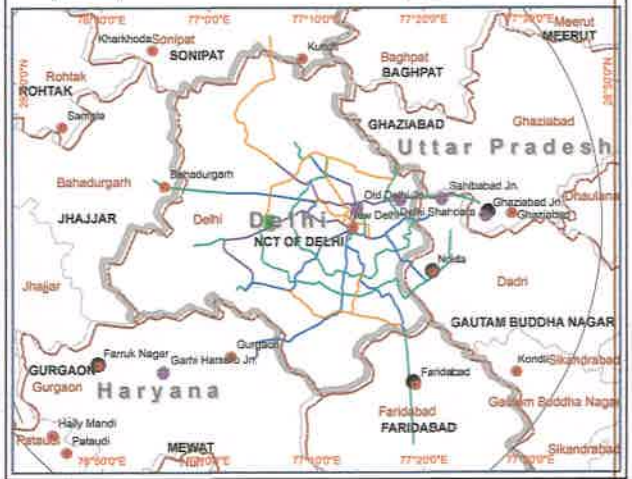
Transport Corridor of Railways, DFC & RRTS

Legend

- District Headquarter
- Towns
- Railway Junctions
- Counter Magnet Areas
- State Boundary
- District Boundary
- Tehsil Boundary
- Railways
- DFC
- RRTS
- RRTS (under implementation)
- Orbital Rail

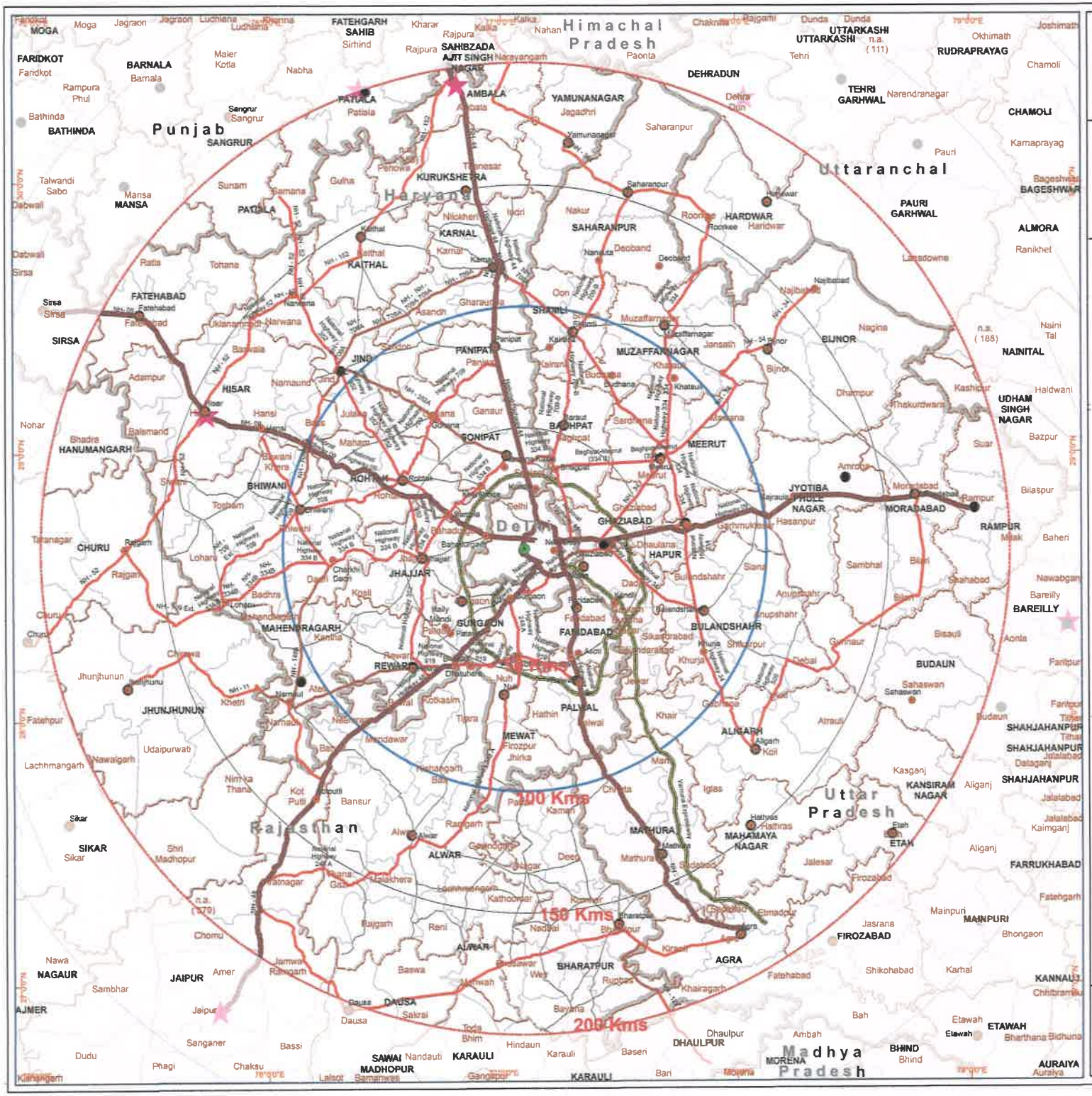
DMRC Lines

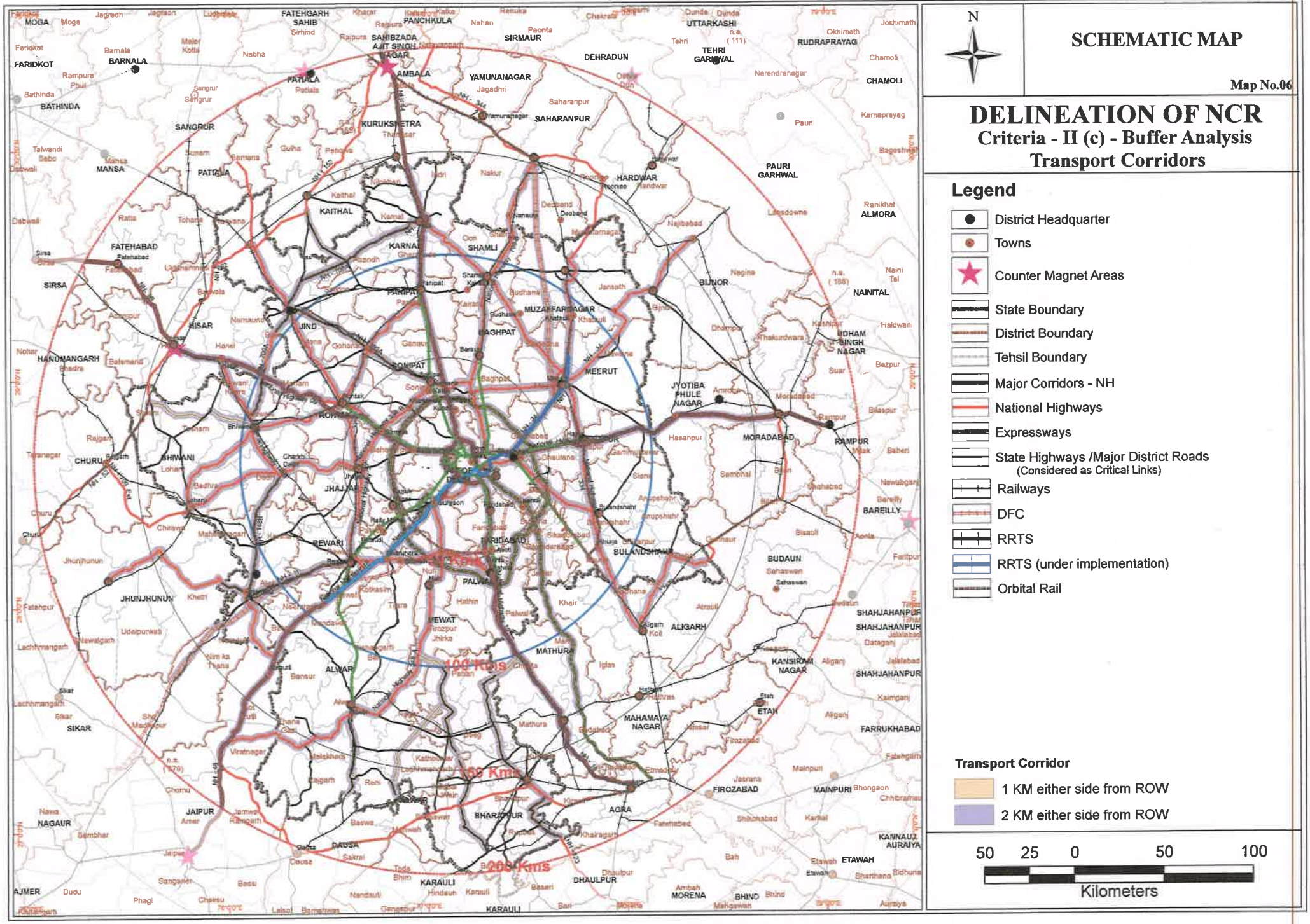
- Phase - I
- Phase - II
- Phase - III
- Phase - IV

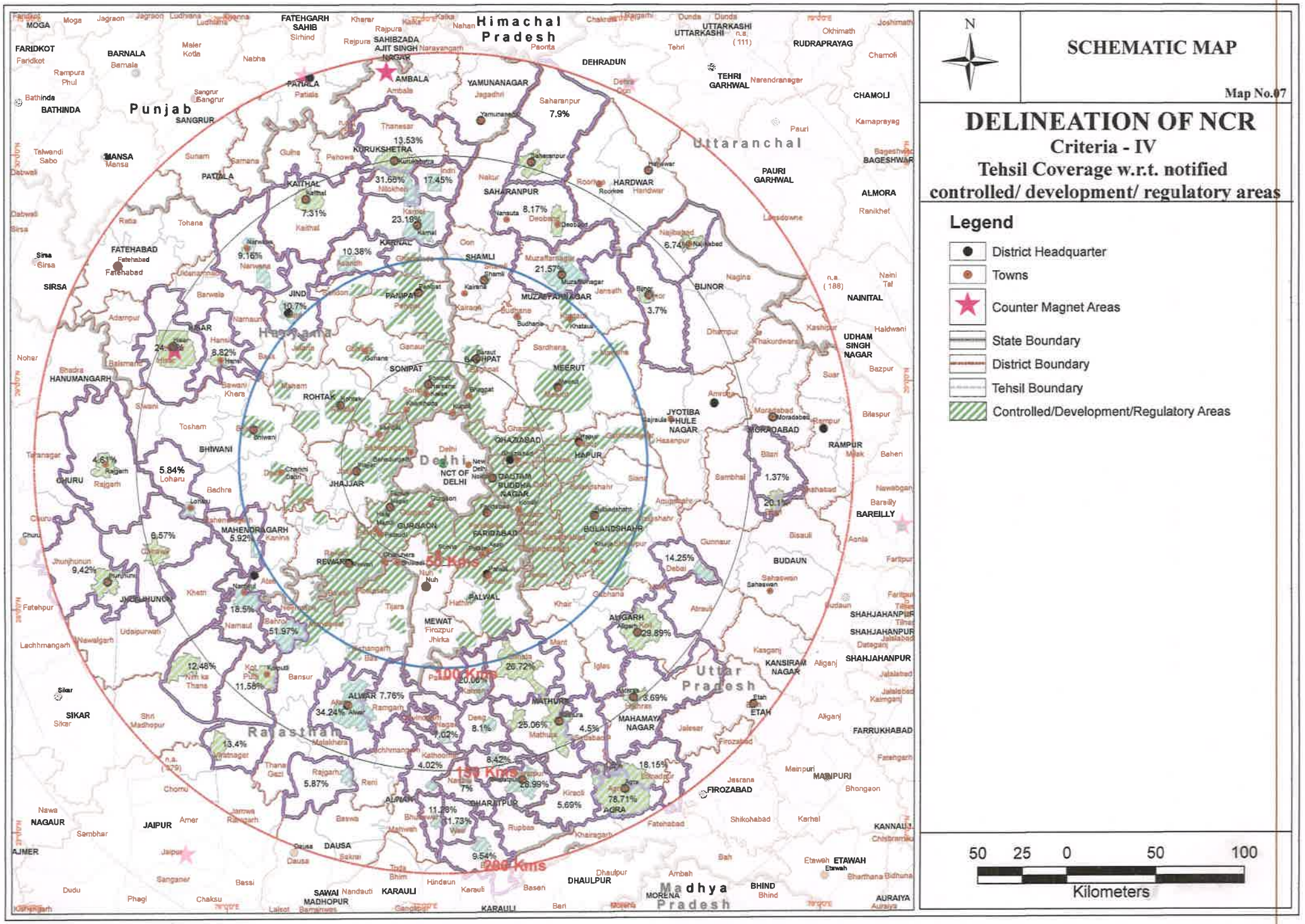


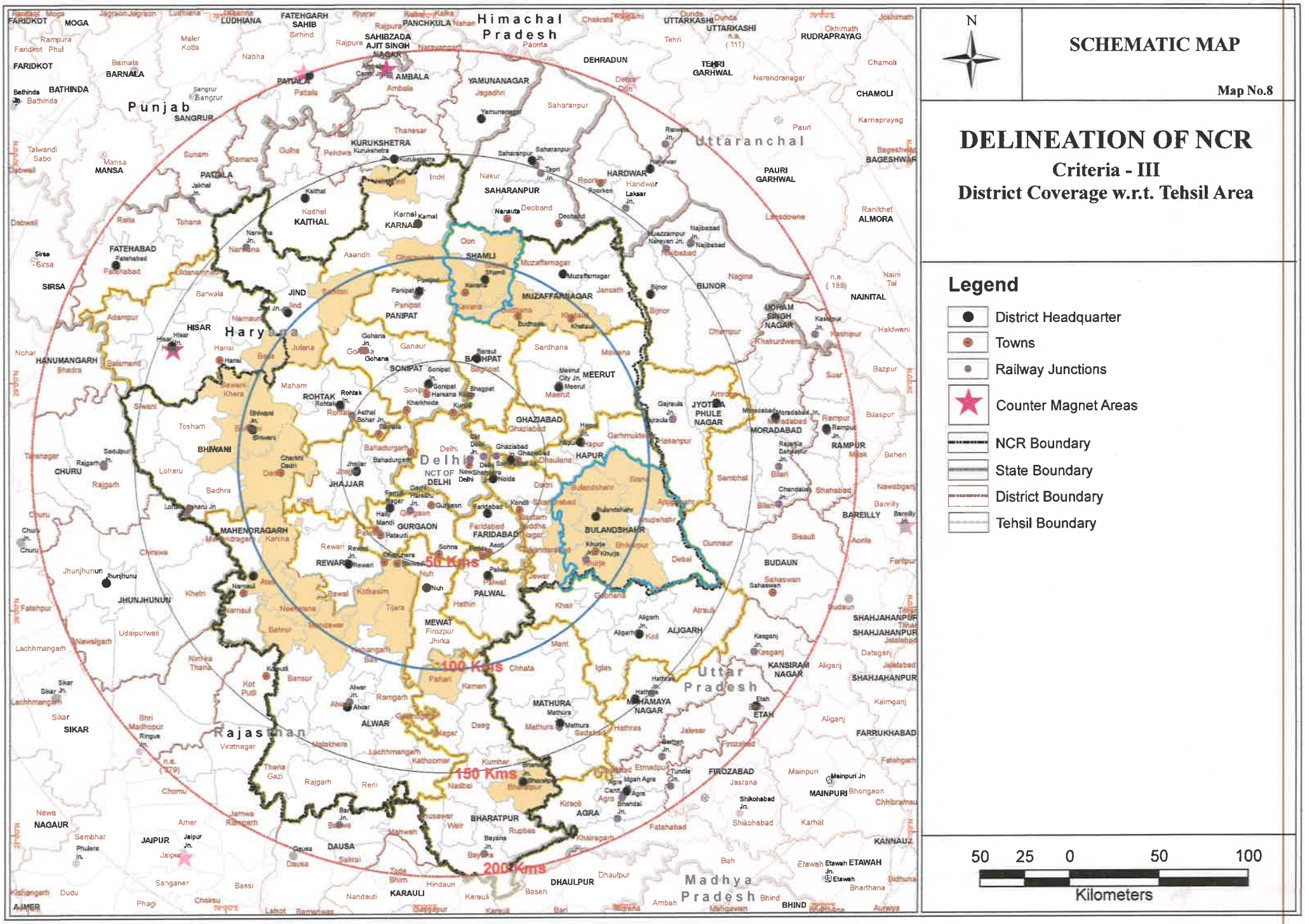
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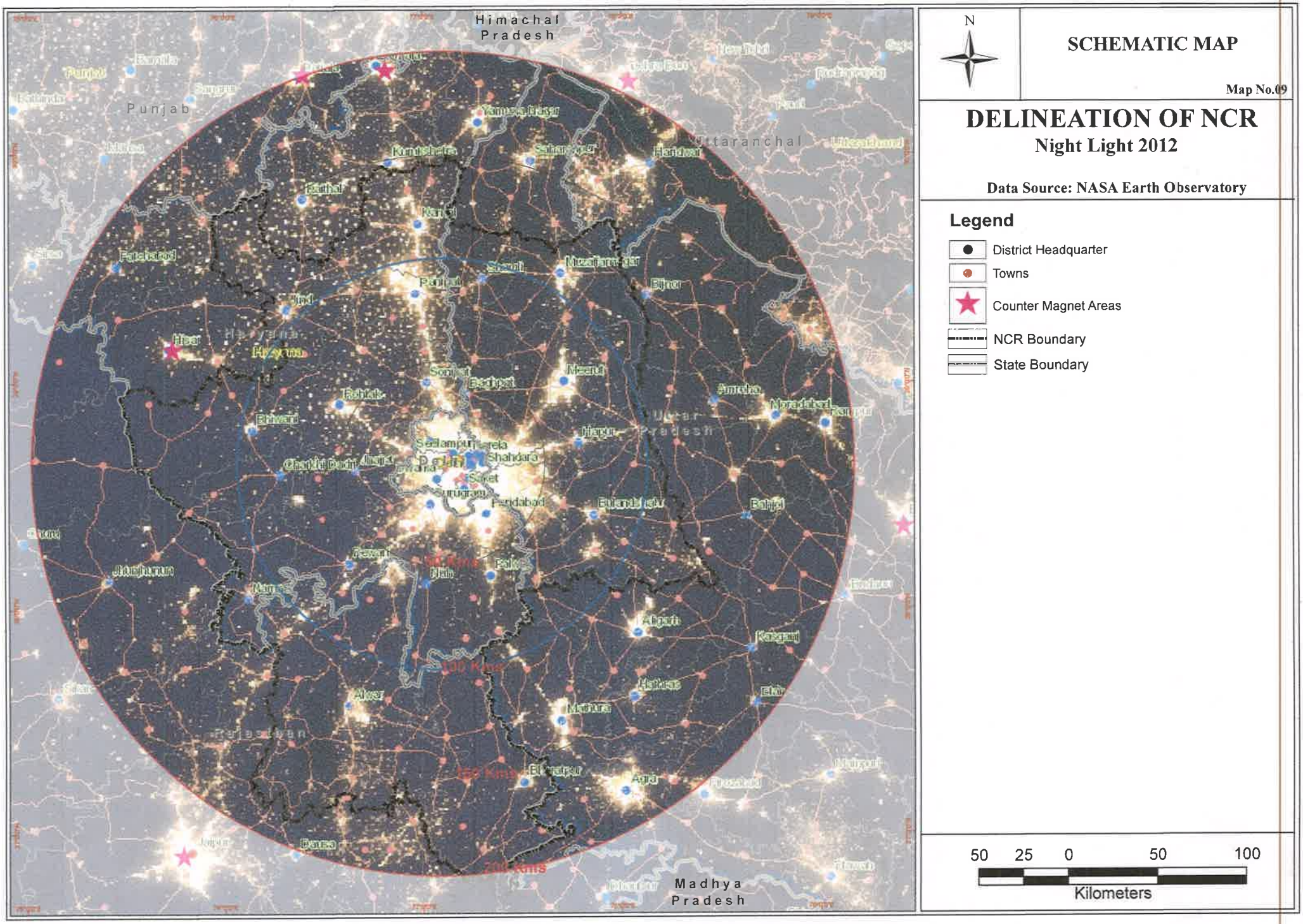
Kilometers


Himachal Pradesh
Punjab
Haryana
Uttaranchal
Rajasthan
Uttar Pradesh
Madhya Pradesh
Delhi
100 Kms
150 Kms
200 Kms
MOGA
FARIDKOT
BARNALA
BATHINDA
SANGRUR
PATIALA
FATEHGARH SAHIB
AMBALA
YAMUNANAGAR
KURUKSHETRA
KARNAL
KAITHAL
PATIALA
SAHARANPUR
HARDWAR
DEHRADUN
TEHRI GARHWAL
UTTARKASHI
RUDRAPRAYAG
CHAMOLI
PAURI GARHWAL
ALMORA
BAGESHWAR
NAINITAL
UDHAM SINGH NAGAR
FATEHABAD
SIRSA
HISAR
JIND
PANIPAT
SONIPAT
BAGHPAT
MUZAFFARNAGAR
SHAMLI
BIJNOR
MEERUT
GHAZIABAD
HAPUR
MORADABAD
RAMPUR
JYOTIBA PHULE NAGAR
BHIWANI
ROHTAK
JHAJJAR
GURGAON
FARIDABAD
BULANDSHAHR
BAREILLY
BUDAUN
SHAHJAHANPUR
HANUMANGARH
CHURU
MAHENDRAGARH
REWARI
PALWAL
ALIGARH
KASGANJ
KANSIRAM NAGAR
JHUNJHUNUN
MEWAT
MATHURA
MAHAMAYA NAGAR
ETAH
FARRUKHABAD
SIKAR
ALWAR
AGRA
FIROZABAD
MAINPURI
NAGAUR
JAIPUR
BHARATPUR
AJMER
DAUSA
DHAULPUR
MORENA
BHIND
ETAWAH
KARAULI
SAWAI MADHOPUR
AURAIYA
KANNAUJ
N
SCHEMATIC MAP
Map No.05
DELINEATION OF NCR
Criteria - II (a)
Transport Corridor of National Highways & Expressways
Legend
District Headquarter
Towns
Counter Magnet Areas
State Boundary
District Boundary
Tehsil Boundary
Major Corridors - NH
National Highways
Expressways
State Highways /Major District Roads
(Considered as Critical Links)
50 25 0 50 100
Kilometers


N
SCHEMATIC MAP
Map No.06
DELINEATION OF NCR
Criteria - II (c) - Buffer Analysis
Transport Corridors
Legend
District Headquarter
Towns
Counter Magnet Areas
State Boundary
District Boundary
Tehsil Boundary
Major Corridors - NH
National Highways
Expressways
State Highways /Major District Roads
(Considered as Critical Links)
Railways
DFC
RRTS
RRTS (under implementation)
Orbital Rail
Transport Corridor
1 KM either side from ROW
2 KM either side from ROW
50 25 0 50 100
Kilometers
100 Kms
150 Kms
200 Kms
DELHI
GURGAON
FARIDABAD
GHAZIABAD
NOIDA
MEERUT
MUZAFFARNAGAR
SHAMLI
BAGHPAT
SONIPAT
PANIPAT
KARNAL
KAITHAL
KURUKSHETRA
AMBALA
YAMUNANAGAR
SAHARANPUR
HARDWAR
DEHRADUN
UTTARKASHI
TEHRI GARHWAL
RUDRAPRAYAG
CHAMOLI
PAURI GARHWAL
ALMORA
NAINITAL
UDHAM SINGH NAGAR
BIJNOR
MORADABAD
RAMPUR
JYOTIBA PHULE NAGAR
BAREILLY
BUDAUN
SHAHJAHANPUR
KANSIRAM NAGAR
FARRUKHABAD
KANNAUJ
AURAIYA
ETAWAH
MAINPURI
FIROZABAD
ETAH
MAHAMAYA NAGAR
ALIGARH
BULANDSHAHR
AGRA
MATHURA
BHARATPUR
DHAULPUR
KARAULI
MORENA
BHIND
JHUNJHUNUN
SIKAR
NAGAUR
AJMER
JAIPUR
ALWAR
REWARI
MEWAT
PALWAL
JHAJJAR
CHURU
BHIWANI
HISAR
SIRSA
FATEHABAD
HANUMANGARH
JIND
ROHTAK
PANIPAT
KAITHAL
KARNAL
PATIALA
SANGRUR
BARNALA
BATHINDA
FARIDKOT
MOGA
FATEHGARH SAHIB
PANCHKULA
SIRMAUR
SAHIBZADA AJIT SINGH NAGAR
TEHRI GARHWAL


SCHEMATIC MAP
Map No.07
DELINEATION OF NCR
Criteria - IV
Tehsil Coverage w.r.t. notified controlled/ development/ regulatory areas
Legend
District Headquarter
Towns
Counter Magnet Areas
State Boundary
District Boundary
Tehsil Boundary
Controlled/Development/Regulatory Areas
50 Kms
100Kms
150 Kms
200 Kms
50 25 0 50 100
Kilometers
Himachal Pradesh
Punjab
Uttaranchal
Haryana
Rajasthan
Uttar Pradesh
Madhya Pradesh
Delhi
NCT OF DELHI


N
SCHEMATIC MAP
Map No.8
DELINEATION OF NCR
Criteria - III
District Coverage w.r.t. Tehsil Area
Legend
District Headquarter
Towns
Railway Junctions
Counter Magnet Areas
NCR Boundary
State Boundary
District Boundary
Tehsil Boundary
50 Kms
100 Kms
150 Kms
200 Kms
Himachal Pradesh
Uttaranchal
Punjab
Haryana
Delhi
NCT OF DELHI
Rajasthan
Uttar Pradesh
Madhya Pradesh
50 25 0 50 100
Kilometers



N

SCHEMATIC MAP

Map No.09

DELINEATION OF NCR

Night Light 2012

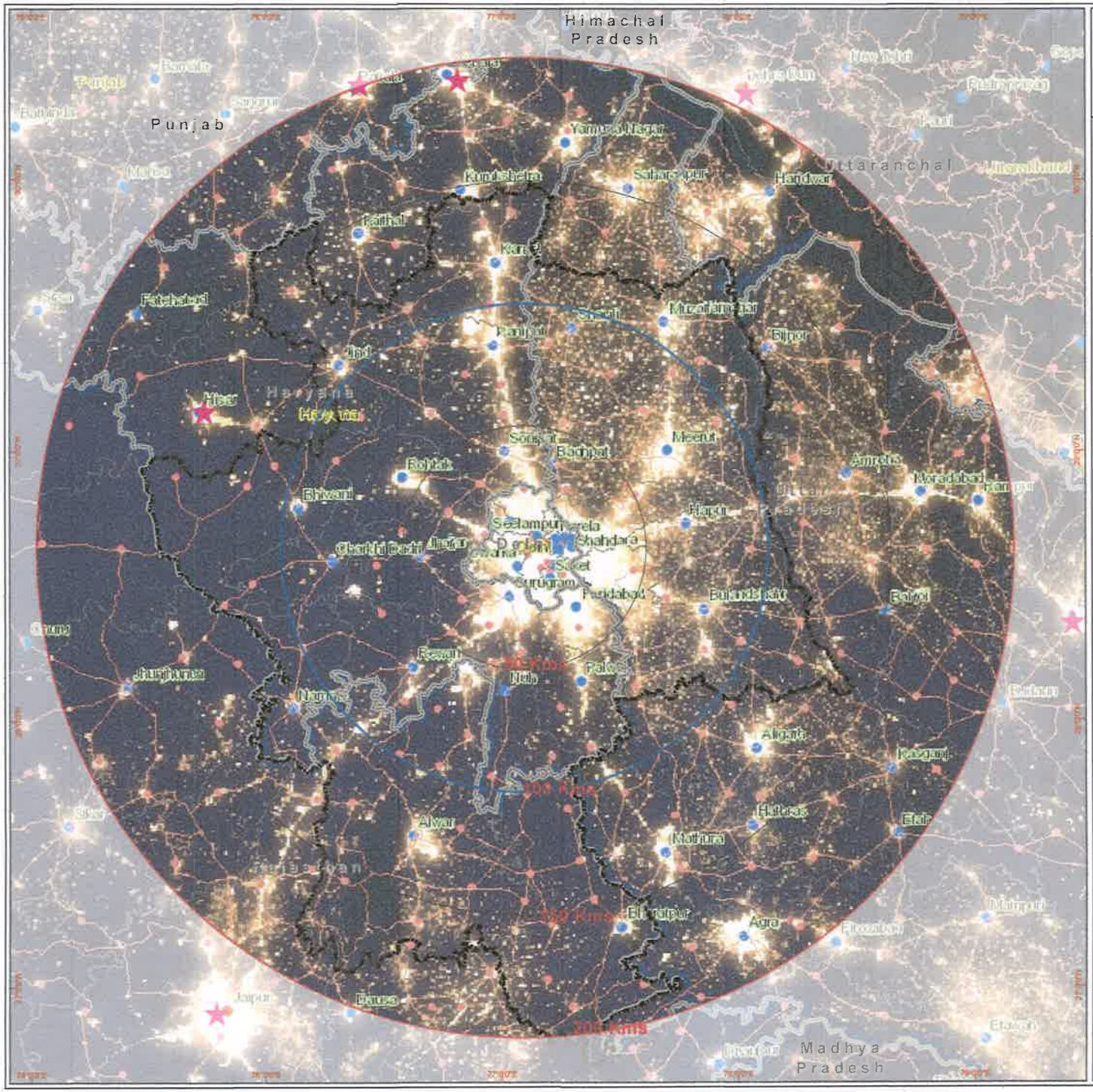
Data Source: NASA Earth Observatory

Legend

- District Headquarter
- Towns
- Counter Magnet Areas
- NCR Boundary
- State Boundary

50 25 0 50 100

Kilometers



N

SCHEMATIC MAP

Map No.10

DELINEATION OF NCR

Night Light 2016

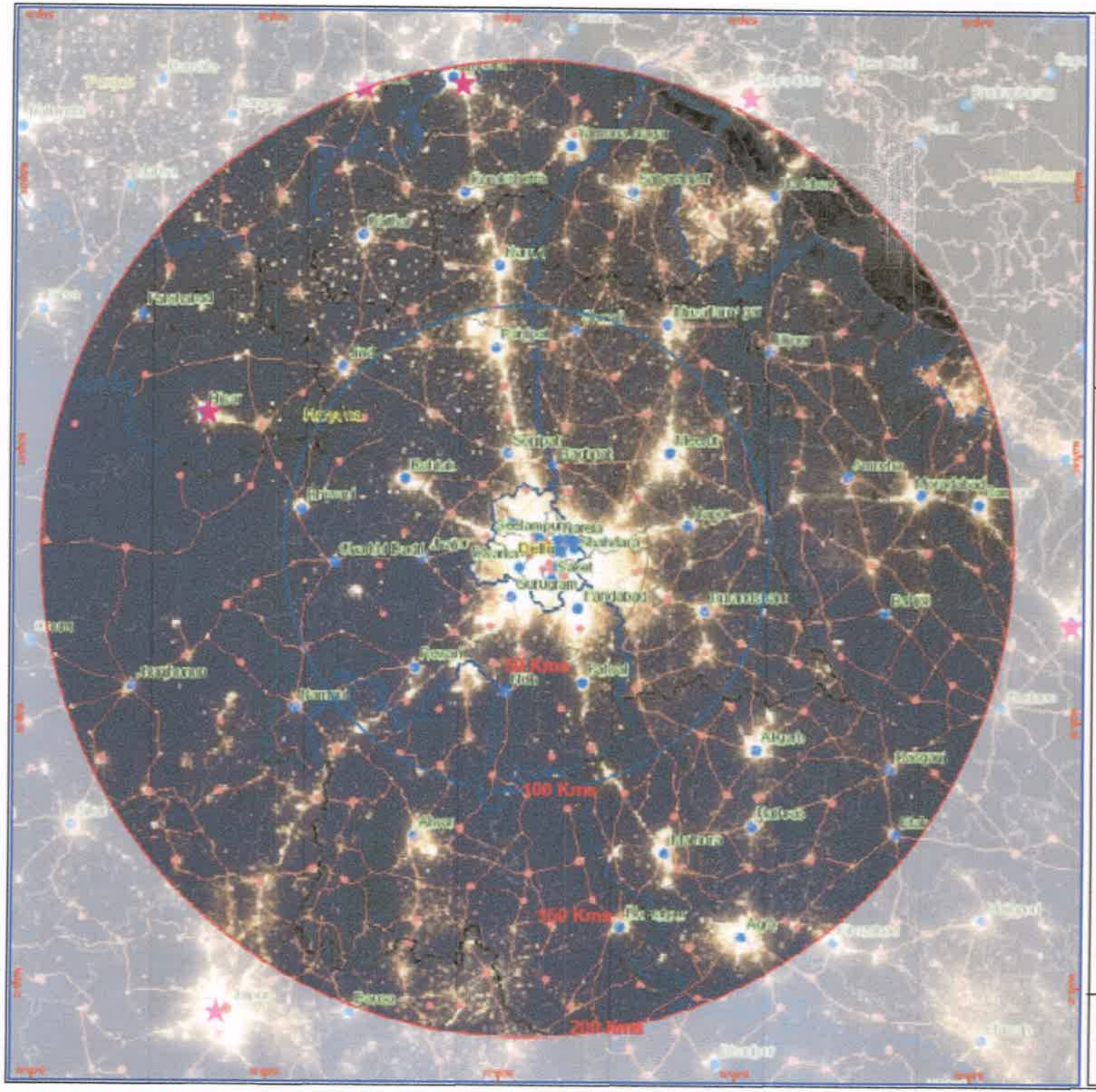
Data Source: NASA Earth Observatory

Legend

- District Headquarter
- Towns
- Counter Magnet Areas
- NCR Boundary
- State Boundary

50 25 0 50 100

Kilometers



N

SCHEMATIC MAP

Map No. 11

DELINEATION OF NCR

Night Light 2012 & 2016 (Fused)

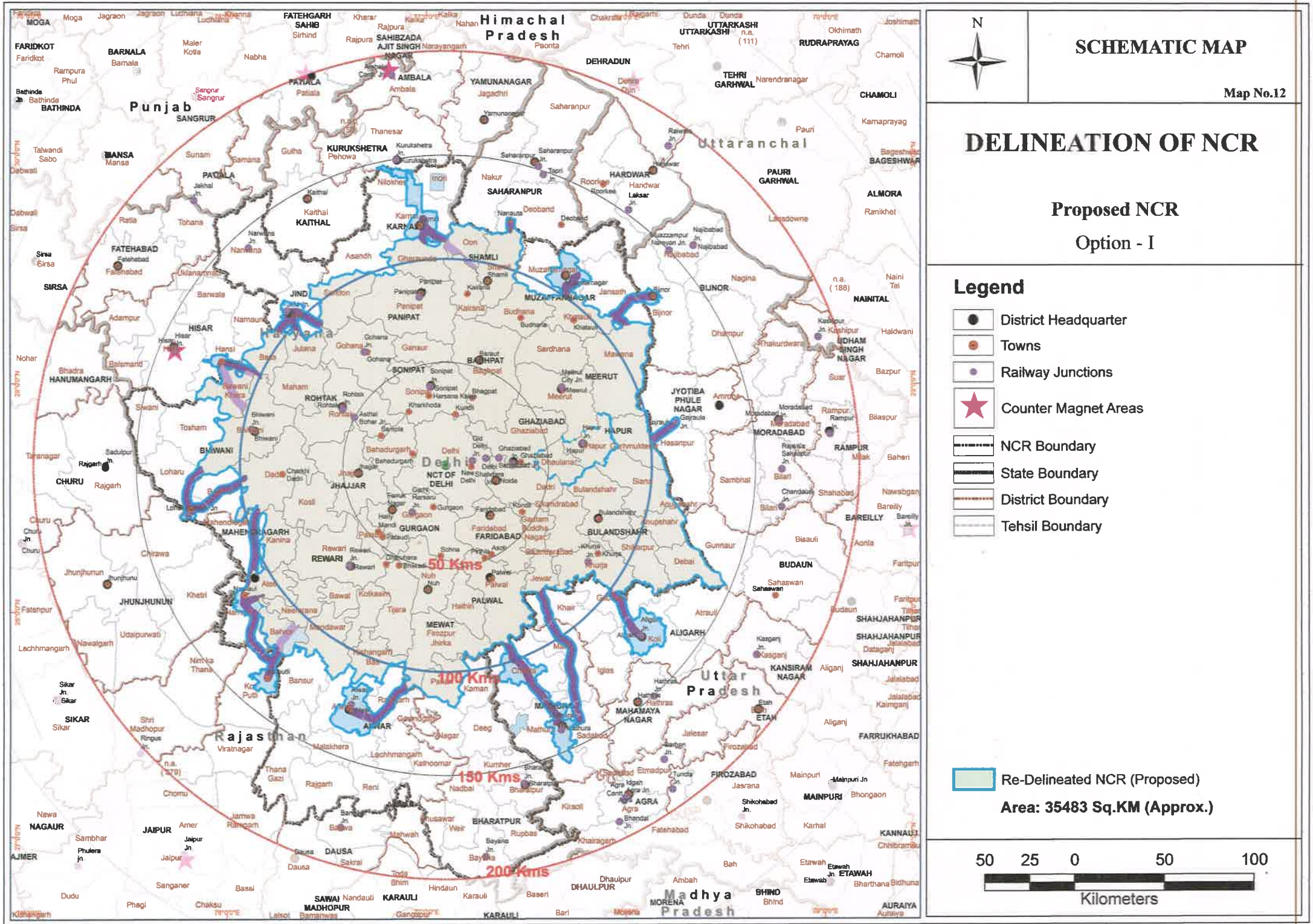
Data Source: NASA Earth Observatory

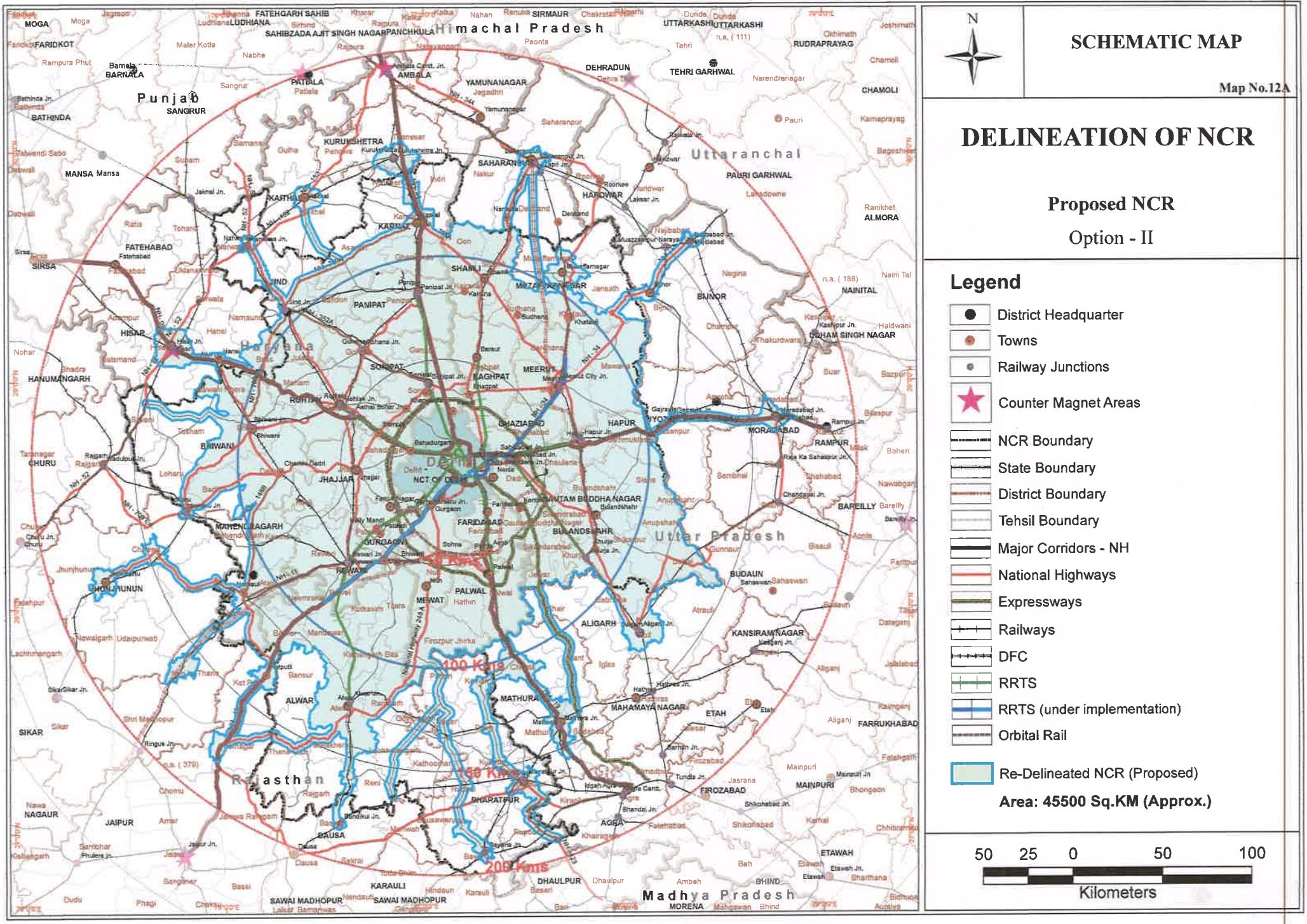
Legend

- District Headquarter
- Counter Magnet Areas
- NCR Boundary
- District Boundary
- Tehsil Boundary

50 25 0 50 100

Kilometers


N
SCHEMATIC MAP
Map No.12
DELINEATION OF NCR
Proposed NCR
Option - I
Legend
District Headquarter
Towns
Railway Junctions
Counter Magnet Areas
NCR Boundary
State Boundary
District Boundary
Tehsil Boundary
Re-Delineated NCR (Proposed)
Area: 35483 Sq.KM (Approx.)
50 Kms
100 Kms
150 Kms
200 Kms
Himachal Pradesh
Punjab
Uttaranchal
Haryana
Delhi
Rajasthan
Uttar Pradesh
Madhya Pradesh
50 25 0 50 100
Kilometers


N
SCHEMATIC MAP
Map No.12A
DELINEATION OF NCR
Proposed NCR
Option - II
Legend
District Headquarter
Towns
Railway Junctions
Counter Magnet Areas
NCR Boundary
State Boundary
District Boundary
Tehsil Boundary
Major Corridors - NH
National Highways
Expressways
Railways
DFC
RRTS
RRTS (under implementation)
Orbital Rail
Re-Delineated NCR (Proposed)
Area: 45500 Sq.KM (Approx.)
50 25 0 50 100
Kilometers
Himachal Pradesh
Uttaranchal
Punjab
Haryana
Rajasthan
Uttar Pradesh
Madhya Pradesh
Delhi
NCT OF DELHI
100 Kms
150 Kms
200 Kms
MOGA
FATEHGARH SAHIB
LUDHIANA
SAHIBZADA AJIT SINGH NAGAR
PANCHKULA
SIRMAUR
UTTARKASHI
FARIDKOT
BARNALA
PATIALA
AMBALA
YAMUNANAGAR
DEHRADUN
TEHRI GARHWAL
RUDRAPRAYAG
CHAMOLI
BATHINDA
SANGRUR
KURUKSHETRA
SAHARANPUR
HARDWAR
PAURI GARHWAL
ALMORA
MANSA
FATEHABAD
SIRSA
KARNAL
SHAMLI
MUZAFFARNAGAR
BIJNOR
NAINITAL
PANIPAT
HISAR
SONIPAT
MEERUT
GHAZIABAD
HAPUR
MORADABAD
RAMPUR
HANUMANGARH
BHIWANI
ROHTAK
BAGHPAT
CHURU
JHAJJAR
GAUTAM BUDDHA NAGAR
BAREILLY
MAHENDRAGARH
FARIDABAD
BULANDSHAHR
GURGAON
NEWAI
MEWAT
PALWAL
BUDAUN
JHUNJHUNUN
ALIGARH
KANSIRAM NAGAR
ALWAR
MATHURA
MAHAMAYA NAGAR
ETAH
FARRUKHABAD
SIKAR
DHARATPUR
FIROZABAD
MAINPURI
NAGAUR
JAIPUR
AGRA
BAUSA
ETAWAH
DHAULPUR
KARAULI
SAWAI MADHOPUR
MORENA
BHIND

Annexure-I

AND WHEREAS Parliament has no power to make laws for the States with respect to any of the matters aforesaid, except as provided in articles 249 and 250 of the Constitution;

AND WHEREAS in pursuance of the provisions of clause (1) of article 252 of the Constitution, resolutions have been passed by all the Houses of the Legislatures of the States of Haryana, Rajasthan and Uttar Pradesh to the effect that the matters aforesaid should be regulated in those States by Parliament by law;

BE it enacted by Parliament in the Thirty-fifth Year of the Republic of India as follows:—

CHAPTER I

PRELIMINARY

Short title and commencement.

1. (*1*) This Act may be called the National Capital Region Planning Board Act, 1985.

(*2*) It shall be deemed to have come into force on the 19th day of October, 1984.

Definitions.

2. In this Act, unless the context otherwise requires,—

(*a*) "Board" means the National Capital Region Planning Board constituted under sub-section (*1*) of section 3;

(b) "Committee" means the Planning Committee constituted under sub-section (*1*) of section 4;

(c) "counter-magnet area" means an urban area selected by the Board under clause (*f*) of section 8;

(*d*) "Functional Plan" means a plan prepared to elaborate one or more elements of the Regional Plan;

(*e*) "land" includes benefits to arise out of land, and things attached to the earth or permanently fastened to anything attached to the earth;

(*f*) "National Capital Region" means the areas specified in the Schedule:

Provided that the Central Government with the consent of the Government of the concerned participating State and in consultation with the Board, may, by notification in the Official Gazette, add any area to the Schedule or exclude any area therefrom;

(*g*) "participating States" means the States of Haryana, Rajasthan and Uttar Pradesh;

(*h*) "prescribed" means prescribed by rules made under this Act;

(*i*) "Project Plan" means a detailed plan prepared to implement one or more elements of the Regional Plan, Sub-Regional Plan or Functional Plan;

THE SCHEDULE

[*See* section 2(*f*)]

The National Capital Region shall comprise the following areas:—

1. **Delhi**

The whole of the Union territory of Delhi.

2. *Haryana*

(*i*) The whole of District of Gurgaon comprising the Tehsils of Gurgaon, Nuh and Ferozepur-Jhirka;

(*ii*) The whole of District of Faridabad comprising the Tehsils of Ballabgarh, Palwal and Hathin;

(*iii*) The whole of District of Rohtak comprising the Tehsils of Rohtak, Jhajjar, Bahadurgarh, Meham and Kosli;

(*iv*) The whole of District of Sonepat comprising the Tehsils of Sonepat and Gohana; and

(*v*) Panipat Tehsil of District of Karnal and Rewari Tehsil of District of Mohindergarh.

3. *Uttar Pradesh*

(*i*) The whole of District of Bulandshahr comprising the Tehsils of Anupshahr, Bulandshahr, Khurja and Sikanderabad;

(*ii*) The whole of District of Meerut comprising the Tehsils of Meerut, Bagpat, Mawana and Sardhana; and

(*iii*) The whole of District of Ghaziabad comprising the Tehsils of Ghaziabad and Hapur.

4. *Rajasthan*

(*i*) The whole of the following Tehsils of Alwar District, namely, Behroor, Mandawar, Kishangarh and Tijara; and

(*ii*) Part of Alwar Tehsil comprising the area bounded in the north by the Tehsil boundaries of Mandawar and Kishangarh, in the east of the boundaries of Tehsil Ferozepur-Jhirka of District Gurgaon, Haryana and Alwar Tehsil, in the south by the Barah river right up to Umran lake in the west, and then following the southern boundaries of Umran lake up to the junction of Umran lake and State Highway from Alwar to Bairat and from then on west by north-west across the ridge up to the junction of the Tehsil boundaries of Alwar and Bansur.

Explanation.—Save as otherwise provided, reference to any district or tehsil in this Schedule shall be construed as a reference to the areas comprised in that district or tehsil, as the case may be, on the 27th day of August, 1984, being the date on which the National Capital Region Planning Board Bill, 1984, was introduced in the House of the People.

R. V. S. PERI SASTRI,
Secy. to the Govt. of India.

Annexure-II

रजिस्ट्री सं० डी० एल०-33004/99 REGD. NO. D. L.-33004/99

भारत का राजपत्र
The Gazette of India

असाधारण
EXTRAORDINARY
भाग II—खण्ड 3—उप-खण्ड (ii)
PART II—Section 3—Sub-section (ii)
प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 2300] नई दिल्ली, मंगलवार, अक्तूबर 1, 2013/आश्विन 9, 1935
No. 2300] NEW DELHI, TUESDAY, OCTOBER 1, 2013/ASVINA 9, 1935

शहरी विकास मंत्रालय

अधिसूचना

नई दिल्ली, 1 अक्तूबर, 2013

का.आ. 2979(अ).—राष्ट्रीय राजधानी क्षेत्र योजना बोर्ड अधिनियम, 1985 (1985 का 2) की धारा 2 के खंड (च) के प्रावधान के परंतुक द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए और संबंधित भागीदार राज्यों की सहमति के अनुपालन में और बोर्ड के परामर्श से केन्द्रीय सरकार एतद्द्वारा यथा उल्लिखित राष्ट्रीय राजधानी क्षेत्र के क्षेत्रों के ब्यौरे के संबंध में राष्ट्रीय राजधानी क्षेत्र योजना बोर्ड अधिनियम, 1985 (1985 का 2) की अनुसूची में निम्नलिखित संशोधन करती है:—

1. हरियाणा से संबंधित अनुसूची की क्रम सं. 2 की विद्यमान प्रविष्टि के स्थान पर निम्नलिखित प्रतिस्थापित की जाए :-

i. संपूर्ण गुडगांव जिला जिसमें पटौदी, गुडगांव, सोहना, मानेसर और फारूखनगर तहसील शामिल हैं ;
ii. संपूर्ण फरीदाबाद जिला जिसमें फरीदाबाद और बल्लभगढ़ तहसील शामिल हैं ;
iii. संपूर्ण रोहतक जिला जिसमें महम, रोहतक और सांपला तहसील शामिल हैं ;
iv. संपूर्ण सोनीपत जिला जिसमें गनौर, सोनीपत, गोहाना और खरखोदा तहसील शामिल हैं ;
v. संपूर्ण पानीपत जिला जिसमें पानीपत, इसराना और समालखा तहसील शामिल हैं ;
vi. संपूर्ण झज्जर जिला जिसमें झज्जर, बहादुरगढ़, बेरी और मेतेनहैल तहसील शामिल हैं;
vii. संपूर्ण मेवात जिला जिसमें पुनहाना, नूह, तोरू और फिरोजपुर झिरका तहसील शामिल हैं ;
viii. संपूर्ण पलवल जिला जिसमें पलवल, हथीन और होडल तहसील शामिल हैं ;
ix. संपूर्ण रेवाड़ी जिला जिसमें बावल, रेवाड़ी और कोसली तहसील शामिल हैं ;
x. संपूर्ण भिवानी जिला जिसमें भिवानी, चरकी दादरी, सीवान, लोहारू, भवानीखेड़ा, तोसम और बदहरा तहसील शामिल हैं ;
xi. संपूर्ण महेन्द्रगढ़ जिला जिसमें महेन्द्रगढ़ और नरनौल तहसील शामिल हैं ।

2. राजस्थान राज्य के संबंध में उक्त अनुसूची की क्रम सं. 4 की विद्यमान प्रविष्टि के स्थान पर निम्नलिखित प्रतिस्थापित की जाए :

i. संपूर्ण अलवर जिला जिसमें बेहरोड, मंडावर, किशनगढ़, तिजारा, अलवर, रामगढ़, बनसूर, थानागाजी, राजगढ़, लक्ष्मणगढ़ और काठुमर तहसील शामिल हैं (शहरी विकास मंत्रालय की दिनांक 23 अगस्त, 2004 की राजपत्र अधिसूचना सं. के-11019/4/2004 डीडी VI द्वारा अधिसूचित) ।

ii. संपूर्ण भरतपुर जिला जिसमें भरतपुर, कुम्हेर, नदबई, डीग, नगर, कांमा, पहाड़ी, बयाना, वैर, भुसावर और रूपवास शामिल हैं।

[सं. के-11019/9/2013-डीडी VI]

पी. टी. जेम्सकुट्टी, अवर सचिव (डीडी-VI)

MINISTRY OF URBAN DEVELOPMENT

NOTIFICATION

New Delhi, the 1st October, 2013

S.O.2979(E).—In exercise of the powers conferred by the proviso of Clause (f) of Section 2 of the National Capital Region Planning Board Act, 1985 (2 of 1985) and in pursuance of consent of concerned participating States and in consultation with the Board, the Central Government hereby makes the following amendments relating to the description of the areas in the National Capital Region as specified in the Schedule to the National Capital Region Planning Board Act, 1985 (2 of 1985) :—

1. The existing entries at S.No.2 of the Schedule relating to the Haryana are substituted with the following:—

i. The whole district of Gurgaon comprising of tehsils of Pataudi, Gurgaon, Sohna, Manesar and Farukhnagar;

ii. The whole of district of Faridabad comprising the Tehsils of Faridabad and Ballabgarh;

iii. The whole of district of Rohtak comprising the Tehsils of Maham, Rohtak and Sampla;

iv. The whole of district of Sonipat comprising the Tehsils of Ganaur, Sonipat, Gohana and Kharkhoda;

v. The whole of district of Panipat comprising the Tehsils of Panipat, Israna and Samalkha;

vi. The whole of district of Jhajjar comprising the Tehsils of Jhajjar, Bahadurgarh, Beri and Matenhail;

vii. The whole of district of Mewat comprising of the Tehsils of Punhana, Nuh, Taoru and Ferozepur Jhirka;

viii. The whole of district of Palwal comprising of the Tehsils of Palwal, Hathin and Hodal;

ix. The whole district of Rewari comprising of the Tehsils of Bawal, Rewari and Kosli;

x. The whole of district of Bhiwani comprising the Tehsils of Bhiwani, Charkhi Dadri, Siwani, Loharu, Bawani Khera, Tosham and Badhra;

xi. The whole of district of Mahendragarh comprising the Tehsils of Mahendragarh and Narnaul.

2. The existing entries at S.No.4 of the said Schedule, in respect of the State of Rajasthan is substituted with the following:

i. The whole of the Alwar District comprising of Tehsils of Behror, Mandawar, Kishangarh, Tijara, Alwar, Ramagarh, Bansur, Thanagazi, Rajagarh, Laxmangarh and Kathumar (notified by the Gazette Notification of Ministry of Urban Development No.K-11019/4/2004-DDVI dated 23rd August, 2004).

ii. The whole of district of Bharatpur comprising the Tehsils of Bharatpur, Kumher, Nadbai, Deeg, Nagar, Kaman, Pahari, Bayana, Weir, Bhusawar and Roopwas.

[No. K-11019/9/2013-DD VI]

P.T. JAMESKUTTY, Under Secy. (DD-VI)

Printed by the Manager, Government of India Press, Ring Road, Mayapuri, New Delhi-110064
and Published by the Controller of Publications, Delhi-110054.

रजिस्ट्री सं० डी० एल०-33004/99 REGD. NO. D. L.-33004/99

भारत का राजपत्र
The Gazette of India

असाधारण
EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (ii)
PART II—Section 3—Sub-section (ii)

प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 2508] नई दिल्ली, बृहस्पतिवार, नवम्बर 26, 2015/अग्रहायण 5, 1937
No. 2508] NEW DELHI, THURSDAY, NOVEMBER 26, 2015/AGRAHAYANA 5, 1937

शहरी विकास मंत्रालय

अधिसूचना

नई दिल्ली, 24 नवम्बर, 2015

का.आ. 3182(अ).—राष्ट्रीय राजधानी क्षेत्र योजना बोर्ड अधिनियम 1985 (1985 का 2) की धारा 2 के खण्ड (च) के परंतुक द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए और संबंधित भागीदार राज्यों की सहमति और बोर्ड के परामर्श के अनुपालन में केन्द्र सरकार एतदद्वारा राष्ट्रीय राजधानी क्षेत्र योजना बोर्ड अधिनियम,1985 (1985 का 2) की अनुसूची में यथानिर्धारित राष्ट्रीय राजधानी क्षेत्र में क्षेत्रों के विवरण से संबंधित निम्नलिखित संशोधन करती है:-

1. हरियाणा राज्य के संबंध में अनुसूची की क्र.सं. 2 में मौजूदा प्रविष्टियां, जिन्हे बाद में दिनांक 1 अक्तूबर 2013 की राजपत्र अधिसूचना सं. का.आ. 2979 (अ) की क्र.सं. 1 के तहत संशोधित किया गया था, में निम्नलिखित प्रविष्टियां जोड़ी जाती हैं:-

xii. संपूर्ण जींद जिला जिसमें जींद, जुलाना, सफीदौ और नरवाना तहसील शामिल हैं।

xiii. संपूर्ण करनाल जिला जिसमें करनाल, नीलोखेड़ी, घरोंदा, असंध और इन्दरी शामिल हैं।

2. उत्तर प्रदेश राज्य से सम्बन्धित अनुसूची के क्रम सं. 3 पर मौजूदा प्रविष्टियों के स्थान पर निम्नलिखित प्रतिस्थापित किया जाए:

i. संपूर्ण गाजियाबाद जिला जिसमें गाजियाबाद, मोदी नगर और लोनी तहसील शामिल हैं;

ii. संपूर्ण हापुड़ जिला जिसमें हापुड़, गढ़मुक्तेश्वर और धौलाना तहसील शामिल हैं;

iii. संपूर्ण बुलन्दशहर जिला जिसमें बुलन्दशहर, सिकन्दराबाद, खुर्जा, शिकरपुर, डिबाई, अनूपशहर और स्याना तहसील शामिल हैं;

iv. संपूर्ण बागपत जिला जिसमें बागपत, बड़ौत और खेकड़ा तहसील शामिल हैं;

v. संपूर्ण मेरठ जिला जिसमें मेरठ, मवाना और सरधाना तहसील शामिल हैं;

vi. संपूर्ण गौतमबुद्ध नगर जिला जिसमें दादरी, सदर और जेवर तहसील शामिल हैं;

vii. संपूर्ण मुजफ्फरनगर जिला जिसमें मुजफ्फरनगर, बुढ़ाना, जनसथ और खतौली तहसील शामिल है।

[सं. के-11019/9/2013-डीडी-VI]

आर.के. वार्ष्णेय, अवर सचिव (डीडी-VI)

MINISTRY OF URBAN DEVELOPMENT

NOTIFICATION

New Delhi, the 24th November, 2015

S.O. 3182(E).—In exercise of the powers conferred by the proviso of Clause (f) of Section 2 of the National Capital Region Planning Board Act, 1985 (2 of 1985) and in pursuance of consent of concerned participating States and in consultation with the Board, the Central Government hereby makes the following amendments relating to the description of the areas in the National Capital Region as specified in the Schedule to the National Capital Region Planning Board Act, 1985 (2 of 1985):-

1. To the existing entries at S.No.2 of the Schedule as amended thereafter vide Sl. No. 1 of the Gazette Notification No. S.O. 2979 (E) dated 1st October, 2013 relating to the State of Haryana, the following entries are added:-

xii. The whole of district of Jind comprising the Tehsils of Jind, Julana, Safidon and Narwana;

xiii. The whole of district of Karnal comprising the Tehsils of Karnal, Nilokheri, Gharaunda, Assandh and Indri.

2. The existing entries at S.No.3 of the Schedule relating to the State of Uttar Pradesh are substituted with the following :-

i. The whole of district of Ghaziabad comprising the Tehsils of Ghaziabad, Modi Nagar and Loni;

ii. The whole of district of Hapur comprising the Tehsils of Hapur, Garhmukteshwar and Dhaulana;

iii. The whole of district of Bulandshahr comprising the Tehsils of Bulandshahr, Sikandrabad, Khurja, Shikarpur, Debai, Anoopshahr and Syana;

iv. The whole of district of Baghpat comprising the Tehsils of Baghpat, Baraut and Khekra;

v. The whole of district of Meerut comprising the Tehsils of Meerut, Mawana and Sardhana;

vi. The whole of district of Gautam Buddha Nagar comprising the Tehsils of Dadri, Sadar and Jewar;

vii. The whole of district of Muzaffarnagar comprising the Tehsils of Muzaffarnagar, Budhana, Jansath and Khatauli.

[No. K-11019/9/2013-DDVI]

R. K. VARSHNEYA, Under Secy. (DD-VI)

Printed by the Manager, Government of India Press, Ring Road, Mayapuri, New Delhi-110064
and Published by the Controller of Publications, Delhi-110054.

रजिस्ट्री सं० डी० एल०-33004/99

REGD. NO. D. L.-33004/99

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प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 1455] नई दिल्ली, सोमवार, अप्रैल 16, 2018/चैत्र 26, 1940
No. 1455] NEW DELHI, MONDAY, APRIL 16, 2018/CHAITRA 26, 1940

आवासन एवं शहरी कार्य मंत्रालय
अधिसूचना

नई दिल्ली, 16 अप्रैल, 2018

का.आ. 1601(अ).—राष्ट्रीय राजधानी क्षेत्र योजना बोर्ड अधिनियम, 1985 (1985 का 2) की धारा 2 के खण्ड (च) के परंतुक द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए और संबंधित भागीदार राज्यों की सहमति और बोर्ड के परामर्श के अनुपालन में केन्द्र सरकार एतदद्वारा राष्ट्रीय राजधानी क्षेत्र योजना बोर्ड अधिनियम, 1985 (1985 का 2) की अनुसूची में यथानिर्धारित राष्ट्रीय राजधानी क्षेत्र में क्षेत्रों के विवरण से संबंधित निम्नलिखित संशोधन करती है:-

1. उत्तर प्रदेश राज्य के संबंध में अनुसूची की क्र.सं. 3 में मौजूदा प्रविष्टी, जिन्हें बाद में दिनांक 24 नवम्बर, 2015 की राजपत्र अधिसूचना सं. का.आ. 3182(अ) के तहत संशोधित किया गया था, में निम्नलिखित प्रविष्टी जोड़ी जाती है:-

viii. संपूर्ण शामली जिला जिसमें शामली, कैराना और ऊन तहसील शामिल हैं।

[फ.सं. 1/6/2018-डीडी VI]

एम.के. शर्मा, अवर सचिव (डीडी VI)

MINISTRY OF HOUSING AND URBAN AFFAIRS
NOTIFICATION

New Delhi, the 16th April, 2018

S.O. 1601(E).—In exercise of the powers conferred by the proviso of Clause (f) of Section 2 of the National Capital Region Planning Board, Act, 1985 (2 of 1985) and in pursuance of consent of concerned participating States and in consultation with the Board, the Central Government hereby makes the following amendment relating to the description of the areas in the National Capital Region as specified in the Schedule to the National Capital Region Planning Board Act, 1985 (2 of 1985):-

To the existing entries at Sl. No. 3 of the Schedule as amended thereafter vide Sl. No. 2 of Gazette Notification No. S.O. 3182(E), dated 24th November, 2015, relating to the State of Uttar Pradesh, following entry is added:

viii. The whole of District of Shamli comprising the Tehsils of Shamli, Kairana and Oon.

[F. No. 1/6/2018-DDVI]

M.K. SHARMA, Under Secy. (DDVI)

2196 GI/2018

Uploaded by Dte. of Printing at Government of India Press, Ring Road, Mayapuri, New Delhi-110064
and Published by the Controller of Publications, Delhi-110054.

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For kind infor^n
Div (A&F)
FAO

AD (NK)

Annexure - III

F/X

राष्ट्रीय राजधानी क्षेत्र योजना बोर्ड
NATIONAL CAPITAL REGION PLANNING BOARD
प्रथम तल, कोर–IV बी/1st Floor, Core - IV B
भारत पर्यावास केन्द्र/India Habitat Centre
लोधी रोड़, नई दिल्ली–110 003 / Lodhi Road, New Delhi-110 003
शहरी विकास मंत्रालय/Ministry of Urban Development
दूरभाष/Phone : 24642284, 24642287, फैक्स/Fax : 24642163

SPEED POST

F. No. K-14011/49/2015-NCRPB

Dated 10.08.2015

ORDER

Subject: Constitution of Committee under the Chairmanship of Member Secretary, NCRPB for undertaking a delineation Study for NCR

In terms of the decisions taken in the 35th Meeting of the NCR Planning Board held on 09.06.2015 under the Chairmanship of Hon'ble Union Minister of Urban Development & Chairman, NCR Planning Board on undertaking a delineation Study for NCR, it has been decided to constitute a Committee under the Chairmanship of Member Secretary, NCRPB with the following composition:

Sl. No.	Name of the Officers and Designation	
1.	Member Secretary, NCR Planning Board	**Chairman**
2.	Additional Secretary (UD), Ministry of Urban Development, Govt. of India	Member
3.	Additional Chief Secretary, Town & Country Planning Deptt., Govt. of Haryana	Member
4.	Addl. Chief Secretary, Urban Development and Housing Deptt., Govt. of Rajasthan	Member
5.	Principal Secretary, Housing & Urban Planning Deptt. Govt. of UP	Member
6.	Principal Secretary (PWD), Govt. of NCT-Delhi	Member
7.	Chief Planner, Town & Country Planning Organisation, Govt. of India	Member
8.	Expert 1 – Dr. D.S. Meshram, former Chief Planner, Town & Country Planning Organisation, MoUD, Govt. of India and former President, Institute of Town Planners, India	Member
9.	Expert 2 - Dr. Mahavir, Professor of Urban Planning, SPA, New Delhi	Member
10.	Chief Regional Planner, NCR Planning Board	Member
11.	Dy. Director (Tech.), NCR Planning Board	Member-Convener

2. The Terms of Reference (ToR) of the Committee are as under:

i) To finalise the TORs for undertaking the Delineation Study for NCR
ii) Identification / finalisation of the Consultant for the Study
iii) To guide the Study and to review the progress of work of the Study
iv) To make recommendations on delineation of NCR

P.T.O.

Shashi
जारी/Issue.....
दिनांक/Date.....11/8/15
हस्ताक्षर/Signature.....

3. A sitting fee of Rs.2500/- per sitting (including local transportation) will be paid to the Expert members.

4. Committee may co-opt Experts/Members, if it feels necessary. Committee may also invite Experts as Special Invitees.

Yours faithfully,

10/08/2015

(Partha Pratim Nath)
Deputy Director (Technical) &
Member-Convener

To

1. **Additional Secretary (UD)**, Ministry of Urban Development, Govt. of India, Room No. 117-C, Nirman Bhawan, New Delhi as_ud_mud@nic.in [23061787, 23061061(Fax)]
2. **Additional Chief Secretary,** Town & Country Planning Deptt., Govt. of Haryana, Haryana Mini Secretariat, Sector 17, Chandigarh, Haryana-160017. [0172-2714085, 2544060 (Fax), pstcphry@gmail.com
3. **Additional Chief Secretary,** Urban Development and Housing Department, Govt. of Rajasthan, 2nd Floor, Main Building, Govt. Secretariat, Jaipur-302005, Rajasthan, Tele Fax: 0141-2227200 acs.udh@rajasthan.gov.in
4. **Principal Secretary,** Housing & Urban Development Deptt. Govt. of UP, UP Secretariat, Bapu Bhawan, Uttar Pradesh Secretariat, Lucknow, Uttar Pradesh-226001 psecup.urbandev@gmail.com / psecup.urbandev@nic.in [0522-2237210]
5. **Principal Secretary (PWD),** Govt. of NCT-Delhi, Delhi Secretariat, 5th Level, B-Wing, Delhi Secretariat, PWD Secretariat, I.P. Estate, New Delhi -110001 [23392065/2295 (f)]
6. **Chief Planner,** TCPO, Town & Country Planning Organisation, Govt. of India, Vikas Bhawan, I.P. Estate, New Delhi-110002 [23370306, 23379197 (F)], cp.tcpo@yahoo.com
7. Expert 1- **Dr. D.S. Meshram,** former Chief Planner, TCPO, MoUD, GoI & former President, ITPI; House No. 107, Dhruv Apartment, I.P. Extension, New Delhi -110092 dsmeshram@gmail.com / dsmeshram@indiatimes.com
8. Expert 2 - **Dr. Mahavir,** Professor of Urban Planning, Department of Physical Planning, School of Planning & Architecture, 4-Block-B, Indraprastha Estate, New Delhi 110002 mahavir@spa.ac.in

Copy to:

i) PS to Member Secretary, NCR Planning Board – for information
ii) PA to Chief Regional Planner, NCR Planning Board
iii) FAO, NCRPB

Annexure-IV

4.0 RECOMMENDATIONS

4.1. Region

4.1.1. Increasing the extent of area of Regional Plan on the demand of participating states without carrying out delineation study will not be advisable because the area of NCR is almost doubled compared to the Regional Plan of NCR prepared by TCPO, which may result into:

- Geographical area of NCR will be doubled;
- There will be thin spread of limited resources;
- This may occur in sparse development;
- Provision of infrastructure in integrated manner will be costly affair;
- Delhi the capital of country and mother city may lose its primacy; and
- It would be administratively and financially difficult to sustain / deal with growth and development of such huge area.

4.2. Aims, Objectives and Policy Zones

4.2.1. The positive approach of RP-2021, which aims to harness the spread of the developmental impulse and agglomeration economies generated by Delhi needs to be continued in next Regional Plan, and these objectives be given concentrated focus on economic and spatial development having regard to environmental conservation to make NCR an economically vibrant Megacity Region.

4.2.2. The basic policy for NCT-Delhi is not to allow new major economic activities i.e., industries, wholesale trade and commerce, which may result in a large scale job creation both in formal as well as informal sectors, should continue and only activities necessary to sustain the local population of NCT-Delhi should be permitted.

4.2.3. Unplanned and haphazard growth taking place in sensitive areas (Natural Conservation Zone) in the region be checked.

4.2.4. The constituent states needs to assess the impact of the policy, objective and aims of RP – 2021 in their region, so that collective picture of overall impact can emerge.

4.2.5. Delhi along with its surrounding towns namely Gurgaon, Faridabad, Noida, Ghaziabad and Greater Noida is emerging as one single contiguous land mass. Weather this scenario be encouraged from the point of view of safety or the towns in the bracket of 1 lakh to 5 lakh population be given overriding priority for development.

4.2.6. In the Rest of NCR, the basic policy of Regional Plan-2001 for accelerated development of both urban and rural areas should be continued by substantially upgrading

Annexure-V

Tehsil identified for inclusion in 1st layer	Tehsil identified for exclusion in 1st layer
➢ **Haryana** 1. **District Jind** a) Tehsil Julana b) Tehsil Safidon 2. **District Bhiwani** a) Tehsil Bhiwani 3. **District Charkhi Dadri** a) Tehsil Charkhi Dadri 4. **District Mahendragarh** a) Tehsil Kanina b) Tehsil Ateli 5. **District Karnal** a) Tehsil Gharaunda	➢ **Haryana** 1. **District Jind** a) Tehsil Jind b) Tehsil Narwana 2. **District Bhiwani** a) Tehsil Bawani Khera b) Tehsil Tosham c) Tehsil Loharu d) Tehsil Siwani 3. **District Charkhi Dadri** a)Tehsil Bhadra 4. **District Mahendragarh** a) Tehsil Mahendragarh b) Tehsil Narnaul 5. **District Karnal** a) Tehsil Nilokheri b) Tehsil Indri c) Tehsil Asandh
➢ **Uttar Pradesh** 1. **District Shamli** a) Tehsil Shamli b) Tehsil Kairana 2. **District Muzaffarnagar** a) Tehsil Budhana b) Tehsil Khatauli 3. **District Bulandshahr** a) Tehsil Bulandshahr b) Tehsil Sikanderabad c) Tehsil Khurja d) Tehsil Shikarpur e) Tehsil Siana	➢ **Uttar Pradesh** 1. **District Shamli** a) Tehsil Oon 2. **District Muzaffarnagar** a) Tehsil Muzaffarnagar b) Tehsil Jansath 3. **District Bulandshahr** a) Tehsil Anupshahr b) Tehsil Debai
➢ **Rajasthan** 1. **District Alwar** a) Tehsil Neemrana b) Tehsil Mandawar c) Tehsil Kisangarh Bas	➢ **Rajasthan** 1. **District Alwar** a) Tehsil Behror b) Tehsil Bansur c) Tehsil Thana Gazi,

d) Tehsil Kotkasim e) Tehsil Tijara	d) Tehsil Malakhera, e) Tehsil Rajgarh, f) Tehsil Reni g) Tehsil Kathoomar h) Tehsil Lachhmangarh, i) Tehsil Govindgarh j) Tehsil Ramgarh k) Tehsil Alwar 2. **Entire District Bharatpur**

Annexure-VI

Sub-region wise coverage of district and tehsils

(Black – Existing, Red – Exclusion and Blue – Inclusion)

OPTION-I (Map No. 12) (Final Layers: District/ Tehsil to include/ exclude)	OPTION-II (Map No. 12A) (Final Layers: District/ Tehsil to include/ exclude)
Entire NCT Delhi	**Entire NCT Delhi**
Haryana Sub-Region:	**Haryana Sub-Region:**
(i) Entire District of SONIPAT	(i) Entire District of SONIPAT
(ii) Entire District of PANIPAT	(ii) Entire District of PANIPAT
(iii) Entire District of ROHTAK	(iii) Entire District of ROHTAK
(iv) Entire District of JHAJJAR	(iv) Entire District of JHAJJAR
(v) Entire District of REWARI	(v) Entire District of REWARI
(vi) Entire District of GURGAON	(vi) Entire District of GURGAON
(vii) Entire District of MEWAT	(vii) Entire District of MEWAT
(viii) Entire District of PALWAL,	(viii) Entire District of PALWAL
(ix) Entire District of FARIDABAD	(ix) Entire District of FARIDABAD
(x) District of CHARKHI DADRI	(x) District of CHARKHI DADRI
1. Tehsil Charkhi Dadri,	(xi) District of JIND
2. Tehsil Badhra (part)	1. Tehsil Julana,
(xi) District of JIND	2. Tehsil Safidon,
1. Tehsil Julana,	3. Tehsil Jind (part)
2. Tehsil Safidon,	4. Tehsil Narwana (part)
3. Tehsil Jind (part)	(xii) District of BHIWANI
[Tehsil Narwana – exclusion]	1. Tehsil Bawani Khera,
(xii) District of BHIWANI	2. Tehsil Bhiwani,
1. Tehsil Bawani Khera,	3. Tehsil Loharu (part),
2. Tehsil Bhiwani,	4. Tehsil Tosham (part)
3. Tehsil Loharu (part),	5. Tehsil Siwani (part)
[Tehsil Tosham & Siwani – exclusion]	(xiii) District of MAHENDRAGARH
(xiii) District of MAHENDRAGARH	1. Tehsil Kanina,
1. Tehsil Kanina,	2. Tehsil Ateli,
	3. Tehsil Narnaul (part)

OPTION-I (Map No. 12) (Final Layers: District/ Tehsil to include/ exclude)	OPTION-II (Map No. 12A) (Final Layers: District/ Tehsil to include/ exclude)
2. Tehsil Ateli, 3. Tehsil Narnaul (part) 4. Tehsil Mahendragarh (part) (xiv) District of KARNAL 1. Tehsil Gharaunda 2. Tehsil Karnal (part) [Tehsil Asandh, Nilokheri and Indri – exclusion] (xv) District of HISAR 1. Tehsil Bass, 2. Tehsil Hansi (part)	4. Tehsil Mahendragarh (part) (xiv) District of KARNAL 1. Tehsil Gharaunda, 2. Tehsil Asandh (part), 3. Tehsil Nilokheri (part) 4. Tehsil Karnal (part) (xv) District of HISAR 1. Tehsil Bass, 2. Tehsil Hansi (part) 3. Tehsil Hisar (part) (xvi) District of KURUKSHETRA 1. Tehsil Thanesar (part) (xvii) District of KAITHAL 1. Tehsil Kaithal (part)
Rajasthan Sub-Region: (i) District of ALWAR 1. Tehsil Tijara, 2. Tehsil Kishangarh Bas, 3. Tehsil Kotkasim, 4. Tehsil Mandawar, 5. Tehsil Neemrana, 6. Tehsil Bahror, 7. Tehsil Alwar, 8. Tehsil Ramgarh (part), [Tehsil Bansur, Rajgarh, Malakhera, Thana Gazi, Lachhmangarh, Govindgarh, Reni & Kathoomar - exclusion] (ii) Entire District of BHARATPUR – exclusion (iii) District of JAIPUR	**Rajasthan Sub-Region:** (i) District of ALWAR 1. Tehsil Tijara, 2. Tehsil Kishangarh Bas, 3. Tehsil Kotkasim, 4. Tehsil Mandawar, 5. Tehsil Neemrana, 6. Tehsil Bahror, 7. Tehsil Alwar, 8. Tehsil Ramgarh, 9. Tehsil Rajgarh (part), 10. Tehsil Malakhera (part), 11. Tehsil Thana Gazi (part), 12. Tehsil Lachhmangarh (part), 13. Tehsil Govindgarh (part), 14. Tehsil Reni (part)

OPTION-I (Map No. 12) (Final Layers: District/ Tehsil to include/ exclude)	OPTION-II (Map No. 12A) (Final Layers: District/ Tehsil to include/ exclude)
1. Tehsil Kotputli (part)	15. Tehsil Kathoomar (part) [Tehsil Bansur, - exclusion] (ii) District of BHARATPUR 1. Tehsil Pahari (part), 2. Tehsil Kaman (part), 3. Tehsil Nagar (part), 4. Tehsil Deeg (part), 5. Tehsil Kumher (part), 6. Tehsil Bharatpur (part), 7. Tehsil Nadbai, (part), 8. Tehsil Bhusawar (part), 9. Tehsil Weir (part), 10. Tehsil Bayana (part) 11. Tehsil Rupbas (part) (iii) District of JAIPUR 1. Tehsil Kotputli (part) 2. Tehsil Viratnagar (part) (iv) District of DAUSA 1. Tehsil Bandikui (part) 2. Tehsil Mahwah (part) (v) District of JHUNJHUNU 1. Tehsil Chirawa (part) 2. Tehsil Jhunjhunu (part) (vi) District of SIKAR 1. Tehsil Neem Ka Thana (part)
Uttar Pradesh Sub-Region: (i) Entire District of GHAZIABAD (ii) Entire District of GAUTAM BUDDHA NAGAR (iii) Entire District of MEERUT	**Uttar Pradesh Sub-Region:** (i) Entire District of GHAZIABAD (ii) Entire District of GAUTAM BUDDHA NAGAR (iii) Entire District of MEERUT

OPTION-I (Map No. 12) (Final Layers: District/ Tehsil to include/ exclude)	OPTION-II (Map No. 12A) (Final Layers: District/ Tehsil to include/ exclude)
(iv) Entire District of BAGHPAT	(iv) Entire District of BAGHPAT
(v) Entire District of HAPUR	(v) Entire District of HAPUR
(vi) Entire District of BULANDSHAHR	(vi) Entire District of BULANDSHAHR
(vii)Entire District of SHAMLI	(vii)Entire District of SHAMLI
1. Tehsil Shamli	(viii) District of MUZAFFARNAGAR
2. Tehsil Kairana	1. Tehsil Khatauli,
(viii) District of MUZAFFARNAGAR	2. Tehsil Budhana,
1. Tehsil Khatauli,	3. Tehsil Jansath (part)
2. Budhana,	4. Tehsil Muzaffarnagar (part)
3. Jansath (part)	(ix) District of SAHARANPUR
4. Muzaffarnagar (part)	1. Tehsil Saharanpur (part)
(ix) District of SAHARANPUR	2. Tehsil Deoband(part)
1. Tehsil Deoband (part)	(x) District of BIJNOR
(x) District of BIJNOR	1. Tehsil Bijnor (part)
1. Tehsil Bijnor (part)	2. Najibabad (part)
(xi) District of JYOTIBA PHULE NAGAR	(xi) District of JYOTIBA PHULE NAGAR
1. Tehsil Hasanpur (part)	1. Tehsil Hasanpur (part)
(xii)District of ALIGARH	2. Tehsil Amroha (part)
1. Tehsil Khair (part)	(xii)District of MORADABAD
2. Tehsil Gabhana (part)	1. Tehsil Moradabad (part)
3. Tehsil Koil (part)	(xiii) District of ALIGARH
(xiii) District of MATHURA	1. Tehsil Khair (part)
1. Tehsil Mant (part),	2. Tehsil Gabhana (part)
2. Chhata (part),	3. Tehsil Koil (part)
3. Mathura (part),	(xiv) District of MATHURA
4. Sadabad (part)	1. Tehsil Mant (part)
	2. Chhata (part)
	3. Mathura (part)
	4. Sadabad (part)

Note: ***Black – Existing, Red – Exclusion*** *and* ***Blue – Inclusion***

Annexure - VII

National Transit Oriented Development (TOD) Policy

1. **Background**

1.1. India is urbanizing at a rapid pace with urban population rising much faster than its total population. Level of urbanisation has increased from 17.29% in 1951 to 31.6 % in 2011. India is competing with the fastest growing countries in the world. The urban population in India, which is nearly 377 million is poised to grow to 600 million by 2030. The urban population of India contributes 65% of country's Gross Domestic Product (GDP), which is expected to grow to 75% in the next 15 years. With India witnessing a high economic growth, Indian cities are growing at a rate faster than other cities in the world.

1.2. Urbanization has led to horizontal growth of the cities thus creating problems of urban sprawl. This has resulted in increase of trip lengths and higher usage of private vehicles, problems of pollution and increased demand of infrastructure. To address these issues, many cities have strengthened their public transport by developing mass rapid transit systems (MRTS) such as metro rails and Bus Rapid Transit Systems (BRTS). It is however, important to efficiently use these systems by integrating the land use with the transport infrastructure to make the cities livable, healthy and smart.

2. **What is Transit-Oriented Development (TOD)?**

2.1. TOD integrates land use and transport planning and aims to develop planned sustainable urban growth centers, having walkable and livable communes with high density mixed land-use. Citizens have access to open green and public spaces and at the same time transit facilities are efficiently utilized.

2.2. TOD focuses on creation of high density mixed land use development in the influence zone of transit stations, i.e. within the walking distance of (500-800 m)

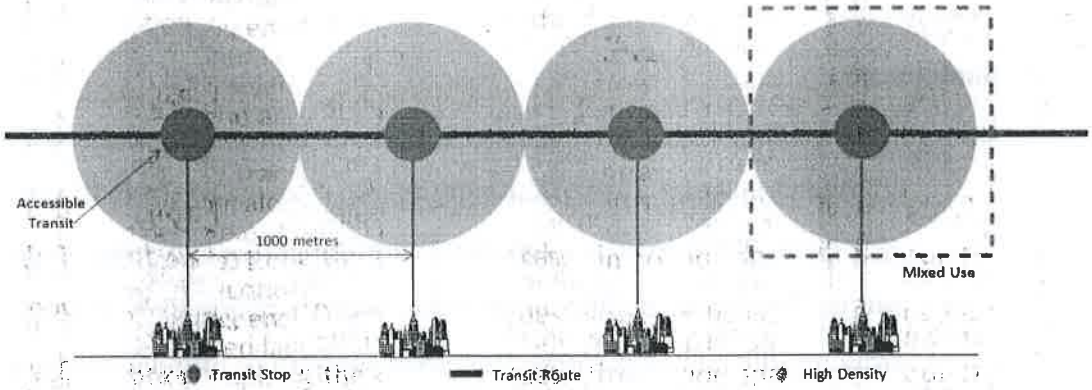


Figure 1: TOD along Transit Stations

transit station or along the corridor in case the station spacing is about 1km as shown in Figure 1. TOD advocates pedestrian trips to access various facilities such as shopping, entertainment and work.

2.3. TOD increases the accessibility of the transit stations by creating pedestrian and Non-Motorised Transport (NMT) friendly infrastructure that benefits large number of people, thereby increasing the ridership of the transit facility and improving the economic and financial viability of the system. Since the transit corridor has mixed land-use, where the transit stations are either origin (housing) or destination (work), the corridor experiencing peak hour traffic in both directions would optimize the use of the transit system.

3. Need for a National TOD Policy

3.1. As the cities are experiencing rapid growth, transit systems like metro rail, BRTS, etc. are being implemented to cater to the growing travel demand. It has thus become inevitable to have TOD for all such cities which have an existing mass transit systems or are planning to do so.

3.2. It is the responsibility of the state government to manage the urban spaces, however a National TOD policy would serve as guidelines and play a catalytic role in formulating state/ city level policies for promotion of transit oriented development

3.2.1. In this context, it is important for community-based organizations, practitioner, urban local bodies, state/ union territory (UT) governments, Central Government ministries/ departments/ agencies and all other stakeholders involved in the development of the city, to understand TOD, its benefits and implementation strategy.

3.2.2. National TOD policy shall be a guiding document for the Central Government ministries/ departments/ agencies to ensure that their schemes, policies, etc. encourage TOD in cities, especially those with upcoming mass transit systems.

3.2.3. This shall support states and cities to recognize public transport infrastructure as the core around which the future expansion of urban areas should be planned and the investments in public transport be directed accordingly.

3.2.4. This shall help all state/ UT governments and urban local bodies in formulation of TOD planning strategies.

3.3. It shall help in the active participation of all stake holders, Government and Non-Government organizations in implementing TOD.

4. Vision of TOD Policy

The vision of the policy is three fold:

4.1 **Enable Transformation**: to assist in transformation of cities from private vehicle dependent city to public transport oriented development,

4.2 **Accessible Public Transport**: to promote the usage of public transport by making it accessible, encourage green mobility by encouraging people to walk and cycle and at the same time curb pollution and other negative impacts of motorization.

4.3 **Compact Walkable Communities**: to create livable and affordable communities, which are compact and walkable.

5. Objectives of TOD Policy

TOD integrates land use and transport planning to develop compact growth centers within the influence zone of 500-800 m on either side of the transit stations i.e. areas within walking distance, to achieve the following objectives:

5.1. To promote the use of public transport by developing high density zones in the influence area, which would increase the share of transit and walk trips made by the residents/ workers to meet the daily needs and also result in reduction in pollution and congestion in the influence area.

5.2. To provide all the basic needs of work/ job, shopping, public amenities, entertainment in the influence zone with mixed land-use development which would reduce the need for travel.

5.3. To establish a dense road network within the development area for safe and easy movement and connectivity of NMT and pedestrians between various uses as well as to transit stations.

5.4. To achieve reduction in the private vehicle ownership, traffic and associated parking demand.

5.5. To develop inclusive habitat in the influence area so that the people dependent on public transport can live in the livable communities within the walkable distance of transit stations.

5.6. To integrate the Economically Weaker Sections (EWS) and affordable housing in the influence zone by allocating a prescribed proportion of built-up area for them in the total housing supply.

5.7. To provide all kinds of recreational/entertainment/ open spaces, required for a good quality of life in the influence area.

5.8. To ensure development of safe society with special attention to safety of women, children, senior citizen and differently abled by making necessary amendments to the building bye laws.

5.9. To prevent urban sprawl by accommodating the growing population in a compact area with access to the transit corridor, which would also consolidate investments and bring down the infrastructure cost for development.

5.10. To reduce carbon footprints by shifting towards environmentally friendly travel options for the line haul as well as for access and egress trips.

6. Principles of TOD:

TOD focuses on compact mixed use development around transit corridor such as metro rail, BRTS etc. International examples have demonstrated that though transit system facilitates transit oriented development, improving accessibility and creating walkable communities is equally important. Based on the objectives of National Urban Transport Policy, this TOD policy defines 12 Guiding Principles and 9 Supportive tools, as shown in Figure 2 and 3, for realizing the objectives of TOD.



Figure 2: TOD Principles

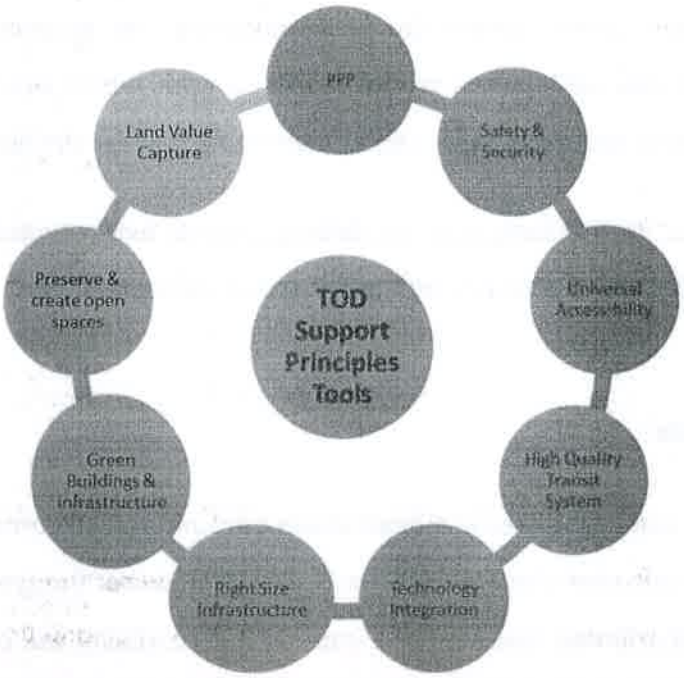


Figure 3: TOD Support Principles Tools

7. Approach for TOD Implementation

7.1. Influence Zone

7.1.1. The area in the immediate vicinity of the transit station, i.e. within a walking distance, having high density compact development with mixed land use to support all basic needs of the residents is called the influence zone of a transit station/ corridor.

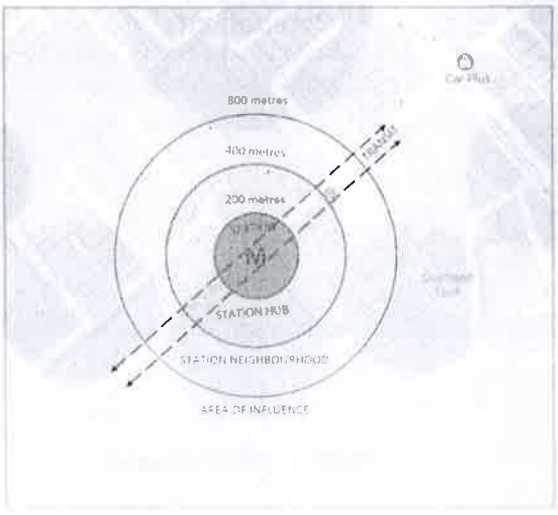


Figure 4: TOD Influence Zone

7.1.2. Influence zone is either established at a transit stations or along the transit corridors. It is generally up to a radius of nearly 500-800m of the transit station. Where the distance between the transit stations is less than 1 km and there is overlap in the influence area, it can be identified as a delineated zone (around 500m) on either side of the transit corridor within 10 - 12 minutes walking distance.

7.1.3. The area of influence, where the TOD is planned for implementation, should be demarcated and notified through master plan and local area plans before implementation. If in any case the TOD is to be implemented in a phased manner, the influence area of the TOD can also be notified in phases. The principles for delineating the influence area should be clearly indicated so that there is no speculation or confusion regarding the influence zone.

7.2. High Density Compact Development

7.2.1. TOD promotes densification in the influence area by providing higher Floor Area Ratio (FAR)/ Floor Space Index (FSI) and higher population & job density as compared to the area around and beyond the influence areas. To ensure sustainable development, the minimum FAR should be 300 - 500%, and can be higher, depending on the city size. This will promote higher concentration of people within the walking distances of transit station, thereby increasing the ridership of the public transport and resulting in increased fare revenue, pollution and congestion reduction.

7.2.2. It is not necessary to keep the density and FAR norms consistent for the influence areas across the city. It can vary depending on the infrastructure available, land use zoning, transit capacity etc.

7.2.3. Cities should follow green building norms, adopt renewal sources of energy such as solar and waste to energy options, adopt rain water harvesting and ground water recharge techniques, which would encourage water conservation, utilization of clean energy and promote sustainable waste management so as to make them self-sustaining through efficient use of resources and infrastructure.

7.3. Mixed Use Development

7.3.1. Mixed land use should be stipulated for development/ redevelopment in the TOD zone as it would reduce the need for travel by providing most of the activities such as shopping, entertainment and public amenities such as schools, parks, playgrounds, hospitals etc. within the walking distance of the residents. It would also improve the accessibility of the transit facilities and at the same time link origins and destinations, i.e. residences with work places or activity nodes. This would ensure better utilization of transit fleet by distributing loads in both directions, rather than creating unidirectional peak hour flows.

7.3.2. A blend of land-uses help in the optimization of physical infrastructure and resources, as all components like roads, parking, water, sewerage etc., remain functional at all times of the day.

7.3.3. The TOD benefits cannot be realized with the kind of developments that encourage the use of personalized vehicles. It is therefore imperative to restrict developments such as low-density housing, low-rise development, warehouses, petrol pumps/CNG stations, cremation ground and surface/Multilevel parking etc. in the influence area.

7.3.4. Mix of uses within the TOD can be achieved either by horizontal mixing i.e. separate activities in separate plots/ buildings or vertical mixing i.e. combining different activities within the same building.

7.3.5. To ascertain mixed use development along with the required street network and open spaces, the minimum plot area in the influence zone should be defined. The developer may, however, be permitted to undertake construction in a phased manner. In case, the individual landowners want to collaborate for development as per TOD norms, necessary provisions may be made to facilitate it. The landowner(s) may also be permitted to collaborate with developers in case they lack the required experience and institutional & financial capacity to undertake such development as per TOD norms. However, care needs to be taken that the amalgamated plots are redesigned to allow finer network of streets and dispersion of open spaces.

7.3.6. The mix of uses to be proposed shall be decided as per the local conditions and the trends in real estate market, however, the minimum percentage of built up area for housing, commercial and other amenities should be fixed. The use of balance built up area may depend on the prevailing market conditions and demand of the city.

7.4. Mandatory and Inclusive Housing

7.4.1. The cities should fix a minimum percentage (30% or higher) of allowed FAR for affordable housing (for example up to 60 sq.mt. area) in all development/redevelopment in the influence zones.

7.4.2. Housing in the influence zone should have a mix of all economic groups/ sections. The development control regulation should stipulate housing for Economically Weaker Sections (EWS) as well as LIG/MIG, or other types based on Census definition, in the influence area to give an opportunity to the people who depend on public transport for daily commuting to live in walkable neighborhoods.

7.4.3. The upper limit to the area of individual dwelling unit should be fixed as a regulatory component in the influence zones to ensure housing for LIG/MIG.

7.4.4. To ensure provision of EWS housing, a 10-15 percentage of built up area in the influence zone should be defined. This could be ensured by providing mandatory incentive of additional FAR for EWS housing. It should also be ascertained that only low income families/ individuals are provided ownership of these EWS units.

7.5. Multimodal Integration

7.5.1. The influence area should have high quality integrated multimodal transport system for the optimum use of the facilities by the residents/users. The system should have seamless physical connectivity, information integration and fare integration across modes so that the first and last mile connectivity does not become a bottleneck in the use of public transit systems by the citizens.

7.5.2. The transit system, including its stations, should be designed to provide high quality services that assure user satisfaction in terms of safety and comfort. The citizens should have barrier free access to all the required amenities in the transit system as well as around the transit centers.

7.5.3. The hierarchy of the facilities at the transit system should prioritize pedestrians followed by bicycle, feeder buses, drop-off facilities and park and ride facility in the given order.

7.5.4. The transit stations should have ample bicycle parking spaces with scope for future expansion if need arises.

7.5.5. Intermediate Public Transport (IPT), Non-Motorized Transport (NMT) and feeder buses perform a significant role in providing first and last mile connectivity to the populace beyond the influence zone. To ensure that the area around the transit station remain congestion free and to facilitate easy transfers, it is important to provide adequate parking and pickup/ drop-off facilities for the above modes at suitable locations at the stations and in the influence zone.

7.5.6. To support TOD, park and ride facilities may be provided, if needed. The facilities, with suitable pricing that deters private vehicle use, may be planned primarily at the end stations and can variably decrease according to the requirement on the intermediate nodes. On-street parking should be prohibited in the influence area and if necessary it should be priced higher than off street parking.

7.6. Focus on pedestrians, cyclists and NMT users

7.6.1. The streets should be designed for users of all age groups and for all types of commuters including pedestrians, bicyclists, motorists and transit riders. They should be safe and accessible by all.

7.6.2. The influence zone should have development in smaller blocks with a finer street network having provision for pedestrians, bicyclists and NMT users. This will create a grid of small, traversable blocks which has sidewalks and amenities like lighting and information signage etc. and ensure accessibility of the transit stations by pedestrians and cyclist.

7.6.3. Right of Way (ROW) should not dictate the pedestrian circulation network, it should rather be designed based on the pedestrian volume and adjoining land-use. Smaller ROWs should be made 'pedestrian and NMT only' or one-way streets so that pedestrian circulation is not compromised.

7.6.4. Continuous and unobstructed footpaths of suitable width should be provided on either side of the streets. To protect the footpaths from encroachment and parking, buffers or bollards etc. may be provided.

7.6.5. **Universal Accessibility**: All streets should be designed to meet or exceed the minimum standards stipulated for barrier free environment

by Government of India[1] to ensure universal accessibility for people with reduced mobility including visually and hearing impaired persons.

7.6.6. **Traffic Calming**: To promote a safe and secure environment for pedestrian and NMT users, necessary measures should be taken to reduce speed as well as volume of motorized traffic in the influence zone. On streets which are primarily designed for movement of pedestrian and NMT as well as those having ROW less or equal to 12m, the maximum speed limit should be restricted to 20 kmph by design by use of table top crossings, carriage way surfaces etc. For all other streets, in and around the influence zone, the speed should not exceed 40 kmph.

7.7. Street Oriented Buildings and Vibrant Public Spaces

7.7.1. Retail and other 'active uses' should be supported on the ground floor along the main streets, key intersections, stations and parking garages to ensure high quality pedestrian environments.

7.7.2. To promote natural surveillance of public spaces, all boundary walls and setbacks should be removed and buildings should be permitted up to the edge of the street. Also, the orientation of the buildings should be such so as to face the pedestrian facilities.

7.7.3. The streets should have a natural surveillance system by providing mixed-use active frontage, vending zones and avoiding opaque wall, which would ensure a safe environment for pedestrians, especially women, children and elderly.

7.7.4. Ground floor should support commercial activity, with at least 50% un-tinted transparent frontage.

[1] Guidelines and Space Standards for Barrier Free Built Environment for Disabled and Elderly Persons, CPWD (1998) (http://cpwd.gov.in/Publication/ aged&dicablod.PDF)

7.7.5. The height of compound wall, if present, should be transparent above 100 cm, with exception of high security government buildings.

7.7.6. The frontage of all parking structure/podiums or stilts on the ground floor should support active frontage on all primary streets.

7.7.7. **Street Vendors**: TOD aims at inclusive development wherein all users of the system are benefited. The street vendors are the eyes of the streets; hence the designated spaces should be created for them while designing the streets. However, care should be taken that the integration does not have negative affect on their business.

7.7.8. **Preserve Open Spaces**: All open areas such as amenity spaces, green spaces, playgrounds, parks and natural areas should be preserved as part of TOD. The open space provision within TOD should meet the Urban and Regional Development Plans Formulation and Implementation (URDPFI)[2] guideline of 10-12 sq.mt. per person.

7.7.9. **Safety and Security:** To ensure a safe and secure environment for pedestrian and NMT users, especially women and children, the influence zone should be designed to maximize natural surveillance. For this purpose, street lighting should be provided, active frontage and vendors zone etc. should be created. Further, facilities such a CCTV cameras and panic buttons etc. should also be installed for round the clock surveillance.

7.8. Managed Parking

7.8.1. To discourage the use of private vehicles and to manage parking in TOD, it is essential that the supply of the parking is reduced and made expensive within the influence zone.

[2] http://moud.gov.in/link/urdpfi-guidelines.php

7.8.2. On-street parking should be prohibited within 100 m of the transit station, except for freight delivery and pickup or drop-off of the differently abled.

7.8.3. The use of parking spaces within the influence zone can be maximized by sharing of spaces between uses that have demand during different times of the day. For example parking requirements for office/work can be shared with the parking spaces for residences as their hours for demands do not coincide with each other.

7.8.4. TOD aims to promote NMT which includes use of bicycle. Therefore, bicycle parking facilities should be provided at regular intervals and suitable locations within the influence zone. Public bicycle sharing systems may also be planned to promote the use of bicycles.

7.8.5. Parking should not be allowed in a manner wherein the aesthetics of the city is lost. The neighborhood is generally adversely affected by parking of vehicles in front of the buildings on the primary streets, therefore, on-street parking should be avoided. In case, if on-street parking is needed, it should be provided in a manner, wherein it acts as a buffer for the pedestrians and cyclists from motorized traffic.

7.8.6. To restrict unauthorized parking and to avoid congestion caused due to on-street parking, it is important to have an enforcement mechanism in place. Cities should have a parking policy with heavy penalty for unregulated parking in the influence zone and ensure that the same is implemented. Also the parking should have price variations according to time of day and duration of parking.

8. Value Capture Financing (VCF) for TOD

8.1. Value Capture is based on the principle that private land and buildings benefit from public investments in infrastructure and policy decisions of the Government. Part of the increment in value of land and building should be

captured to fund projects being set up for the public by the Central/ State government and the ULBs. The additional value is generated by actions other than the land owner's direct investment. Land value capture is distinct from the user charges or fees that agencies collect for providing services.

8.2. The investment in transit system as well as increase in FAR and provision for mixed use development would result in increase in value of land within the influence zone. Land Value Capture can be used as a mechanism to finance the required upgradation of infrastructure and amenities within the influence zone and expansion of the public transport system.

8.3. Value capture financing is an opportunity for the private sector because the projects are planned for the overall development, thus increasing the value and are also backed by the government.

8.4. In TOD influence zones, land value capture can be done through enhanced or additional land value tax[3] or one time betterment levy[4], development charges or impact fee[5], transfer of development rights (TDRs)[6], or other such mechanisms which have been adopted in various states across the country and abroad.

8.5. The resources generated through various mechanism should be credited into a TOD fund created for funding the infrastructure upgradation/ maintenance, enhancement of viability of transit systems, development and maintenance of transit corridor and public transport etc. within and beyond the influence zone. The fund should be in the form of an escrow account, from which financing is provided to various agencies for the identified activities and the balance can be used by the ULBs for other development purposes such as public transport expansion.

[3] Examples – Tamil Nadu and Maharashtra
[4] Example – Mumbai Metropoiltan Development Authority (MMRDA) Act 1974 provides for levying betterment charges for specific projects. Hyderabad Municipal Corporation Act 1955 also provides necessary provisions
[5] Example - Andhra Pradesh, Gujarat, Maharashtra, Madya Pradesh and Tamil Nadu
[6] Example – Maharashtra, Karnataka and Gujarat

8.6. The real-estate market can be erratic and therefore caution should be observed while estimating the revenue from land value capture. In case the revenues are lower than expectations, ULBs should prepare alternate financing plans to circumvent problems in implementing TOD.

9. Statutory Framework

9.1. TOD policy should be notified as part of the Master Plan/Development plan of the city. The policy document should clearly outline the importance of the high capacity transit networks in the city's development.

9.2. The vision of the Master Plan/ Development Plan should be resonated by all the stakeholders, especially those involved in infrastructure development and preparation of development plans. The building bye-laws and development control regulations would need to be amended to incorporate the changes required for implementing TOD.

9.3. The influence zone of the TOD should be clearly notified by the concerned authority (*see para 5.1 on Influence Zone above*).

9.4. To ensure that the infrastructure created in the influence zone is provided in a planned manner, the ULBs and the concerned authorities/agencies should prepare a comprehensive plan integrating all the utilities, physical infrastructure and essential facilities such as roads, sewers, drainage, electric lines, green spaces, police post, fire post, electric sub-stations, etc. The plan would be useful to assess the carrying capacity of the existing infrastructure and the upgradation needed to meet the increased demand once TOD is implemented.

10. Coordination and Implementation

10.1. Implementation of TOD would entail the involvement of various agencies for preparation of master plans or sector plans, reviewing the infrastructure building regulations, provision of public transport and traffic control, etc. Therefore, to

ensure the success of TOD, it is important that there is coordination between these agencies for efficient planning and implementation. For this purpose, a suitable institutional mechanism may be created in cities. An entity formed jointly by the Urban Local Body and the Development Authority would be most suitable for expeditious planning and implementation of the TOD; however, till the time such a body is set up, city development authority could coordinate the implementation. Adequate capacity building measures may also be taken by the state governments and urban local bodies to familiarize the officials with the tenets of TOD.

10.2. To ensure that TOD does not merely become a high density development along the transit, which may result in higher concentration of private vehicles and congestion, it is important that the ULBs make sure that all the important aspects of TOD, as given in earlier sections, are implemented in totality.

10.3. Cities should provide transparency and clarity in the policy and procedures for TOD, as well as the economic incentives for all stakeholders. This would allow multiple landowner to come together and build a consensus and save time in implementation of TOD.

10.4. For long term commitment of public agencies and private sector in implementing TOD, cities should create clear and fair rules for sharing of costs, benefits, and risk among the stakeholders.

10.5. Cities may encourage public private partnership in planning and implementation of TOD as well as infrastructure upgradation to foster the technical knowhow and financial capacity of the private sector.

11. Communications and Outreach

11.1. TOD, on wider board, needs the involvement of multiple agencies, both from the private as well as the public sector. It is important for all stakeholders to have a clear vision by which collective actions can be taken for successful

implementation of TOD. It is therefore essential to create awareness about TOD as it would enhance the success of its implementation.

11.2. Cities may launch awareness program about the components of TOD, its benefits, incentives to be reaped by the land owners, developers, infrastructure agencies and other bodies, reduced per unit cost for creating and maintaining infrastructure etc. and provide improved quality of life.

Annexure-5/II

NCRPB

Stakeholder Conference on Delineation of NCR

17th January, 2020

Vigyan Bhawan, New Delhi



E-MAIL : feedback.ncrpb@nic.in WEBSITE : http://ncrpb.nic.in
TWITTER : https://twitter.com/ncrpb

WELCOME TO STAKEHOLDER CONFERENCE ON

DELINEATION OF NATIONAL CAPITAL REGION

NATIONAL CAPITAL REGION PLANNING BOARD

(MINISTRY OF HOUSING AND URBAN AFFAIRS, GOVERNMENT OF INDIA)

17th January, 2020, Vigyan Bhawan, New Delhi

OVERVIEW

- **INTRODUCTION: NEED FOR NCR DELINEATION**
- **BACKGROUND**
- **BOARD DECISION & FOLLOW UP ACTION**
- **PARAMETERS AND DELINEATION PROCESS**
- **RECOMMENDATIONS OF DRAFT REPORT**
- **OPENHOUSE**

NEED FOR NCR DELINEATION

INTRODUCTION: NEED FOR NCR DELINEATION

- Area of NCR has almost doubled compared to its first Regional Plan (1981) initially prepared by TCPO in 1973
- Need to protect arable land, by exploring options with minimum fresh land acquisition thus conserving agricultural land
- Large region results in:
  - Sparse overall developmental impact;
  - Thin spread of limited resources;
  - Provision of infrastructure in integrated manner becoming costly affair;
  - Administratively & financially difficult to sustain/deal with growth & development of large area.
  - Options like linear development along transport corridors not getting preference
- Ad hoc addition to NCR areas

Manner & extent of NCR expansion demands attention

EFFORTS MADE

- Matter taken up in Board meetings & Committee constituted under Member Secretary, NCRPB to look into NCR Delineation aspect
- Committee held various meetings since 2015 till 2019, & came up with broad parameters that can be considered to arrive at appropriate National Capital Region
- Parameters finalized by Committee were approved by Planning Committee, and an exercise on NCR delineation was done
- Draft Report recommended two Options which were placed before Board on 13.09.19
- Board directed that a Stakeholder Conference be organized, to discuss the options & status be thereafter placed before it.

Hence, today's Stakeholder Conference holds prime importance

BACKGROUND

BACKGROUND

- Delineation Provisions in NCRPB Act - for Addition/ Exclusion of Areas
- NCR Today & increasing size over the years
- Board Decisions

BACKGROUND: Delineation Provisions in NCRPB Act - for Addition/ Exclusion of Areas

- **NCRPB Act, 1985 does not define any criteria for inclusion / exclusion of any area to NCR**
- **Provision under NCRPB Act, 1985 U/S 2(f) for adding/ excluding any area :**
  - ***"National Capital Region" means areas specified in the Schedule***

  "Provided that the Central Government with the Consent of the Government of the Concerned Participating State and in consultation with the Board, may, by Notification in the Official Gazette, add any area to the Schedule or exclude any area therefrom;"

Hence, mutually agreed parameters, necessary for NCR Delineation

BACKGROUND: NCR Today & increasing size over the years 1/3

- **RP-2001 (Notified in 1989)** : **30,242 sq.km.**
- **RP-2021 (Notified in 2005)** : **34,144 sq. km.**
  (Re-structuring of Alwar Dist.)
- **Total Current Notified Area of NCR** : **55,083 sq.km.**

(with addition of Mahendergarh, Bhiwani (incl. Charkhi Dadri) & Bharatpur Districts in 2013; Jind, Karnal, Muzaffarnagar districts in 2015 & Shamli District in 2018)

- **NCR limit extends about 360 km from North-South & 354 km from East -West.**
- **The extended NCR today is more than or almost equal to the area of States of**
  - **Himachal Pradesh (55,617 sq.km.)**
  - **Uttarakhand (53,483 sq.km.)**
  - **Punjab (50,362 sq.km.)**
  - **Kerala (38,863 sq.km.)**
  - **Haryana (44,212 sq.km.)**

NCR size definitely needs a relook

BACKGROUND: NCR Today & increasing size over the years 2/3

RP-2001 → **RP-2021** → **Present NCR**



NCR Area 30,242 Sq. Km.



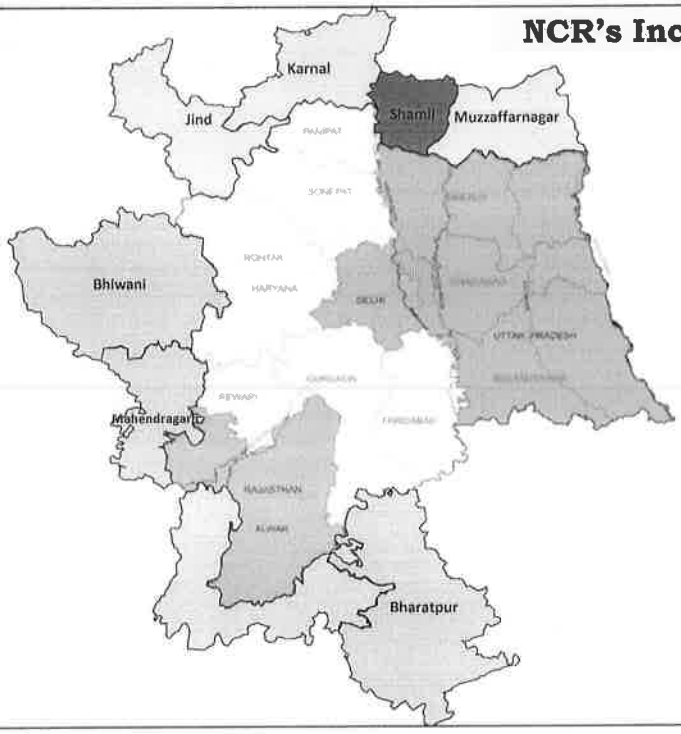
NCR Area 33,578 (34,144) Sq. Km.



NCR Area 55,083 Sq. Km.

NATIONAL CAPITAL REGION PLANNING BOARD, (MoHU&A , GoI) 11

NCR's Increasing size over the years 3/3



NCR Area (1989): 30,242 Sq. Km.

NCR Area (2005): 34,144 Sq. Km.

NCR Area (2013): 45,888 Sq. Km.

NCR Area (2015): 54,020 Sq. Km.

NCR Area (2018): 55,083 Sq. Km.

12

BACKGROUND: Board Decisions 1/4

- Matter for NCR Delineation came up in 35th Board meeting (09.06.15) while considering addition of Jind, Karnal & Muzaffarnagar districts to NCR .
- Chairman, NCRPB had then stated that
  - **there is a school of thought**, ***which emphasizes***
    - ***linear development along transport corridors such as National Highways, State Highways, Rail Corridors etc.***
    - ***Such corridor centric development is conducive to protect good agricultural land, since it involves minimum fresh land acquisition which implies that farmers may not get affected.***
- It was suggested that
  - ***instead of including a complete district in NCR, such linear areas around transport corridors could be considered.***
  - ***States can develop rest of the district as per their policies.***
- It was also added that
  - ***more industries, institutions, infrastructure facilities etc. could be provided within limited resources in such corridors.***

BACKGROUND: Board Decisions 2/4

- Chairman emphasized that
  - ***a Committee under the chairmanship of Member Secretary, NCRPB could look into this.***
- Accordingly, Committee comprising representatives from MoHUA, all NCR States, TCPO & two subject experts, was constituted under Chairmanship of Member Secretary, NCRPB in 2015 for looking into the matter of NCR Delineation
- Committee held various meetings with inputs from NCR participating States & experts (08.09.15, 29.10.15, 10.10.18 & 15.07.19)
- First two meetings developed following draft parameters for delineation :
  1. Contiguity,
  2. Study area (250 km radius of Delhi which was changed to 200 kms. In the 3rd meeting)
  3. Demographic characteristics (popn. Density, growth; urbanization etc.)
  4. Connectivity
  5. Economic Activities
  6. Interaction of Delhi with surroundings
  7. Upcoming centre/state projects/proposals
  8. Contiguity of env. sensitive areas
  9. Commitment from State Govts.

BACKGROUND: Board Decisions 3/4

- Recommendations of Delineation Committee's two meetings regarding broad principles/ criteria & parameters, ToR for undertaking proposed Delineation Study alongwith comments of Delhi, Rajasthan & Haryana on the matter, were placed before Board in its 37th meeting (04.12.17)
- However, the Board merely directed that comments of Uttar Pradesh be taken & Delineation Committee may examine views/comments of NCR States & submit its recommendations to Board
- Accordingly, views of GoUP were obtained & third meeting held 10.10.18, decided to place it before Board prior to proceeding further

BACKGROUND: Summary of Comments from States 4/4

	Views/Comments
Haryana	• Administrative unit for inclusion/exclusion of area should not be below Tehsil level • Weightage be assigned to parameters and an index be worked out for assessment • Headquarter of administrative unit instead of any part of its hinterland, should be considered for assessment of connectivity with mother city • State Development plans/ Controlled Area Plans/ proposals and state regulatory/plan enforcement mechanism may also be considered • Selection criteria of each parameter need also be elaborated (whether high or low values of defined parameter enables inclusion/exclusion)
Rajasthan	• The tehsils around transport corridors having development potential should be considered for purpose of delineation of NCR • High density corridor centric development (TOD) should be targeted while preparing lower hierarchy plans (Master Plan/Development Plan /Local Area Plan etc.) • Tehsils having development potential should be included instead of whole district and those tehsils not having the potential should be excluded
Uttar Pradesh	• Zila boundary may be considered as the smallest administrative unit for inclusion or exclusion in NCR. • Apart from this, taking into account the aspects such as physical continuity with NCR, mutual economic activities, potential of development in terms of historical, religious, traffic and transport, public services, industries and other physical development aspects, shall also be creditable
Delhi	• ToD policy drafted as part of Transportation chapter of MPD 2021 and it has been suggested that high density corridor centric developments (ToD) should be targeted.

Recommendation of RP Review Committee

- Review of RP 2021 has been done under Board directions, & recommendation of RP review Study Group I on Region; Aims, Objectives and Policy Zones, states that

  - increasing extent for area of Regional Plan on demand participating states without carrying out delineation study will not be advisable as NCR area has almost doubled compared to RP of NCR prepared by TCPO, as else:

- **There will be thin spread of limited resources which may lead to sparse development**
- **Provision of infrastructure in integrated manner will be costly affair;**
- **Delhi the capital of country & mother city may lose its primacy; and**
- **It will be administratively & financially difficult to sustain/deal with growth & dev. of huge area.**

Further meeting of Delineation Committee 1/2

- 4th meeting of Delineation Committee (15.07.19) decision – Delineation Committee may delineate NCR, considering following discussed parameters:

- **Delineated NCR be contiguous area with Delhi as centre, upto 100 km, with Tehsil as smallest unit (administrative),**

- **Tehsils for which 25% or more area falls within 100km range, entire Tehsil shall be part of NCR;**

- **Considering linear development along transport corridors (NHs/Expressways/RRTS/Railways radiating from Delhi) ,**
  - **areas within a minimum 1 km width on either side of such corridors upto distance of closest town falling on corridor or 200km , whichever is earlier, to be considered;**
  - **if 25% or more of Tehsil covered, then consider whole Tehsil;**
  - **Urbanisable areas of such urban centers shall be part of NCR;**

Further meeting of Delineation Committee 2/2

- **Similarly, Villages completely or at least 25% of which are falling with in 1km either side of corridor could be considered part of NCR**
- **Parameters drawn from the decisions of earlier meetings of the delineation Committee also be considered for delineation ;**
  1. **contiguity,**
  2. **proximity to CNCR,**
  3. **population density and**
  4. **rate of urbanization and**
  5. **inputs through night light images of Nasa Earth observatory from NIC etc.**

- Recommendations of Committee constituted for Delineation of NCR was placed before the 67th Planning Committee (15.07.19)
  - which agreed & suggested that Draft Report alongwith resulting Delineated area be placed before Board for consideration.

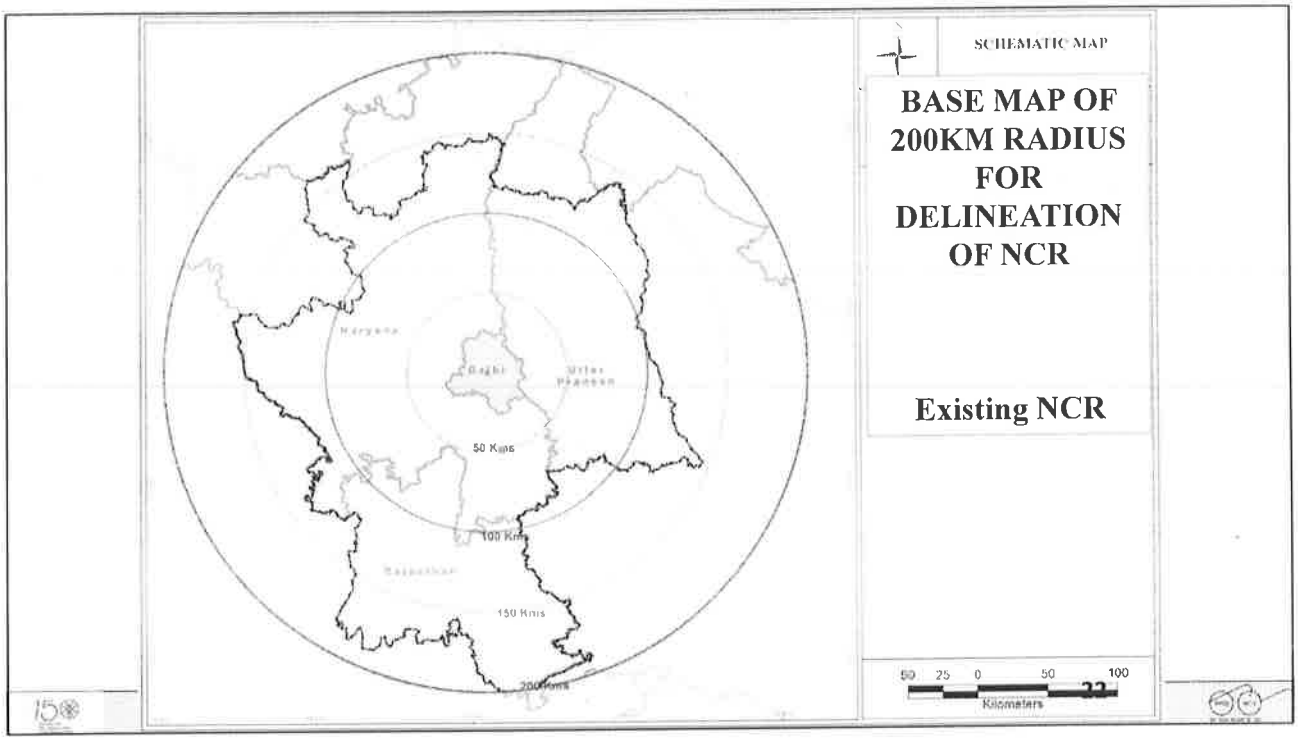
Action taken on Decision of the Planning Committee, was to be placed in Board

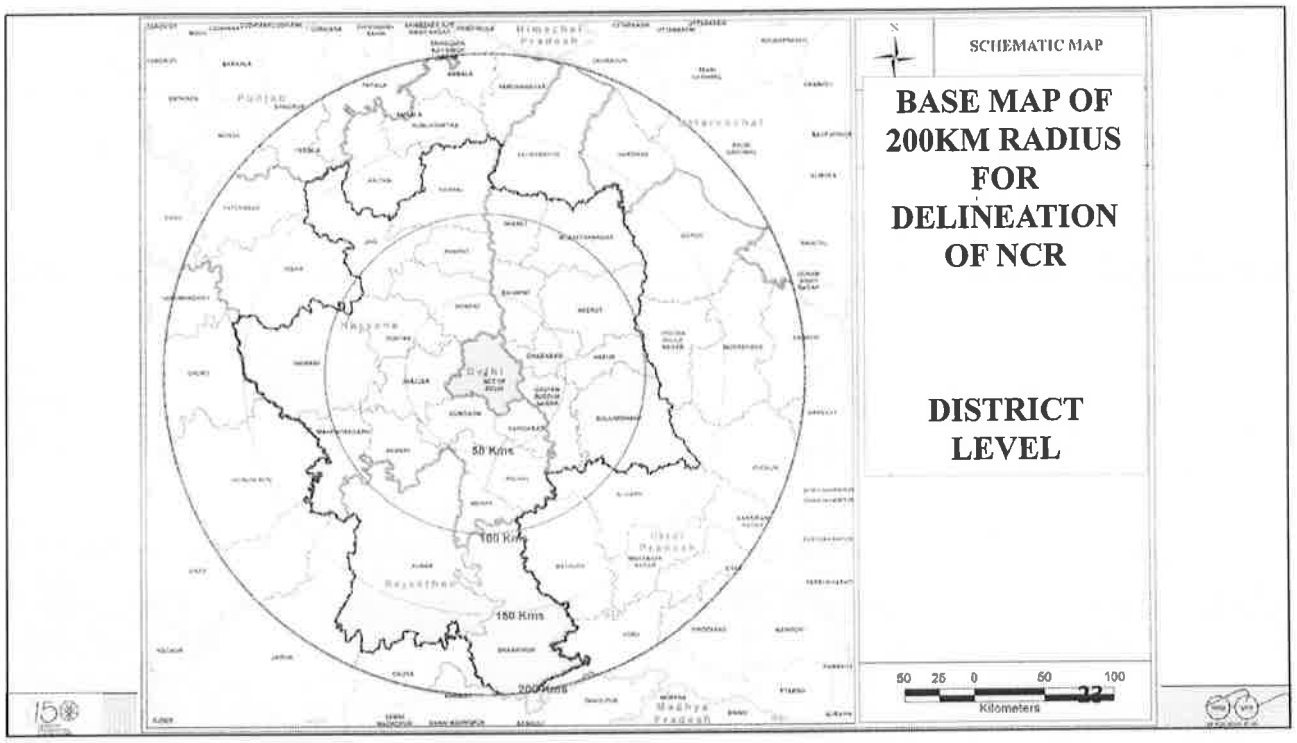
PARAMETERS AND DELINEATION PROCESS

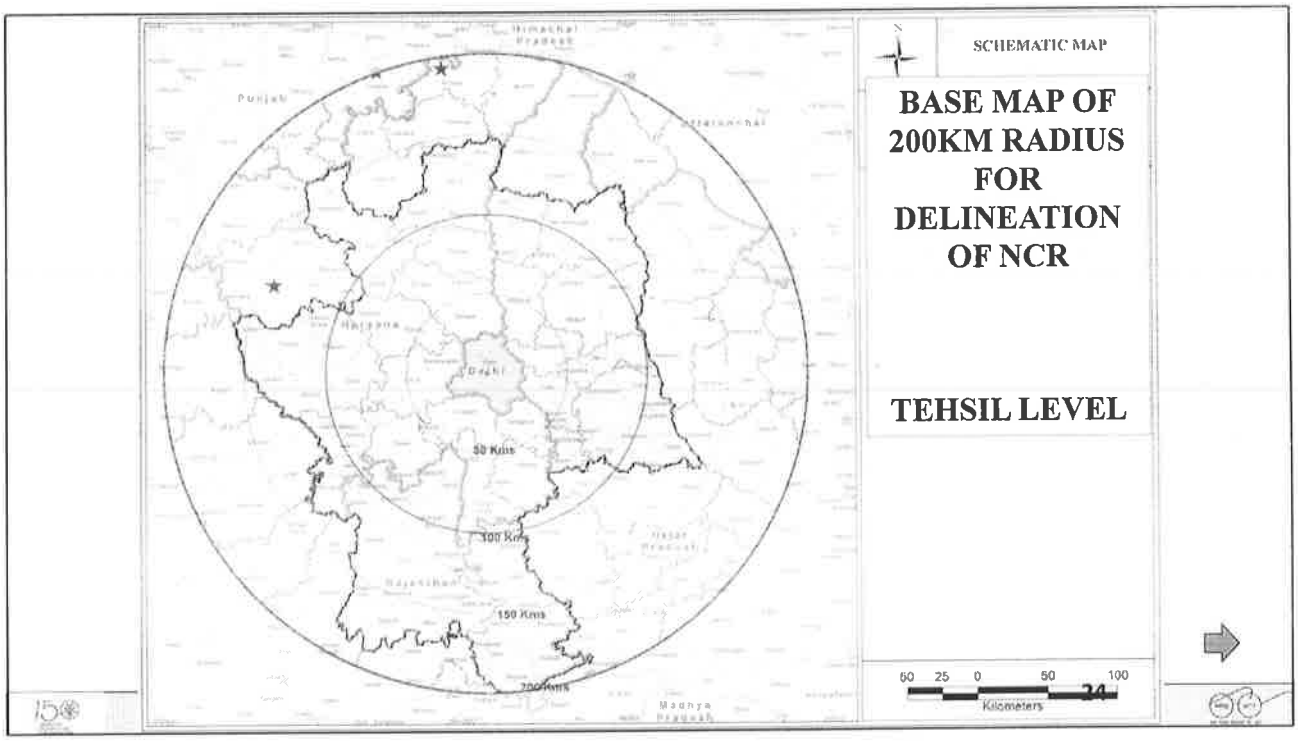
PARAMETERS AND DELINEATION PROCESS

Broad process followed for preparing Draft Report on Delineation of NCR :

- GIS Mapping of various components [District & Tehsil Boundaries; Transportation network (NH/Expressways/ Rail lines/DFC/ Orbital rail, DMRC network; District Headquarters, major towns, Railway Junctions, etc.) carried out to analyze scenarios
- Nightlight data for 2012 & 2016 superimposed for analysis regarding urban sprawl & growth edges along transport corridors
- Width of 2 km on either side of RoW of transport corridors considered keeping in view potential development in next 20-25 years)
- As its was noted that development was taking place along some SH/MDRs, being major connecting roads especially in Bharatpur, Alwar , Bhiwani & Kaithal districts, the same also considered.
- All administrative/ controlled /development area boundaries, transportation networks are tentative & subject to finalization at State/Local level




SCHEMATIC MAP
BASE MAP OF 200KM RADIUS FOR DELINEATION OF NCR
DISTRICT LEVEL
50 Kms
100 Kms
150 Kms
200 Kms
50 25 0 50 100
Kilometers


SCHEMATIC MAP
BASE MAP OF 200KM RADIUS FOR DELINEATION OF NCR
TEHSIL LEVEL
50 Kms
100 Kms
150 Kms
200 Kms
50 25 0 50 100
Kilometers

Analysis : Tehsils & contiguity 1/2

- Tehsils falling within 100km from Delhi as center & consideration of contiguous tehsils in 100 km, wherein Tehsils with > 25% areas within this, recommended for inclusion
- **Summary of included tehsils falling on 100 km perimeter with >25% area within it:**

Haryana: 7 Tehsils from 5 Dist. UP : 9 Tehsils from 3 Dist. Rajasthan: 5 tehsils from 1 Dist.

HARYANA

1. **District Jind**
   - i. Tehsil Julana
   - ii. Tehsil Safidon
2. **District Bhiwani**
   - i. Tehsil Bhiwani
3. **District Charkhi Dadri**
   - i. Tehsil Charkhi Dadri
4. **District Mahendragarh**
   - i. Tehsil Kanina
   - ii. Tehsil Ateli
5. **District Karnal**
   - i. Tehsil Gharaunda

UTTAR PRADESH

1. **District Shamli**
   - i. Tehsil Shamli
   - ii. Tehsil Kairana
2. **District Muzaffarnagar**
   - i. Tehsil Budhana
   - ii. Tehsil Khatauli
3. **District Bulandshahr**
   - i. Tehsil Bulandshahr
   - ii. Tehsil Sikanderabad
   - iii. Tehsil Khurja
   - iv. Tehsil Shikarpur
   - v. Tehsil Siana

RAJASTHAN

1. **District Alwar**
   - i. Tehsil Neemrana
   - ii. Tehsil Mandawar
   - iii. Tehsil Kisangarh Bas
   - iv. Tehsil Kotkasim
   - v. Tehsil Tijara

- Tehsils falling fully within 100km are not listed here

Analysis : Tehsils & contiguity 2/2

- Tehsils falling within 100km from Delhi as center & consideration of contiguous tehsils in 100 km, wherein Tehsils with < 25% areas within this, recommended for exclusion
- **Summary of excluded tehsils falling on 100 km perimeter with < 25% area within it:**

Haryana: 13 Tehsils from 5 Dist. Rajasthan: 21 tehsils from 2 Dist. UP : 5 Tehsils from 3 Dist.

HARYANA

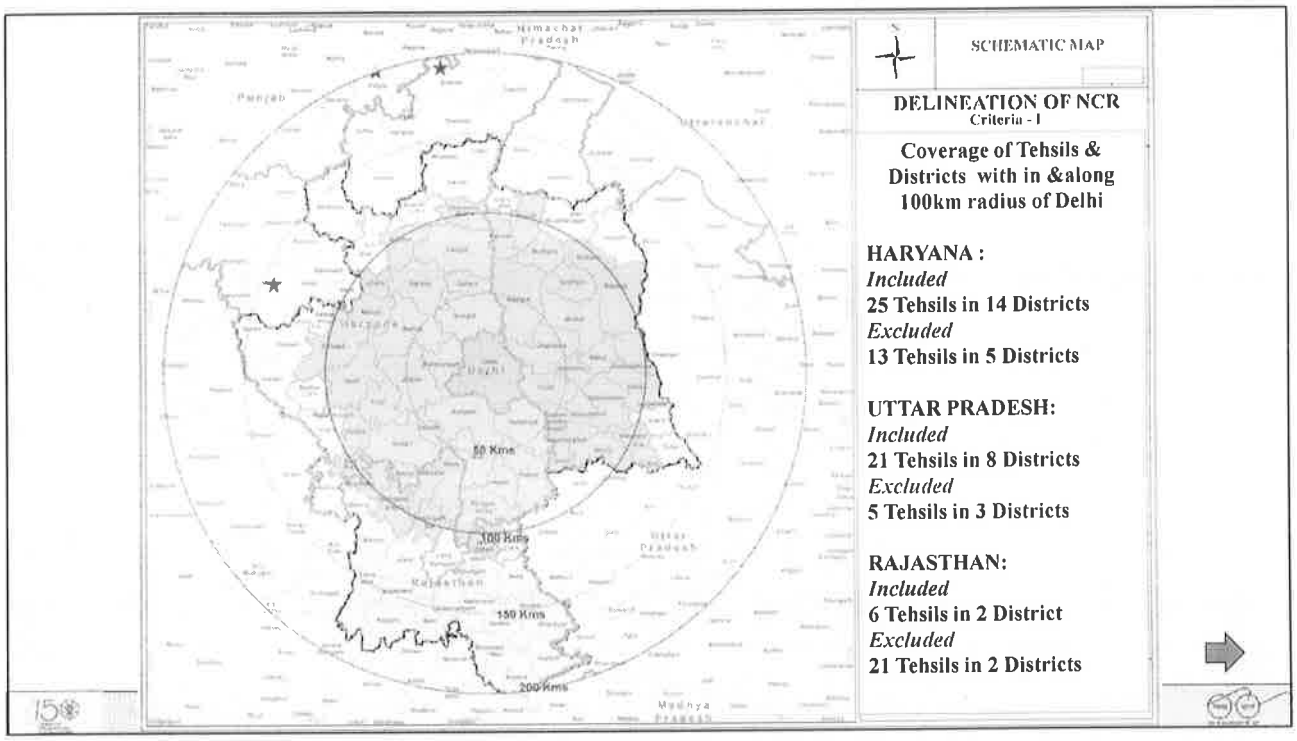
1. **District Jind**
   - i. Tehsil Jind
   - ii. Tehsil Narwana
2. **District Bhiwani**
   - i. Tehsil Bawani Khera
   - ii. Tehsil Tosham
   - iii. Tehsil Loharu
   - iv. Tehsil Siwani
3. **District Charkhi Dadri**
   - i. Tehsil Bhadra
4. **District Mahendragarh**
   - i. Tehsil Mahendragarh
   - ii. Tehsil Narnaul
5. **District Karnal**
   - i. Tehsil Nilokheri
   - ii. Tehsil Indri
   - iii. Tehsil Asandh
   - iv. Tehsil Karnal

RAJASTHAN

1. **District Alwar**
   - i. Tehsil Behror
   - ii. Tehsil Bansur
   - iii. Tehsil Thana Gazi,
   - iv. Tehsil Malakhera,
   - v. Tehsil Rajgarh,
   - vi. Tehsil Reni
   - vii. Tehsil Kathoomar
   - viii. Tehsil Lachhmangarh,
   - ix. Tehsil Govindgarh
   - x. Tehsil Ramgarh
   - xi. Tehsil Alwar
2. **Entire District Bharatpur (10 tehsils)**

UTTAR PRADESH

1. **District Shamli**
   - i. Tehsil Oon
2. **District Muzaffarnagar**
   - i. Tehsil Muzaffarnagar
   - ii. Tehsil Jansath
3. **District Bulandshahr**
   - i. Tehsil Anupshahr
   - ii. Tehsil Debai



Broad principles followed beyond 100 kms & upto 200 km

- As seen before, principal of contiguity of tehsils was followed upto 100 kms from Delhi as centre
- Beyond 100 kms and upto 200 kms, following parameters were considered:
  i. Transport Corridors comprising expressways, major NH, major SH, MDRs where others not available, Railway corridors, DFC, RRTS, Major Railway Junctions etc.
  ii. Notified Controlled / Development areas
  iii. Nightlight Data from NASA
  iv. All the above were subject to benchmark of 25% or more area coverage within 100kms perimeter for inclusion of Tehsils, and
    a. 75% of Tehsils coverage for inclusion of Districts in NCR
- Details of above analysis between 100-200 kms follows
- Based on above, two options have been recommended

Analysis : Rail Corridors 1/2

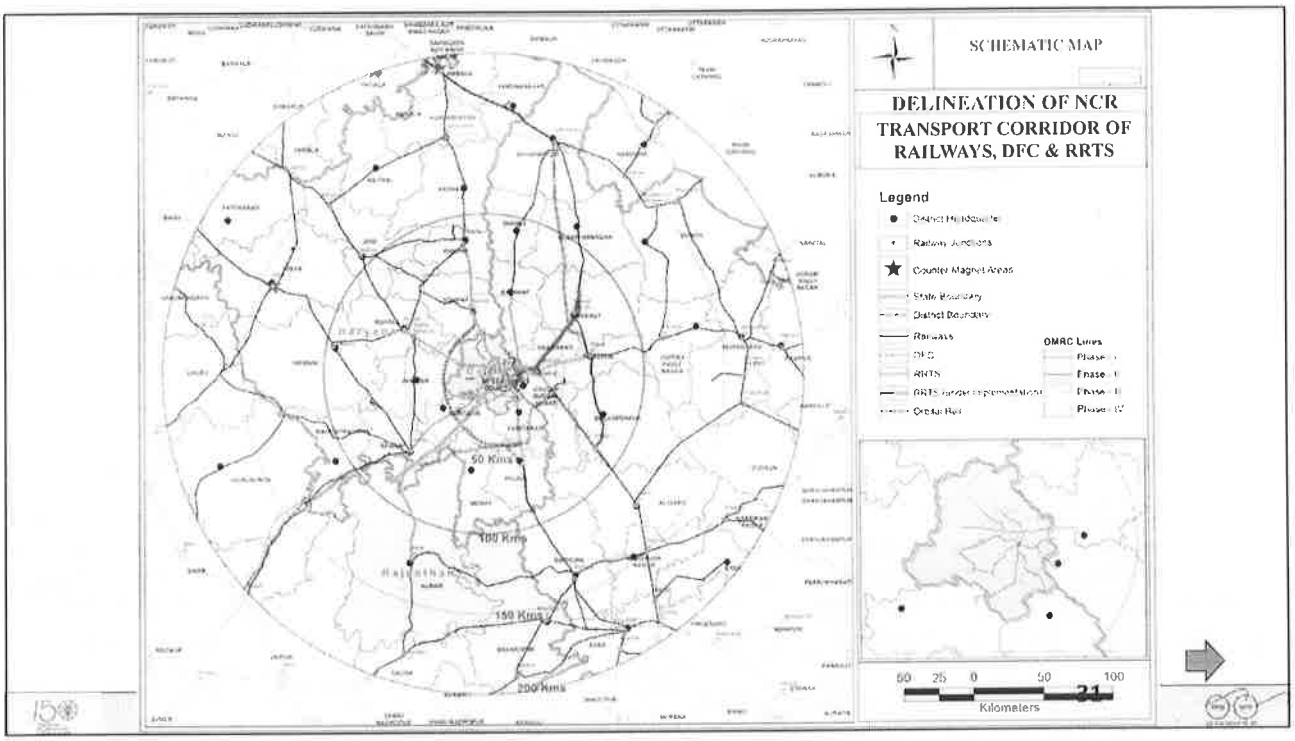
- Rail based corridors, Railway lines, DFC/ DMIC, RRTS, DMRC network & Orbital Rail were analyzed.
- It was observed that generally busy railway junctions have more potential for growth than normal railway lines in remote areas.
- Major railway junctions adjacent to 100 km circle & within 150 km circle with potential for regional growth were identified as follows:

1. Kurukshetra Junction
2. Jind Junction
3. Narwana Junction
4. Hisar Junction
5. Loharu Junction
6. Alwar Junction
7. Mathura Junction
8. Hathras Junction
9. Aligarh Junction
10. Gajaraula Junction
11. Muazzampur Junction
12. Saharanpur-Tapri Junction

Analysis : Rail Corridors 2/2

- Following Other railway junctions falling between 150k to 200 km circle were also considered:

1. Ambala Junction
2. Jakhal Junction (Punjab)
3. Rajgarh-Sadulpur Junction
4. Bandikui Junction
5. Bayana Junction
6. Bharatpur Junction
7. Agra Junction
8. Kasganj Junction
9. Chandausi Junction
10. Raja ka Shashpur Junction
11. Moradabad Junction
12. Kashipur Junction (Uttarakhand)
13. Najibabad Junction
14. Laksar-Haridwar Junction (Uttarakhand)



Analysis : Road corridors 1/3

❑ **NH and Expressway Corridors:**

05 major NHs & Expressway directly radiating from Delhi. As per the parameters, following towns identified for intensive corridor oriented development.

Transport Corridor (NHs & Expressways)	Closest first large town within 200 km for considering corridor within NCR
NH-44 (Delhi-Panipat-Karnal – Kurukshetra-Ambala)	Karnal
NH-48 (Delhi-Jaipur)	Kotputli
NH-09 (Delhi- Hisar)	Hisar
NH-09 (Delhi-Moradabad)	Moradabad
NH-19 (Delhi-Mathura-Agra) & Yamuna Expressway	Mathura

Analysis : Road corridors 2/3

❑ NH and Expressway Corridors:

- Other NH & related Towns considered for intensive corridor oriented development.

Transport Corridor (NHs & Expressways)	Closest first large town within 200 km for considering corridor within NCR
NH-248A (Gurgaon-Nuh-Alwar-Malakhera-Thanagaji –Viratnagar -Shahpura-Jaipur)	Alwar
NH-48 (Dharuhera-Rewari-Narnaul-Jhunjhunu)	Narnaul
NH-334B (Sampla-Jhajjar-Charkhi Dadri-Loharu)	Loharu
NH-352A (Sonipat-Gohana-Jind)	Jind
NH-709B (Delhi-Baghpat-Shamli-Nanauta-Saharanpur)	Nanauta
NH-34 (Ghaziabad-Meerut-Khatauli-Muzaffarnagar-Roorkee)	Muzaffarnagar
NH-34 (Ghaziabad-Bulandshahr-Aligarh)	Aligarh

- Other important roads i.e. SH/ MDR, considered as critical links, analyzed by creating 2 km wide buffer on either sides of ROW.
- Wherever 25% or more area falls within recommended width on either side of road, entire revenue village be considered for inclusion.

Analysis : Road corridors 3/3

- Tehsils covered for part inclusion based on area falling under transport corridors:

HARYANA

1. **District Jind**
   - i. Tehsil Jind (part)
2. **District Hisar**
   - i. Tehsil Hansi (part)
   - ii. Tehsil Bass
3. **District Bhiwani**
   - i. Tehsil Loharu (part)
   - ii. Tehsil Bawani Khera
4. **District Charkhi Dadri**
   - i. Tehsil Badhra (part)
5. **District Mahendragarh**
   - i. Tehsil Mahendragarh (part)
   - ii. Tehsil Narnaul (part)
6. **District Karnal**
   - i. Tehsil Karnal (part)

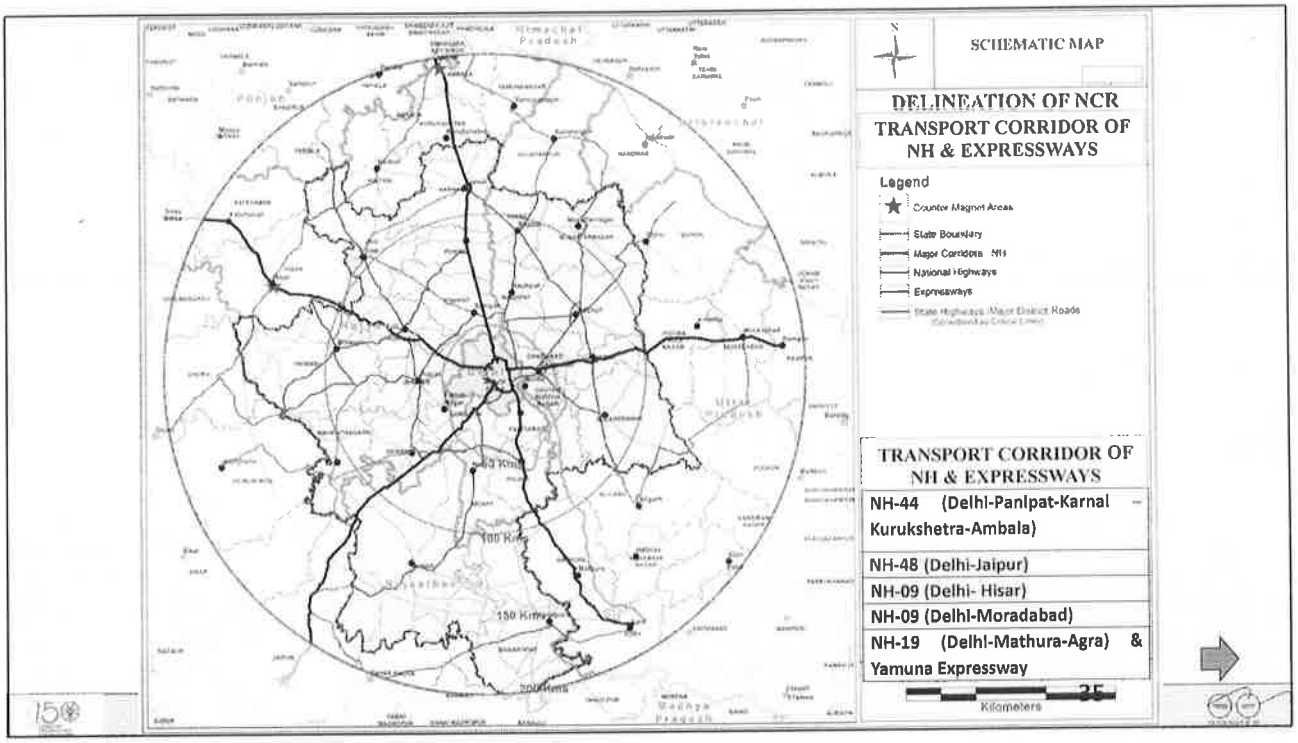
UTTAR PRADESH

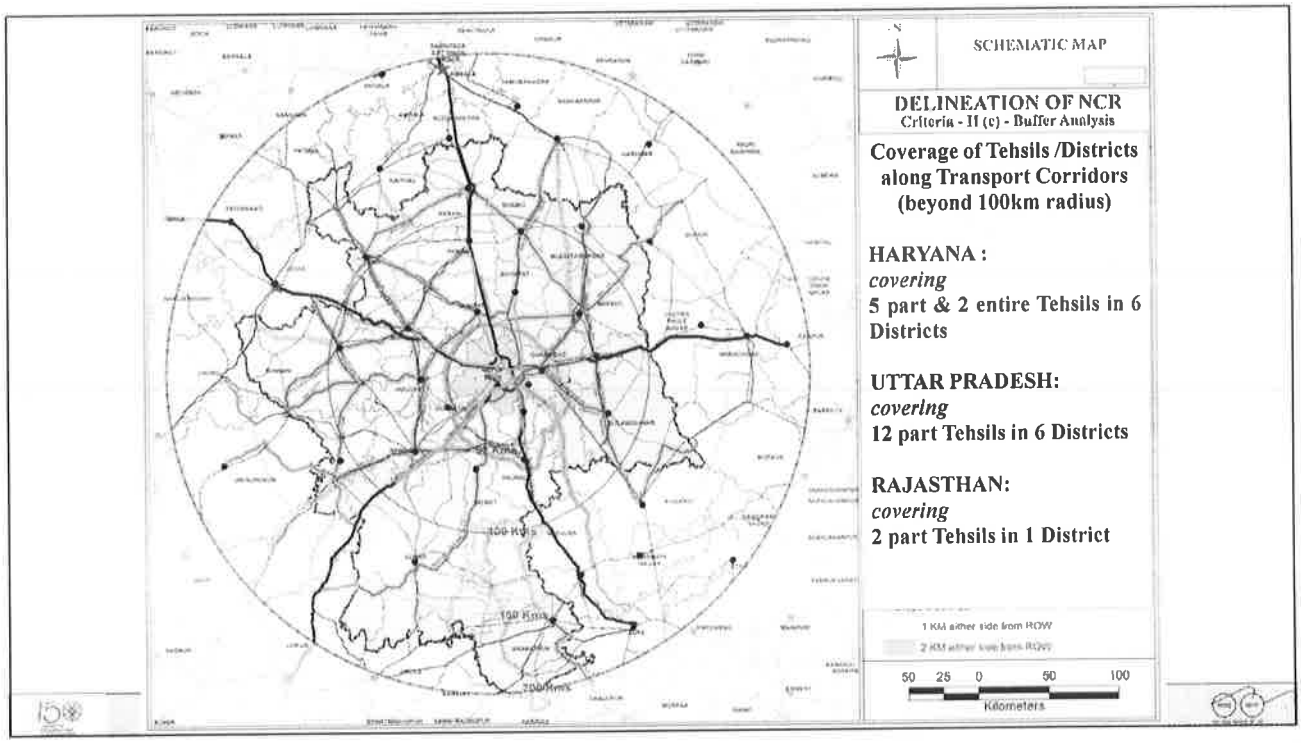
1. **District Saharanpur**
   - i. Tehsil Deoband (part)
2. **District Muzaffarnagar**
   - i. Tehsil Muzaffarnagar(part)
   - ii. Tehsil Jansath (part)
3. **District Bijnor**
   - i. Tehsil Bijnor (part)
4. **District Jyotiba Phule Nagar**
   - i. Tehsil Hasanpur (part)
5. **District Aligarh**
   - i. Tehsil Gabhana (part)
   - ii. Tehsil Koil (part)
   - iii. Tehsil Khair (part)
6. **District Mathura**
   - i. Tehsil Chhata (part)
   - ii. Tehsil Mant (part)
   - iii. Tehsil Mathura (part)
   - iv. Tehsil Sadabad (part)

RAJASTHAN

1. **District Alwar**
   - i. Tehsil Ramgarh (part)
   - ii. Tehsil Alwar (part)

Note: Detailing of areas to be done (in future) at sub-regional/ local level especially regarding revenue boundary of villages for actual area demarcation.


SCHEMATIC MAP
DELINEATION OF NCR
TRANSPORT CORRIDOR OF NH & EXPRESSWAYS
Legend
Counter Magnet Areas
State Boundary
Major Corridors NHs
National Highways
Expressways
TRANSPORT CORRIDOR OF NH & EXPRESSWAYS
NH-44 (Delhi-Panipat-Karnal Kurukshetra-Ambala)
NH-48 (Delhi-Jaipur)
NH-09 (Delhi- Hisar)
NH-09 (Delhi-Moradabad)
NH-19 (Delhi-Mathura-Agra) & Yamuna Expressway
Kilometers


SCHEMATIC MAP
DELINEATION OF NCR
Criteria - II (c) - Buffer Analysis
Coverage of Tehsils /Districts along Transport Corridors (beyond 100km radius)
HARYANA :
covering
5 part & 2 entire Tehsils in 6 Districts
UTTAR PRADESH:
covering
12 part Tehsils in 6 Districts
RAJASTHAN:
covering
2 part Tehsils in 1 District
1 KM either side from ROW
2 KM either side from ROW
50 25 0 50 100
Kilometers

Analysis : 100 – 200 kms : notified / controlled areas

❑ **Notified controlled/ development areas/ regulatory areas - Tehsils included**

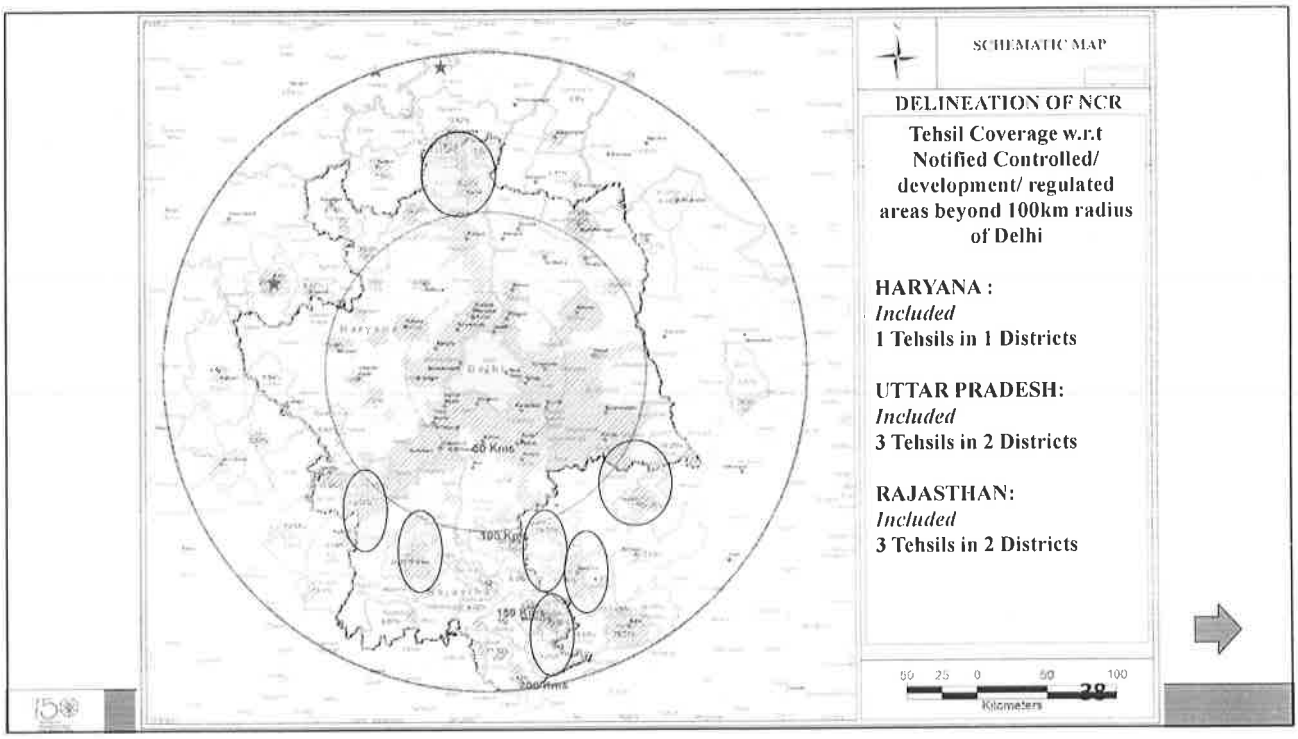
HARYANA
1. **District Karnal**
   i. Tehsil Nilokheri

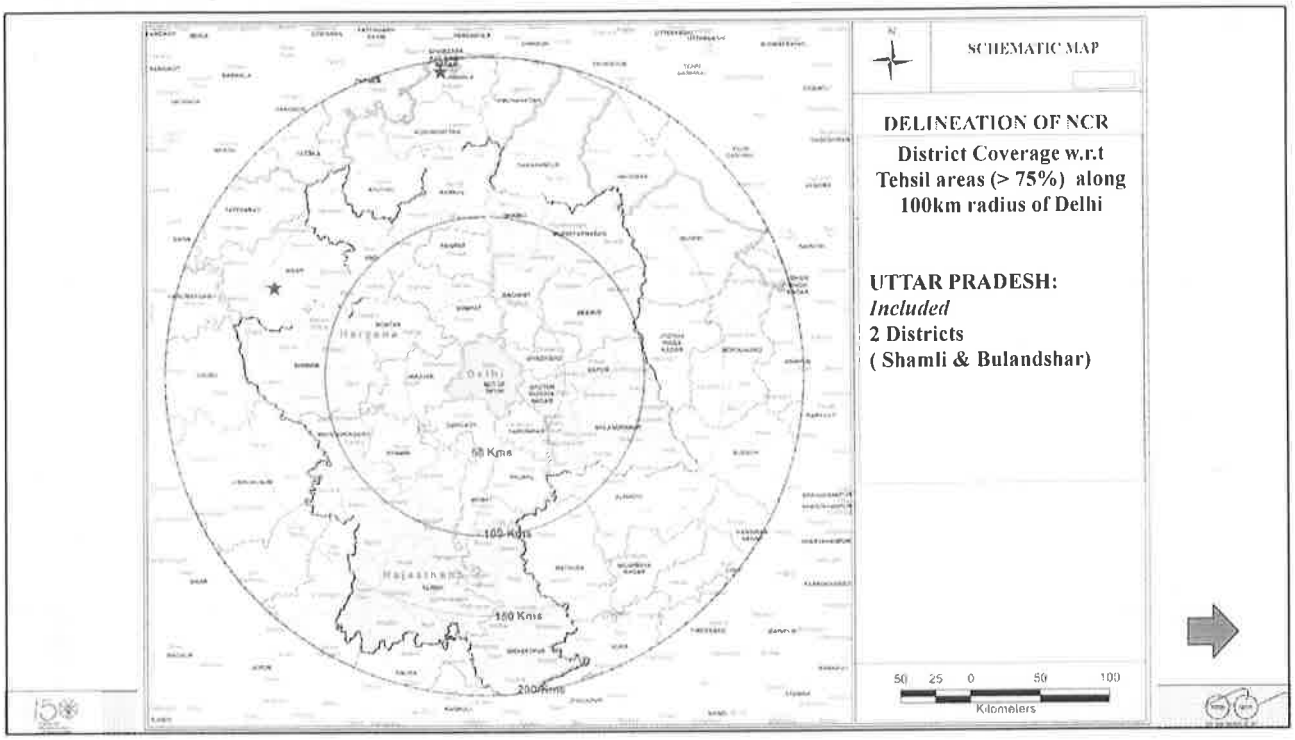
UTTAR PRADESH
1. **District Aligarh**
   i. Tehsil Koil
2. **District Mathura**
   i. Tehsil Chhata
   ii. Tehsil Mathura

RAJASTHAN
1. **District Alwar**
   i. Tehsil Alwar
   ii. Tehsil Behror
2. **District Bharatpur**
   i. Tehsil Bharatpur

❑ **Notified controlled/ development areas/ regulatory areas – Districts included**

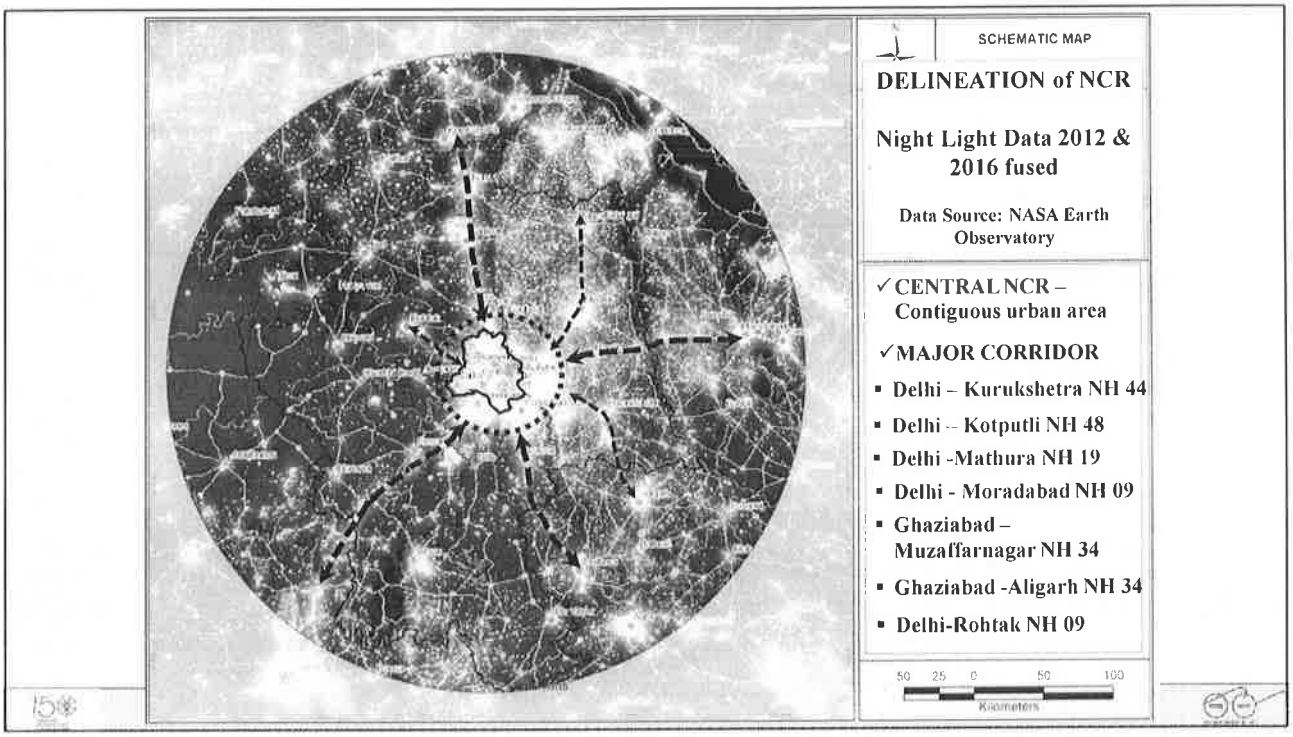
UTTAR PRADESH
1. **District Shamli**
2. **District Bulandshahr**





Analysis : Nightlight Data

- Parameters w.r.t. population density & rate of urbanization examined
- To broadly understand these parameters, nightlight data from NIC (NASA) (2012 & 2016) was examined. Following Corridors indicated high growth with potential nodes for attracting the development:
  - Delhi-Sonipat-Panipat-Karnal-Kurukshetra
  - Delhi-Rohtak-Hisar
  - Delhi-Meerut-Muzaffarnagar
  - Ghaziabad-Hapur-Moradabad
  - Delhi-Palwal-Mathura
  - Noida-Bulandshahr-Aligarh
  - Delhi-Gurgaon-Bhiwadi-Kotputli-Jaipur
- However, it was observed that during last 10-20 years, areas of many districts & tehsils were reorganized. Hence , detailed analysis of population density & urbanization rate at Tehsil level not feasible with available data.



RECOMMENDATIONS

RECOMMENDATIONS STUDY

- Two Options prepared/ suggested for Proposed NCR Delineation

- **First Option:** Corridor Development along major Transport Networks within 150 Km. radius, beyond contiguous Region in 100 Km. radius from Delhi – *leading to exclusion of certain areas including some full tehsils from current NCR & having no fresh inclusion*

- **Second Option:** Intensive Corridor Development along existing & potential Transport Networks within 200 Km. radius, beyond contiguous Region in 100 Km. radius from Delhi. While part of some tehsils are excluded, only one full tehsil is excluded, whereas fresh areas beyond existing NCR are recommended for inclusion

RECOMMENDATION : Option I 1/5

- First Option of Re-delineated NCR
- Fresh inclusions comprise
  - Part of Kothputli tehsil of District Jaipur
  - Part of Tehsil Hansi and complete Bass Tehsil of District Hisar
  - Part of Tehsil Deoband of Sharanpur, Bijnor of Dist. Bijnor,

Sub-Region	OPTION-I- Total Inclusions		
	Area (Appr.) Sq. Km	No. of districts	No. of Tehsils (Approx.)
NCT Delhi	1,483	Entire NCTD	-
Haryana	16,300	09-entire 06-part	27
Rajasthan	2,500	02-part	07
Uttar Pradesh	15,200	06-entire 07-part	24
Total	35,483*		58

***Area more than countries like Belgium / Albania / Armenia / Slovenia**
Indian states like Tripura, Meghalaya, Manipur, Nagaland, Mizoram, Sikkim & almost equal Kerala

RECOMMENDATION : Option I 2/5

- First Option of Re-delineated NCR

Sub-Region	OPTION-I- Inclusion/ Exclusions compared with current NCR					
	Fresh Inclusion			Exclusion		
	Area (Approx.) Sq. Km	No. of Districts	No. of Tehsils including part (Approx.)	Area (Approx.) Sq. Km	No. of Districts	No. of Tehsils including part (Approx.)
NCT Delhi	-	-	-	-	-	-
Haryana	577	1 part (Hisar)	02	10762	5 part (Jind, Bhiwani, Karnal, Charkhi Dadri, Mahendergarh)	11 (05 part & 06 complete)
Rajasthan	230	1 part (Jaipur)	01	9675	1 entire (Bharatpur) 1 part (Alwar)	18 (01 part & 17 complete)
Uttar Pradesh	1787	5 part (Saharanpur, Bijnor, JP nagar, Aligarh, Mathura)	10	1758	1 part	02 part
Total	2594		13	22195		31

* Area figures are based on rough estimates, for broad analysis/ understanding

RECOMMENDATION : Option I 3/5

- State wise & district wise assessment (entire districts included)

Entire NCT DELHI

HARYANA Sub-Region
(Entire Districts)
(i) Sonipat
(ii) Panipat
(iii) Rohtak
(iv) Jhajjar
(v) Rewari
(vi) Gurgaon
(vii) Mewat
(viii) Palwal
(ix) Faridabad

UTTAR PRADESH Sub-Region:
(Entire Districts)
(I) Ghaziabad
(II) Gautam buddha nagar
(III) Meerut
(Iv) Baghpat
(v) Hapur
(vI) Bulandshahr

RECOMMENDATION : Option I 4/5

- State wise & district wise inclusion assessment (part districts included)

HARYANA Sub-Region

(Part Districts)

(x) District of Charkhi Dadri

i. Tehsil Charkhi Dadri,
ii. Tehsil Badhra (part)

(xi) District of JIND

i. Tehsil Julana,
ii. Tehsil Safidon,
iii. Tehsil Jind (part)
[Tehsil Narwana – exclusion]

(xii) District of BHIWANI

i. Tehsil Bawani Khera,
ii. Tehsil Bhiwani,
iii. Tehsil Loharu (part),
[Tehsil Tosham & Siwani – excl.]

(xiii) District of Mahendragarh

i. Tehsil Kanina,
ii. Tehsil Ateli,
iii. Tehsil Narnaul (part)
iv. Tehsil Mahendragarh (part)

(xiv) District of Karnal

i. Tehsil Gharaunda
ii. Tehsil Karnal (part)
[Tehsil Asandh, Nilokheri & Indri – exclusion]

Fresh Inclusion

(xv) District of Hisar

i. Tehsil Bass,
ii. Tehsil Hansi (part)

RAJASTHAN Sub-Region:

(i) District of Alwar

i. Tehsil Tijara,
ii. Tehsil Kishangarh Bas,
iii. Tehsil Kotkasim,
iv. Tehsil Mandawar,
v. Tehsil Neemrana,
vi. Tehsil Bahror,
vii. Tehsil Alwar,
viii. Tehsil Ramgarh (part),
[Tehsil Bansur, Rajgarh, Malakhera, Thana Gazi, Lachhmangarh, Govindgarh, Reni & Kathoomar - exclusion]

(ii) Entire District of Bharatpur –exclusion

Fresh Inclusion

(ii) District of Jaipur

i. Tehsil Kotputli (part)

RECOMMENDATION : Option I 5/5

- State wise & district wise inclusion assessment (part districts included)

UTTAR PRADESH Sub-Region:

(Part Districts)

(i) District of Shamli

i. Tehsil Shamli
ii. Tehsil Kairana

(viii) District of Muzaffarnagar

i. Tehsil Khatauli,
ii. Budhana,
iii. Jansath (part)
iv. Muzaffarnagar (part)

Fresh Inclusions

(ix) District of Saharanpur

i. Tehsil Deoband (part)

(x) District of Bijnor

i. Tehsil Bijnor (part)

(xi) District of Jyotiba Phule Nagar

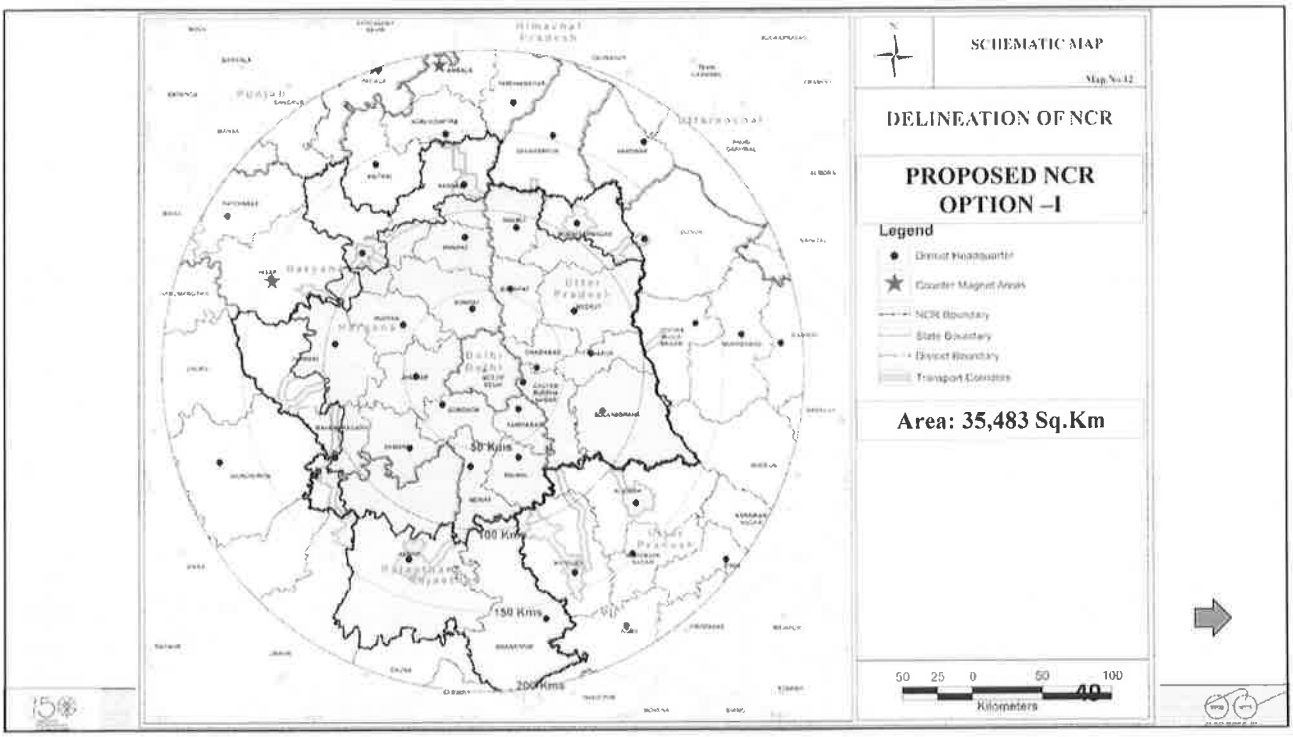
i. Tehsil Hasanpur (part)

xii. District of Aligarh

i. Tehsil Khair (part)
ii. Tehsil Gabhana (part)
iii. Tehsil Koil (part)

(xiii) District of Mathura

i. Tehsil Mant (part),
ii. Chhata (part),
iii. Mathura (part),
iv. Sadabad (part)



RECOMMENDATION: Option II 1/7

- As **Option-I** was leading to exclusion of many tehsils currently part of NCR, the concept of TOD along the corridors was considered & **Option II** prepared.
- Under this option large size towns identified as nodes within 150 Km.–200 Km circles on transport corridors & their controlled/ development Area taken as end node
- As per **Option-II**, partial area along either side of transport corridors of **14** tehsils from Haryana, **25** tehsils from Rajasthan & **16** tehsils from U.P. qualified to form a part of Re-delineated NCR.
- Only **01** tehsil of Alwar district of Rajasthan i.e. Bansur, identified for exclusion from notified NCR.
- Approximate area of Re-delineated NCR :about **45,500 sq.km**, *(subject to final delineation with actual administrative boundaries at local level.)*

RECOMMENDATION: Option II 2/7

Second Option of Re-delineated NCR
Exclusion from current NCR: only Tehsil of Bansur of Alwar District (area

Sub-Region	OPTION-II		
	Area (Approx.) Sq. Km	Area No. of districts	No. of Tehsils (Approx.)
NCT Delhi	1,483	Entire NCTD	-
Haryana	21,400	10-entire 07-part	43
Rajasthan	6,700	06-part	33
Uttar Pradesh	16,000	07-entire 07-part	42
Total	45,583*		118

*** Area more than countries of Holland / Switzerland / Indian state of Haryana**

RECOMMENDATION: Option II 3/7

- First Option of Re-delineated NCR

Sub-Region	OPTION-II- Inclusion/ Exclusions compared with current NCR					
	Fresh Inclusion			Exclusion		
	Area (Approx.) Sq. Km	No. of districts	No. of Tehsils including part (Approx.)	Area (Approx.) Sq. Km	No. of districts	No. of Tehsils including part (Approx.)
NCT Delhi	-	-	-	-	-	-
Haryana	810	3 part (Hisar, Kurukshetra, Kaithal)	05	4421	4 part (Karnal, Jind, Bhiwani & Mahendergarh)	10 part
Rajasthan	832	4 part (Jaipur, Dausa, Jhunjhunu, Sikar)	07	6640	2 part (Alwar & Bharatpur)	18 part & 01 complete
Uttar Pradesh	1677	6 part (Saharanpur, Bijnor, JP Nagar, Moradabad, Aligarh, Mathura)	14	1758	1 part (Muzaffarnagar)	2 part
Total	3319		26	12819		

* Area figures are based on rough estimates, for broad analysis/ understanding

RECOMMENDATION: Option II 4/7

- State & district wise inclusion assessment (entire districts included)

Entire NCT DELHI

HARYANA Sub-Region:

Entire Districts

(i) Sonipat
(ii) Panipat
(iii) Rohtak
(iv) Jhajjar
(v) Rewari
(vi) Gurgaon
(vii) Mewat
(viii) Palwal
(ix) Faridabad
(x) Charkhi dadri

UTTAR PRADESH Sub-Region:

Entire District

(I) Ghaziabad
(II) Gautam buddha nagar
(III) Meerut
(Iv) Baghpat
(v) Hapur
(vi) Bulandshahr
(vii) Shamli

RECOMMENDATION: Option II 5/7

- State & district wise inclusion assessment (part districts included)

HARYANA Sub Region

(xi) District of Jind
1. Tehsil Julana,
2. Tehsil Safidon,
3. Tehsil Jind (part)
4. Tehsil Narwana (part)

(xii) District of Bhiwani
1. Tehsil Bawani Khera,
2. Tehsil Bhiwani,
3. Tehsil Loharu (part),
4. Tehsil Tosham (part)
5. Tehsil Siwani (part)

(xiii) District of Mahendragarh
1. Tehsil Kanina,
2. Tehsil Ateli,
3. Tehsil Narnaul (part)
4. Tehsil Mahendragarh (part)

(xiv) District of Karnal
1. Tehsil Gharaunda,
2. Tehsil Asandh (part),
3. Tehsil Nilokheri (part)
4. Tehsil Karnal (part)

Fresh Inclusions

(xv) District of Hisar
1. Tehsil Bass,
2. Tehsil Hansi (part)
3. Tehsil Hisar (part)

(xvi) District of Kurukshetra
1. Tehsil Thanesar (part)

(xvi) District of Kaithal
1. Tehsil Kaithal (part)

RECOMMENDATION: Option II 6/7

- State & district wise inclusion assessment (part districts included)

RAJASTHAN Sub-Region:

(i) District of Alwar

1. Tehsil Tijara,
2. Tehsil Kishangarh Bas,
3. Tehsil Kotkasim,
4. Tehsil Mandawar,
5. Tehsil Neemrana,
6. Tehsil Bahror,
7. Tehsil Alwar,
8. Tehsil Ramgarh,
9. Tehsil Rajgarh (part),
10. Tehsil Malakhera (part),
11. Tehsil Thana Gazi (part),
12. Tehsil Lachhmangarh (part),
13. Tehsil Govindgarh (part),
14. Tehsil Reni (part)
15. Tehsil Kathoomar (part)

[Tehsil Bansur, - exclusion]

(ii) District of Bharatpur

1. Tehsil Pahari (part),
2. Tehsil Kaman (part),
3. Tehsil Nagar (part),
4. Tehsil Deeg (part),
5. Tehsil Kumher (part),
6. Tehsil Bharatpur (part),
7. Tehsil Nadbai, (part),
8. Tehsil Bhusawar (part),
9. Tehsil Weir (part),
10. Tehsil Bayana (part)
11. Tehsil Rupbas (part)

Fresh Inclusions

(iii) District of Jaipur

1. Tehsil Kotputli (part)
2. Tehsil Viratnagar (part)

(iv) District of Dausa

1. Tehsil Bandikui (part)
2. Tehsil Mahwah (part)

(v) District of Jhunjhunu

1. Tehsil Chirawa (part)
2. Tehsil Jhunjhunu (part)

(vi) District of Sikar

1. Tehsil Neem Ka Thana (part)

RECOMMENDATION: Option II 7/7

- State & district wise inclusion assessment (part districts included)

UTTAR PRADESH Sub-Region:

(i) District of Muzaffarnagar

1. Tehsil Khatauli,
2. Tehsil Budhana,
3. Tehsil Jansath (part)
4. Tehsil Muzaffarnagar (part)

Fresh Inclusions

(ii) District of Saharanpur

1. Tehsil Saharanpur (part)
2. Tehsil Deoband(part)

(iii) District of Bijnor

1. Tehsil Bijnor (part)
2. Najibabad (part)

(iv) District of Jyotiba Phule Nagar

1. Tehsil Hasanpur (part)
2. Tehsil Amroha (part)

(v) District of Moradabad

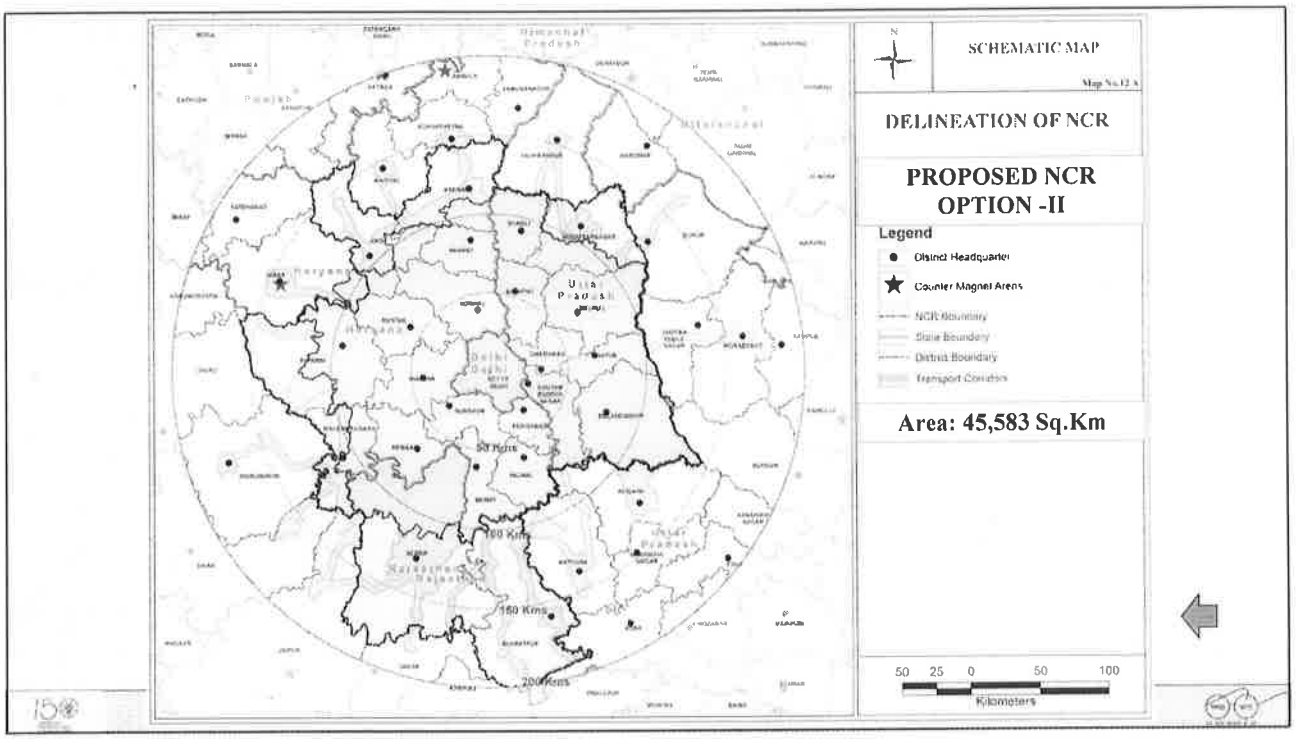
1. Tehsil Moradabad (part)

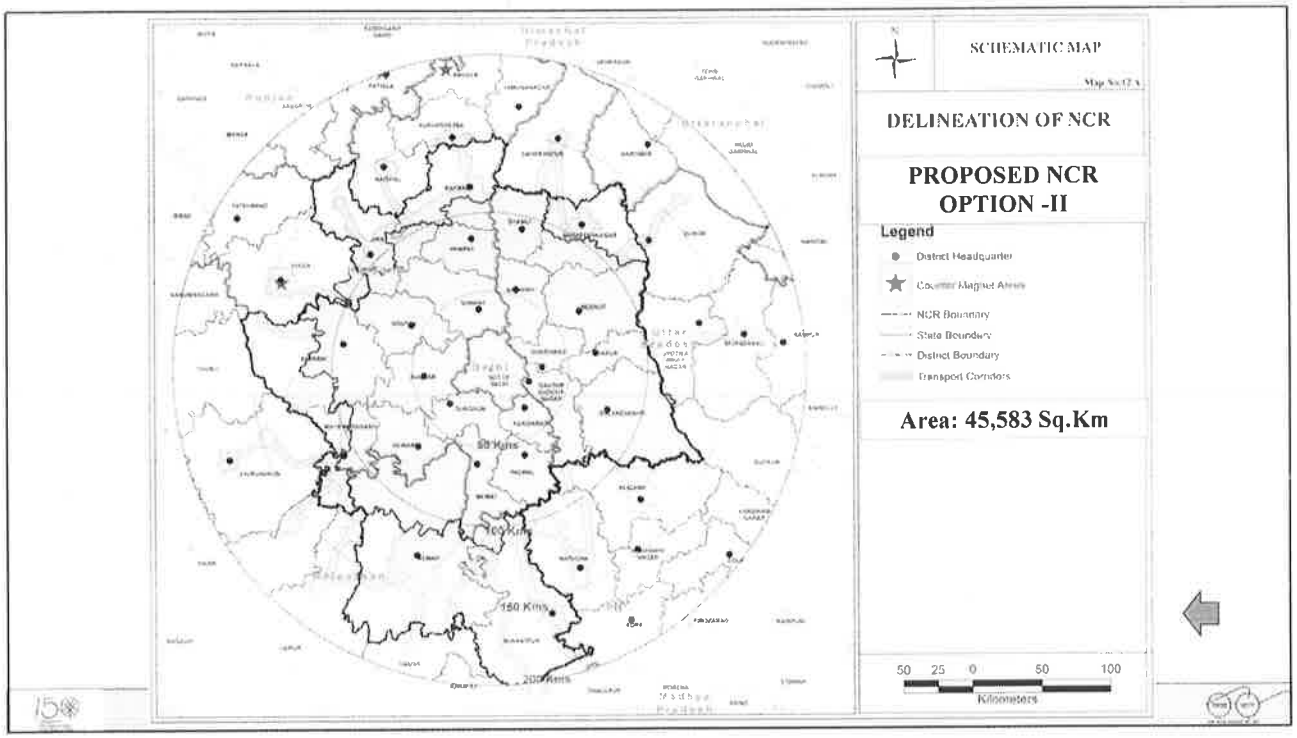
(vi) District of Aligarh

1. Tehsil Khair (part)
2. Tehsil Gabhana (part)
3. Tehsil Koil (part)

(vii) District of Mathura

1. Tehsil Mant (part)
2. Chhata (part)
3. Mathura (part)
4. Sadabad (part)


SCHEMATIC MAP
DELINEATION OF NCR
PROPOSED NCR
OPTION -II
Legend
District Headquarter
Counter Magnet Areas
NCR Boundary
State Boundary
District Boundary
Transport Corridors
Area: 45,583 Sq.Km
50 Kms
100 Kms
150 Kms
200 Kms
50 25 0 50 100
Kilometers


SCHEMATIC MAP
DELINEATION OF NCR
PROPOSED NCR
OPTION -II
Legend
District Headquarter
Counter Magnet Areas
NCR Boundary
State Boundary
District Boundary
Transport Corridors
Area: 45,583 Sq.Km
50 Kms
100 Kms
150 Kms
200 Kms
50 25 0 50 100
Kilometers

Other Recommendation

- Resulting area considering agreed parameters & corridor centric development appears conducive to protect good agricultural land, since it involves minimum fresh land acquisition which implies that farmers may not get affected
- Proposed that once NCR is finally delineated, all requests regarding further additions to thus finalized NCR, should be addressed only during Review & Revision of Regional Plan which is to be carried out only after every five years from date of coming into operation of finally prepared RP as per Section 15 of NCRPB Act.
- Amendments need to be carried out in notified Regional Plan-2021, or else, proposal of TOD may be considered for addition in the next Regional Plan, due to following reasons:
  - As per policy of notified RP-2021, Highway Corridor Zone (HCZ) was proposed to be developed in order to control large scale urban development along important highways in region, outside controlled / development / regulated areas, to regulate zone.
  - Green buffer of 100m, 60m, 30m was proposed along transport networks (expressways, national highways, state highways & railways, respectively) from either side of ROW.
  - For TOD policy of MoHUA, GoI has to be followed for undertaking development along transport corridors,

DECISION OF 38TH BOARD MEETING & FOLLOW UP WORK

DECISION OF 38TH BOARD MEETING ON NCR DELINEATION MATTER

- Recommendations of Delineation Committee constituted for looking into Delineation of NCR were placed in 38th Board Meeting (13.09.19) Chaired by Hon'ble MoS (IC), HU&A , for consideration & guidance

- After fruitful discussion, ***the Board appreciated the Action taken by the Committee constituted for Delineation of NCR, & Chairman, NCRPB suggested that a workshop be organized inviting experts & stakeholders to discuss the Options suggested in the report. The status is thereafter to be placed in the next Board meeting.***

DECISION OF 38TH BOARD MEETING : follow up work

- After approval of minutes of the Board meeting on 20.11.19, NCRPB, vide DO letters (29.11.19) from MS, NCRPB to Chief Secretaries of NCR States, shared Draft Report on NCR Delineation with all NCR Constituent States, informing that :

  - NCR level Stakeholders' Workshop was proposed to be organized in Delhi in mid-January, 2020, wherein the draft NCR Delineation Report shall be deliberated with stakeholders to firm up their suggestions/comments.
  - States were also requested to consider holding appropriate stakeholder consultations/meetings if deemed fit, at the State level before mid-January, 2020.
  - These can then lead to fruitful recommendations being framed in the NCR level Stakeholders' Workshop, for the next Board Meeting.

- Draft Reports again shared during invite on 08.01.20, for this Conference

COMPARISION OF EXISTING & SUGGESTIVE OPTIONS FOR NCR

❑ **Summing up:**

- Against the existing NCR of 55,083 sqkm. covering NCT of Delhi & 24 entire districts around it from Haryana, Uttar Pradesh & Rajasthan , delineation considering Tehsil as minimum unit of addition & potential development along transport corridors as well as ToD development, saving large agriculture lands in districts; we have options of
  - NCR with around **35000 sqkm**, covering Delhi and 30 districts (part/full) including 58 tehsils in NCR states and
  - NCR with around **45000 sqkm**, covering Delhi and 37 districts (part/full) including 118 tehsils in NCR states

COMPARISION OF EXISTING NCR & OPTIONS

Sub-Region	OPTION-I			OPTION-II			Existing NCR		
	Area (Aprox.) Sq. Km	Area No. of districts	No. of Tehsils (Aprox.)	Area (Approx.) Sq. Km	Area No. of districts	No. of Tehsils (Approx.)	Area (Approx.) Sq. Km	Area No. of districts	No. of Tehsils (Approx.)
NCT Delhi	1,483	Entire NCTD	-	1,483	Entire NCTD	-	1,483	Entire NCTD	-
Haryana	16,300	09-entire 06-part	27	21,400	10-entire 07-part	43	25,327	14-entire	37
Rajasthan	2,500	02-part	07	6,700	06-part	33	13,447	02-entire	27
Uttar Pradesh	15,200	06-entire 07-part	24	16,000	07-entire 07-part	42	14,826	08-entire	25
Total	35,483*		58	45,583**		118	55,083		89

*More than States of Tripura, Meghalaya, Manipur, Nagaland, Mizoram, Sikkim & almost Kerala
**More than Haryana State

Floor is now open for discussion/deliberations

OPEN HOUSE

THANK YOU

Annexure-5/III

राष्ट्रीय राजधानी क्षेत्र योजना बोर्ड
NATIONAL CAPITAL REGION PLANNING BOARD
प्रथम तल, कोर–IV बी, / 1st Floor, Core-IV B,
भारत पर्यावास केन्द्र, / India Habitat Centre,
लोधी रोड, नई दिल्ली–110003 / Lodhi Road, New Delhi-110003
आवासान और शहरी कार्य मंत्रालय / Ministry of Housing and Urban Affairs
दूरभाष/Phone: 011–24642284, 24642287 फैक्स/Fax: 011–24642163

No.K-14011/49/2015-NCRPB (Vol. I) Date: 12.02.2020

Sub: Stakeholder Conference to discuss options suggested in the Draft Report on Delineation of NCR.

Sir / Madam,

Kindly find enclosed herewith the Minutes of meeting on Stakeholder Conference dated 17.01.2020 at Vigyan Bhawan, New Delhi, for your information and taking further necessary action please.

This is issued with approval of Competent Authority.

Yours sincerely,

Encl.: As Above

(Satish Parasher)
Chief Regional Planner

To

1. Dr. Sanjeev Ranjan, Secretary, Ministry of Road Transport & Highways, Room no 509, Transport Bhawan, Sansad Marg, New Delhi – 110001
2. Shri Vinod Kumar Yadav, Chairman, Railway Board, 256-A, Raisina Road, Rajpath Area, Central Secretariat, New Delhi-110001
3. Shri C.K. Mishra, Secretary, Ministry of Environment, Forests & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, Aliganj, New Delhi
4. Shri Heeralal Samariya, IAS, Secretary, Ministry of Labour & Employment, Govt. of India, Room No. 104, Shakti Bhawan, Rafi Marg, New Delhi-110001
5. Shri Sunil Kumar, Secretary, Ministry of Panchayati Raj, Govt. of India, Krishi Bhawan, Dr. Rajendra Prasad Road, New Delhi-110001
6. Shri Kamran Rizvi, IAS, Additional Secretary, Ministry of Housing and Urban Affairs, Govt. of India, Nirman Bhawan, New Delhi-110001
7. Shri Shiv Das Meena, IAS, Additional Secretary, Ministry of Housing and Urban Affairs, Govt. of India, Nirman Bhawan, New Delhi-110001
8. Dr. Sukhbir Singh Sandhu, IAS, Chairman, National Highways Authority of India (NHAI), G 5&6, Sector-10, Dwarka, New Delhi - 110 075
9. Shri K Sanjay Murthy, IAS, CEO, Delhi Mumbai Industrial Corridor Development Corporation Limited, 8th Floor, Tower-1, LIC, Jeevan Bharti Building, Connaught Place New Delhi-110001
10. Smt. Keshni Anand Arora, Chief Secretary, Govt. of Haryana, 4th Floor, Haryana Civil Secretariat, Sector-1, Chandigarh-160003
11. Shri Devendra Bhushan Gupta, Chief Secretary, Govt. of Rajasthan, Rajasthan Secretariat, Jaipur (Rajasthan) – 302005
12. Shri R.K. Tiwari, Chief Secretary, Govt. of Uttar Pradesh, Sachivalaya, Lucknow (U.P.)-226020
13. Shri Vijay Kumar Dev, Chief Secretary, Govt. of NCT-Delhi, A-Wing, 5th floor, Delhi Secretariat, I.P Estate, New Delhi

जारी / Issue....12/2/20.....
दिनाँक / Date.....
हस्ताक्षर / Signature.....

14. Shri Tarun Kapoor, IAS, Vice Chairman, Delhi Development Authority, Barapullah Rd, beside SBI Bank, Aviation Colony, Vikas Sadan, INA Colony, New Delhi, Delhi 110023
15. Dr. Prof. P.S.N. Rao, Director, School of Planning and Architecture , New Delhi, 4-Block-B, Indraprastha Estate, New Delhi 110002
16. Dr. S.K. Kulshrestha, Urban & Regional Planner, Founder-Editor, Spatio-Economic Development Record, Delhi-110088
17. Dr. Ajay Mathur, Director General, The Energy and Resources Institute, (TERI) Darbari Seth Block, IHC Complex, Lodhi Road, New Delhi - 110 003
18. Shri Vinay Kumar Singh, Managing Director, National Capital Region Transport Corporation (NCRTC), 7/6, Siri Fort Institutional Area, August Kranti Marg, New Delhi – 110049
19. Shri Abhay Bakre, Director General, Bureau of Energy Efficiency, Ministry of Power,Govt. of India, 4th Floor, Sewa Bhawan, R. K. Puram, New Delhi – 110066
20. Dr. Rajani R. Ved, Executive Director, NHSRC, National Health Systems Resource Centre, NIHFW Campus, Baba Gangnath Marg, Munirka, New Delhi 110067
21. Shri Hitesh Vaidya, Director, NIUA, Lodhi Road, New Delhi-110003
22. Prof. Anil D. Sahasrabudhe, Chairman, All India Council for Technical Education (AICTE), Nelson Mandela Marg, Vasant Kunj, New Delhi-110070
23. Chairman cum Managing Director, Housing and Urban Development Corporation Ltd. (HUDCO), HUDCO Bhawan, Lodhi Road, New Delhi-110003
24. Shri P.K. Sarangi, IAS, Commissioner, NCR Planning & Monitoring Cell, 2nd Floor, Nagar Nigam Bhawan, Navyug Market, Ghaziabad 201001
25. Shri Alok Tandon, IAS, Chairman, New Okhla Industrial Development Authority (NOIDA), Administrative Complex, Sector 6, Noida 201301 U.P.
26. Ms. Ritu Maheshwari, IAS, Chief Executive Officer, New Okhla Industrial Development Authority (NOIDA), Administrative Complex, Sector 6, Noida 201301 U.P.
27. Shri Narendra Bhooshan, IAS, Chief Executive Officer, Greater Noida Industrial Development Authority (GNIDA), Plot No. 01, Knowledge Park-04, Greater Noida, Gautam Budh Nagar-201308 U.P.
28. Shri Sanjay Joon, IAS, Commissioner, Faridabad Division, Divisional Commissioner Office, Near Magpie Tourist Complex, Sector-16, Faridabad- 121002
29. Sh. Ashok Sangwan, IAS, Commissioner, Division Gurugram, Civil Line, Commissioner Office, Gurugram-122001
30. Sh. Pankaj Yadav, IAS, Commissioner, Rohtak Division, Mini Secretariat, Rohtak, 124001
31. Sh. Vinay Singh, IAS, Commissioner, Hisar Division, 42, Police Line, Hisar, Haryana 125001
32. Sh. Vineet Garg, IAS, Commissioner, Karnal Division, Second Floor, Mini Secretariat, Block-2, Karnal- 132001
33. Mrs. Aneeta C Meshram, IAS, Divisional Commissioner Meerut, Office of the Divisional Commissioner, Civil Lines Meerut – 250003
34. Shri Kailash Chand Verma, IAS, Divisional Commissioner, Jaipur, Office Divisional Commissioner, Jaipur – 302016
35. Shri C. S. Mutha, IAS, Divisional Commissioner, Bharatpur, Collectorate, Bharatpur -321001
36. Sh. Rajeev Verma, IAS, Pr. Secretary (Revenue) / Divisional Commissioner, Office of Divisional Commissioner 5, Sham Nath Marg, Delhi -110054
37. Shri Sanjay Kumar, IAS, Divisional Commissioner Saharanpur, Commissioner Office, Delhi Road Saharanpur-247001

State Govts.

38. Shri Manoj Kumar Singh, IAS, Principal Secretary, Department of Urban Development & Urban Local Bodies, Govt. of Uttar Pradesh, 59, Main Building Lucknow (UP).
39. Shri Bhawani Singh Detha, IAS, Secretary, Local Self Government, Govt. of Rajasthan, G-3, Rajmahal Residential Area, C-Scheme, Near Civil Line Phatak, Jaipur-16
40. Shri V. Umashankar, IAS, Principal Secretary, Urban Local Bodies, Haryana, Directorate of Urban Local Bodies, Bays 11-14, Sector 4, Panchkula, Haryana 134112
41. Joint Secretary (IA), Deptt. of Environment, Forest & Climate Change, Govt. of India, Indira Paryavaran Bhavan, Jor Bagh, New Delhi.
42. Shri S. Surendra, Addl. Chief Planner, Town & Country Planning Organisation, I.P. Estate, New Delhi-110001
43. Chief Town Planner, Town Planning Department, Urban Development and Housing, Government of Rajasthan, Secretariat, Main Building, JLN Marg, Opp. Birla Mandir, Jaipur - 302005
44. Shri Anoop Kumar Srivastava, Chief Town and Country Planner, Town & Country Planning Department, Govt. of U.P. TCG/1A-V-5 Vibhuti Khand , Gomti Nagar, Lucknow-206010
45. Shri Pankaj Yadav , I.A.S., Chief Administrator, Haryana Shahri Vikas Pradhikarn (HSVP), C-3, Sector-6, Panchkula -134109
46. Chief Town Planner, Town & Country Planning Haryana, Plot No. 3, Sec-18A, Madhya Marg, Chandigarh 160018

CMAs

47. Shri Sarvjit Singh, IAS, Principal Secretary, Housing & Urban Development Deptt., Govt. of Punjab, Mini Secretariat, Sector-9, Chandigarh-160009
48. Ms. Surabhi Malik, IAS, Additional Chief Administrator, PDA, Patiala, Addl. Chief Administrator, Patiala Urban Planning and Development Authority, PUDA Complex, Urban Estate, Phase-II, Patiala-147002 (Punjab).
49. Shri V. K. Sharma, Chief Executive Officer, NCR Special Area Development Authority (SADA-Counter Magnet), Sheetla Sahai Administrative Bhavan, Sojna Tighra, Gwalior-474001 (MP).

Industries Development Corporations

50. Shri Kuldeep Ranka, Chairman, Rajasthan State Industrial Development & Investment Corporation Limited (RSIDIC), Udyog Bhawan, Tilak Marg, Jaipur-302005
51. Shri Anil Garg, IAS, Chief Executive Officer & Managing Director, Uttar Pradesh State Industrial Development Corporation (UPSIDC) Ltd., UPSIDC Complex, A-1/4, Lakhanpur, Kanpur-208024
52. Dr. Narhari Singh Banger, IAS, Managing Director, Haryana State Industrial & Infrastructure Development Corporation Limited (HSIIDC), Plot No. C-13-14, Sector 6, Panchkula-134109, Haryana

State Nodals

53. Ms. Manisha Saxena, IAS, Principal Secretary, Department of Urban Development & Directorate of Local Bodies (DLB), Govt. of NCT of Delhi, 9th & 10th Level, Delhi Secretariat, I.P. Estate, New Delhi-110002.

54. Shri Apoorva Kumar Singh, IAS, Principal Secretary, Town & Country Planning Deptt. & Principal Secretary, Urban Estates Department, Govt. of Haryana, Chandigarh, Haryana Mini Secretariat, Sector -17, Chandigarh-160017.
55. Shri Deepak Kumar, IAS, Principal Secretary, Housing & Urban Planning Deptt., Govt. of U.P., UP Secretariat, Bapu Bhawan, Lucknow (UP).
56. Shri Bhaskar Atmaram Sawant, IAS, Principal Secretary, Department of Urban Development & Housing, Govt. of Rajasthan, Secretariat, Main Building, JLN Marg, Opp. Birla Mandir, Jaipur -302005
57. Shri V.K. Goyal, Chief Coordinator Planner, NCR Planning & Monitoring Cell, Directorate of Town & Country Planning, Haryana, 2nd Floor, Block-A, Plot No-3, Sector-18A, Madhya Marg, Chandigarh-160018
58. Shri Rajesh Prakash, Additional Commissioner, NCR Planning & Monitoring Cell, 2nd Floor, Nagar Nigam Bhawan, Navyug Market, Ghaziabad 201001
59. Shri S. C. Gaur, Chief Coordinator Planner, NCR Planning & Monitoring Cell, 2nd Floor, Nagar Nigam Bhawan, Navyug Market, Ghaziabad 201001
60. Smt. Indira Chaudhary, Chief Town Planner (NCR), Town & Country Planning Department, Govt. of Rajasthan, Secretariat, Main Building, JLN Marg, Opp. Birla Mandir, Jaipur - 302005
61. Ms. Leenu Sehgal, Commissioner (Planning), Delhi Development Authority (DDA), Mahatma Gandhi Road, IP Estate, New Delhi 110002
62. Shri Vijay Kumar, Pr. Secretary to LG, Office of Hon'ble Lt. Governor of Delhi, Raj Niwas , 6, Raj Niwas Marg, Ludlow Castle, Civil Lines, New Delhi, Delhi 110054
63. Smt. Chanchal Yadav, Special Secretary to LG, Office of Hon'ble Lt. Governor of Delhi, Raj Niwas , 6, Raj Niwas Marg, Ludlow Castle, Civil Lines, New Delhi, Delhi 110054
64. Shri Neelabh Saxena, IAS, CEO, Bhiwadi Integrated Development Authority (BIDA), Bhagat Singh Colony, U.I.T., Bhiwadi, Rajasthan 301019
65. Dr. Ajay Shankar Pandey, IAS, Vice Chairman, Muzaffarnagar Development Authority, Meerut Road, Muzaffarnagar-251001
66. Shri Mohd. Shafqat Kamal, IAS, Vice Chairman, Bulandshahr Khurja Development Authority (BKDA), Bulandshahar Development Authority, Yamunapuram, M.G. Road, Bulandshahar -203001.
67. Shri Rishirendra Kumar, IAS, Vice-Chairman, Baghpat Baraut Khekra Development Authority (BBKDA), Collectorate Compound Delhi Road, Distt. Baghpat-250609 (U.P)
68. Dr. V K Singh, Vice-Chairman, Hapur Pilkhuwa Development Authority (HPDA), Preet Vihar, Delhi Road, Hapur-245101
69. Shri Rajesh Kumar Pandey, IAS, Vice Chairman, Meerut Development Authority (MDA), Civil Lines, Vikas Bhawan, Meerut 250003 U.P.
70. Mrs. Kanchan Verma, IAS, Vice Chairperson, Ghaziabad Development Authority (GDA), Vikas Path, Near Old Bus Stand, Ghaziabad, Uttar Pradesh 201001
71. Dr. Arunvir Singh, I.A.S, Chief Executive Officer, Yamuna Expressway Industrial Development Authority, First Floor, Commercial Complex, P-2, Sector- Omega I, Greater Noida, Gautam Budh Nagar 201308
72. Shri Deep Chandra, IAS, Additional Chief Executive Officer, Greater Noida Industrial Development Authority, Plot No. 01, Knowledge Park-04, Greater Noida, Gautam Budh Nagar, Uttar Pradesh 201308
73. Dr. D.S. Meshram, Former Chief Planner, TCPO & President, ITPI, House No. 107, Dhruv Apartments, I.P. Extension - 110 092

74. Dr. (Prof.) K.K. Pandey, Urban Management, Indian Institute of Public Administration (IIPA), Indraprastha Estate, Ring Road, Mahatma Gandhi Marg, New Delhi, Delhi 110002
75. Prof. (Retd.) P.K. Sarkar, Former HOD, Transport Planning, SPA-Delhi & Director, Asian Institute of Transport Development (AITD), Asia Bhawan, Road-205, Sector-9, Dwarka, New Delhi-110077
76. Dr. Sanjukta Bhaduri, Dean Research & Prof. of Urban Planning, SPA-Delhi, 4, Block B, IP Estate, New Delhi 110002
77. Prof. Mahavir, Dean, Physical Planning, School of Planning and Architecture (SPA-Delhi), 4, Block B, Indraprashta Marg, IP Estate, New Delhi 110002
78. Dr. Dilip Kumar Dey, Former Additional Director, Census of India, Professor & Head, Dept. of Statistics, Indira Gandhi National Tribal University, Amarkantak, M.P. - 484224

DM/DC of NCR participating States

79. Shri Nishant Kumar Yadav, IAS Deputy Commissioner, Mini Secretariat, Karnal, Haryana-132001.
80. Dr. Aditya Dahiya, IAS, Deputy Commissioner, Mini Secretariat, Jind, Haryana-126102.
81. Shri Jagdish Sharma, IAS, Deputy Commissioner, Mahendragarh at Narnaul, 1st Floor, Mini Secretariat, Narnaul, Haryana-123001.
82. Shri Ajay Kumar, IAS Deputy Commissioner, Mini Secretariat, Room No 8, Ground Floor, Opposite Treasury, Bhiwani (Haryana) – 127021.
83. Shri Naresh Kumar, IAS, Deputy Commissioner, Second Floor, Mini Secretariat, Palwal, Haryana-121102.
84. Mrs. Hema Sharma, I.A.S, Deputy Commissioner, Mini Secretariat, Panipat, Haryana-134003Sh.
85. Shri Pankaj, IAS Deputy Commissioner, Mini Secretariat, Nuh, District Nuh, Haryana-122107.
86. Shri Narhari Singh Banger, IAS, Deputy Commissioner, Mini Secretariat, Gurugram Road, Jhajjar-124103.
87. Shri Jitendra Kumar, IAS, Deputy Commissioner, Mini Secretariat, Rewari, District Rewari, Haryana-123401.
88. Shri Anshaj Singh (I.A.S), Deputy Commissioner, Mini Secretariat, Sonipat (Haryana) – 131001.
89. Shri R S Verma, IAS, Deputy Commissioner, Mini Secretariat Building, Rohtak- 124001.
90. Shri Amit Khatri, IAS, Deputy Commissioner, 1st Floor, Mini Secretariat, Near Rajeev Chowk, Gurugram-122001, Haryana.
91. Shri Yash Pal, IAS, Deputy Commissioner, Deputy Commissioner Office, Block B, Mini Secretariat, First Floor, Sector-12, Faridabad, Haryana-121007.
92. Shri Dharamvir Singh, Deputy Commissioner, District Charkhi Dadri, Mini Secretariat, Charkhi Dadri-127310.
93. Dr. Ajay Shankar Pandey, IAS, District Magistrate, Rajnagar Ghaziabad -201001(UP).
94. Shri Ravindra Kumar, District Magistrate, District Magistrate Office, Collectorate, Bulandshahr-203001 (UP).
95. Smt. Shakuntala Gautam (IAS), District Magistrate, Collectorate Compound Delhi Road, Distt. Baghpat-250609 (UP).
96. Shri B.N. Singh, IAS, District Magistrate, Gautam Budh Nagar -201310 (UP).
97. Shri Anil Dhingra, District Magistrate, Collectorate, Meerut – 250003.
98. Ms. Aditi Singh, District Magistrate, O/O DM Hapur, DIET Campus, Hapur - 245101.

99. Mrs. Selva Kumari J., IAS, District Magistrate, DM Office, Collectorate, (Near Prakash Chowk), District Muzaffarnagar, Uttar Pradesh – 251001
100. Shri Akhilesh Singh, District Magistrate, Collectorate, Shamli -247776 (UP).
101. Shri Inderjeet Singh (IAS), District Collector & District Magistrate, Alwar, Collectorate Office, Alwar-301001, Rajasthan
102. Dr. Joga Ram, District Collector & District Magistrate, Bharatpur (Rajasthan)-321001.
103. Ms. Nidhi Srivastava, IAS, District Magistrate (Central), 14, Dariyaganj, New Delhi-110002.
104. Shri Arun Kumar Mishra, IAS, District Magistrate (East), L M Bund, Shastri Nagar, Delhi-110031.
105. Ms. Tanvi Garg, District Magistrate (New Delhi), 12/1 Jamnagar House, Shahjahan Road, New Delhi-110003.
106. Sh. Deepak Shinde, District Magistrate (North), DM Office Complex, G T Karnal Road, Alipur, Delhi-110036.
107. Smt. Shashi Kaushal, District Magistrate (North East), K- Block, DM Office complex, Nandnagri (Near Gagan Cinema), Delhi-110093
108. Sh. Satyendra Singh Dursawat, District Magistrate (North West), Kanjhawala, Delhi-110081.
109. Sh. Sanjeev Kumar, District Magistrate (Shahdara), DM Office Complex, E-Block, Ground Floor, Delhi-110093.
110. Sh. B. M. Mishra, District Magistrate (South), Office of District Magistrate, Revenue Department, M.B. Road, Saket, New Delhi-110068.
111. Smt. Harleen Kaur, District Magistrate (South East), Office of District Magistrate, Old Gargi College, Behind LSR College, Lajpat Nagar-4, New Delhi-110024.
112. Shri Rahul Singh, District Magistrate (South West), Office of District Magistrate, Old Terminal Tax Building, Kashmiri Gate, Delhi-110037.
113. Ms. Neha Bansal, District Magistrate (West), Shivaji Place, Raja Gardan,New Delhi-110027

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114. Shri Mahendra Prasad, Secretary, Muzaffarnagar Development Authority, Meerut Road, Muzaffarnagar-251001
115. Shri Ishtiyak Ahmed, Chief Town Planner, Meerut Development Authority, Civil Lines, Vikas Bhawan, Meerut (U.P.) 250003
116. Shri W. Sukhabir, SM (Planning), Greater Noida Industrial Development Authority, Plot No. 01, Knowledge Park-04, Greater Noida, Gautam Budh Nagar, Uttar Pradesh 201308
117. Shri Rajeev Ratan Shah, Town Planner, Ghaziabad Development Authority, Vikas Path, Near Old Bus Stand, Ghaziabad, Uttar Pradesh 201001
118. Shri Praveen Kumar, Tehsildar (J), Revenue Department, District Shamli, DM Camp Office, Collectorate, Shamli -247776 (UP)
119. Shri Prabhat Kumar Paul, Assistant Town Planner, Hapur Pilkhuwa Development Authority (HPDA), Preet Vihar, Delhi Road, Hapur-245101
120. Shri Arvind Sharma, Assistant Engineer, Baghpat Baraut Khekra Development Authority (BBKDA), Collectorate Compound Delhi Road, Distt. Baghpat-250609 (U.P)
121. Shri Manrendra Singh, Joint Director, DC Office, Bharatpur, Rajasthan -321001.
122. Shri Uttam Singh, IAS, ADC, Jhajjar, Mini Secretariat, Gurugram Road, Jhajjar-124103.

123. Shri Arvinder Dhull, District Town Planner, Sonipat, HUDA Office building, Sector 15, Sonipat, Haryana 131001
124. Shri Vijender Kumar, Dy. Commissioner, Transport Department, Govt. of NCT Delhi, 5/9 Under Hill Road, Delhi 110054.
125. Shri P. K. Tomar, Superintendent Engineer (F/5), PWD, Govt. of NCT Delhi, Flyover Circle 5, Under Ring Road Bypass Flyover, Opp. of IG Stadium, Gate No. 9, New Delhi-110002
126. Shri G.S. Rawat, Joint Director, PWD, Govt. of NCT Delhi, PWD Secretariat, Near Delhi Police Headquarters, ITO, New Delhi-110002
127. Shri B S Meena, Assistant Director, Delhi Transport Corporation, Govt. of NCT Delhi, I.P. Estate: New Delhi-110002
128. Shri Sailender, AGM (Civil), National Capital Region Transport Corporation (NCRTC), 7/6, Siri Fort Institutional Area, August Kranti Marg, New Delhi – 110049
129. Dr. C. Rangrajan, Addl. Commissioner (Plg.), Delhi Development Authority (DDA), Mahatma Gandhi Road, IP Estate, New Delhi 110002
130. Dr. Manika Negi, General Manager (Projects), HUDCO, HUDCO Bhawan, Lodhi Road, New Delhi-110003
131. Shri Arijit Sengupta, Director, Bureau of Energy Efficiency (BEE), Ministry of Power, Govt. of India, 4th Floor, Sewa Bhawan, R. K. Puram, New Delhi – 110066
132. Shri Saurabh Diddi, Director, Bureau of Energy Efficiency (BEE), Ministry of Power, Govt. of India, 4th Floor, Sewa Bhawan, R. K. Puram, New Delhi – 110066
133. Shri Piyush Agarwal, Dy. Manager (T), NHAI, New Delhi.
134. Smt. Mandeep Kaur, Sr. Town Planner, Patiala & PDA, Patiala Urban Planning and Development Authority, PUDA Complex, Urban Estate, Phase-II, Patiala-147002 (Punjab).
135. Shri Rajinder Kumar, District Town Planner, Patiala Urban Planning and Development Authority, PUDA Complex, Urban Estate, Phase-II, Patiala-147002 (Punjab).
136. Shri P Selvadurai, Director, 7/6, Sirifort Institutional Area, August Kranti Marg, New Delhi-110049.

Minutes of the Stakeholder Conference on Delineation of NCR held on 17.01.2020 at 10:00 A.M. at Vigyan Bhawan, New Delhi

A Stakeholder Conference on Delineation of NCR was held on 17.01.20 at 10:00 A.M. at Vigyan Bhawan, New Delhi. The list of participants is at **Annexure-I.**

2. **Shri Satish Parasher, Chief Regional Planner, NCRPB**, welcomed the participants and requested Member Secretary, NCRPB to deliver the Key Note address.

3. **Smt. Archana Agrawal, Member Secretary, NCRPB** applauded officers from NCR Participating States, Experts and other participants for being part of the important deliberations on NCR delineation. She informed that Secretary, HUA, Govt. of India, could not Chair the Conference due to some unavoidable circumstances. She briefed the gathering on objective of the Conference, inviting attention on the increase in size of NCR, since its initial conception and that the Board had directed in 2015 to look into the aspect of NCR delineation in a manner that agricultural lands could be saved and corridor centric development possibilities could be explored. Member Secretary further stated that as per the parameters recommended by the Planning Committee, a Draft Report on Delineation of NCR was prepared, which was placed before the Board in 38th meeting held in September, 2019. The Board appreciated the work done for the Report and directed to have a stakeholders' workshop. Accordingly, Draft Report was circulated in November 2019 among NCR States, through DO letters by MS, NCRPB to Chief Secretaries of all four NCR States, requesting for sub-region wise stakeholders' consultation on the matter, prior to a Workshop/Conference of NCRPB proposed to be held in mid-January, 2020. The Draft Report was again circulated among NCR States, Experts & other Stakeholders, along with invitation letters for the Conference. She apprised that Draft Report provides Two Options wherein, area within 100 km. radius around Delhi has been considered as a contiguous region and thereafter limited & extensive transit corridors centric development approach have been analyzed under Option-I (about 35,000 Sq. Km area) & Option-II (about 35,000 Sq. Km area) respectively. She requested the participants for active deliberations on the same.

4. A detailed presentation was thereafter made by Shri Abhijeet Samanta, Deputy Director(Tech), NCRPB, key points of which are summarized as under:

   4.1 NCRPB Act, has no defined criteria for inclusion or exclusion of any area to NCR. The Act provides that *"the Central Government with the Consent of the Government of the Concerned Participating State and in consultation with the Board, may, by Notification in the Official Gazette, add any area to the Schedule or exclude any area therefrom."* Hence, mutually agreed parameters were required for NCR delineation.

   4.2 First Regional Plan prepared for perspective year 2001 was notified in 1989 for an area of 30,242 sq.km.area) and next Regional Plan-2021 was notified in 2005 for an area of 34,144 sq.km. Thereafter, with addition of Mahendergarh, Bhiwani (incl. Charkhi Dadri) & Bharatpur Districts in 2013; Jind, Karnal & Muzaffarnagar districts in 2015 and Shamli District in 2018, present area of NCR has increased to 55,083 Sq.Km. which is almost equal to area of State of Himachal Pradesh & Uttarakhand and larger than States of Punjab, Kerala & Haryana.

   4.3 Considering the increase in size of NCR, the current Hon'ble Vice-President and former Hon'ble Minister for Housing & Urban Affairs and the then Chairman, NCRPB, expressed in 35th meeting of the Board held in 2015, that linear development along transport corridors such as National Highways, State Highways & expressways, etc. need to be seen for corridors-centric development, to protect good agricultural land.

   4.4 Accordingly, a NCR Delineation Committee, headed by Member Secretary, NCRPB, having representatives from MoHUA, all NCR participating States, TCPO & Subject Experts as its members was constituted in 2015. Committee met twice in 2015 and came

up with nine broad draft parameters for NCR Delineation which were (1) contiguity of region, (2) Study area (250 km radius of Delhi which was revised to 200 kms. in 3rd meeting held on 10.10.2018), (3) Demographic characteristics (Popn. density, growth; urbanization, etc.), (4) Connectivity, (5) Economic Activities, (6) Interaction of Delhi with surroundings, (7) Upcoming centre/state projects/proposals, (8) Contiguity of environmentally sensitive areas, and (9) Commitment from State Govts.

Matter along with comments/ observations received from the Governments of Haryana, Rajasthan & NCT Delhi was taken up by the Board in its 37th Meeting held in December, 2017 wherein the Board directed that comments from Government of U.P. may also be taken and the NCR Delineation Committee should come back with recommendations immediately, as quickly as possible. Accordingly, on receipt of comments from Government of U.P., 3rd meeting of the Committee was convened on 10.10.2018. As per the comments, Governments of Haryana, Rajasthan & NCT Delhi were in favor of Tehsil as a unit to be considered for inclusion or exclusion, however, Government of U.P. requested that whole district should be considered instead of Teshil. Governments of NCT Delhi and Rajasthan also highlighted that TOD concept should be looked into during NCR delineation.

4.5 Also, while carrying out the Review of Regional Plan-2021, Study Group reviewing 'Region and Aims, Objectives & Policy Zones' aspects recommended in its Review Report that increasing extent of area of NCR on demand of participating States without carrying out delineation study or assessment will not be advisable as NCR area has almost doubled, since its earlier days.

4.6 NCR Delineation Committee in its 4th meeting held on 15.07.2019, based on broad parameters, as decided earlier, comments/ observations of NCR States & recommendations of Review Report, recommended certain parameters which were placed before Planning Committee in its 67th meeting held in July, 2019. The Planning Committee agreed with the parameters and recommended that Report with resulting delineated area may be prepared & placed before the Board.

4.7 Accordingly, delineation work was carried out using analysis of various components and following Two Options were prepared/ suggested for proposed NCR, in the draft Report:

(A) Option-I: This involved Corridor Development along major Transport Networks within 150 km. radius, beyond contiguous Region in 100 km. radius from Delhi. The Option lead to exclusion of certain areas (about 22,195 sq.km.) including some full tehsils from current NCR and having limited fresh inclusion (about 2,594 sq.km.). As per this option, 11 tehsils (05 part and 06 complete) of Haryana; 18 tehsils (01 part and 17 complete) of Rajasthan and 02 tehsils (part) of Uttar Pradesh were excluded whereas 02 tehsils (part) of Haryana; 01 tehsil (part) of Rajasthan and 10 tehsils (part) of UP were considered for fresh inclusion. The Delineated area i.e about 35,483 sq.km. would be more than the area of countries like Belgium/ Albania/ Armenia/ Slovenia, etc. and Indian States like Tripura, Meghalaya, Manipur, Nagaland, Mizoram, Sikkim & almost equal to Kerala. **Annexure-II/A** be referred for Option-I.

As Option-I was leading to exclusion of many tehsils (23 complete & 08 part) which are currently part of NCR, the concept of intensive TOD along the corridors was considered & Option II was prepared.

(B) Option -II: Large size towns identified as nodes within 150 km.-200 km. radius from Delhi, falling on/near transport corridors & their controlled/ development Area, were taken as end nodes. Intensive Corridor Development along existing & potential Transport Networks within 200 km. radius was envisaged, beyond contiguous Region in 100 km. radius from Delhi. While part of some tehsils are excluded (about

12,819 sq.km.), only one full tehsil was getting excluded. Fresh areas beyond existing NCR were also recommended for inclusion (about 3,319 sq.km.) under this option. As per Option-II, partial area along either side of transport corridors of 14 tehsils from Haryana, 25 tehsils from Rajasthan & 16 tehsils from U.P. qualified to form the Re-delineated NCR. Only 01 tehsil of Alwar district of Rajasthan i.e. Bansur, identified for exclusion from notified NCR. **Annexure-II/B** be referred for Option-II.

It was clarified that all area figures for both the options are tentative, for broad analysis/ understanding and are subject to final delineation with actual administrative/ controlled /development area boundaries, transportation networks at State/Local level.

4.8 It was apprised that resulting area, considering agreed parameters & corridor centric development, appeared conducive to protect good agricultural land, since it involved minimum fresh land acquisition, which implies that farmers may not get affected.

4.9 Also, it was proposed in Report that once NCR is finally delineated, all requests regarding further additions to thus finalized NCR, should be addressed only during Review & Revision of Regional Plan, which is to be carried out only after every five years from date of coming into operation of finally prepared RP as per Section 15 of NCRPB Act.

4.10 Further, it was informed that Amendments required to be carried out in notified Regional Plan-2021, or else, proposal of TOD could be considered for addition in the next Regional Plan, due to following reasons:

i) As per notified RP-2021, Highway Corridor Zone (HCZ) was proposed to be developed in order to control large scale urban development along important highways in region, outside controlled/ development areas, to regulate zone.

ii) Green buffer of 100m, 60m, 30m was proposed along transport networks (expressways, national highways, state highways & railways, respectively) from either side of ROW.

iii) TOD policy of MoHUA, GoI has to be followed for undertaking development along transport corridors.

5. Representing **Govt. of NCT Delhi**, Shri G.S. Rawat, Joint Director, UD Deptt., GNCT Delhi informed that matter was recently discussed in a meeting under Principal Secretary, UD Deptt., GNCT Delhi which was attended by Dept. of Transport, PWD and DDA. He informed that DDA was to submit its comments, in the meeting and representative from DDA informed that the same will be provided to NCRPB at the earliest.

   Representative from **DDA** also stated that 100 km. area from the centre of Delhi appeared appropriate for delineation of NCR, as it reflects a picture of the surroundings of Delhi and development can take place on similar lines.

6. Representing **Govt. of Haryana**, Shri A. K. Singh, Principal Secretary, T&CP Department, Govt. of Haryana appreciated the efforts made for Delineation of NCR. He informed that the matter could not be discussed with the Hon'ble Minister in-charge who also happens to be the Chief Minister and after getting the approval comments of the Govt. of Haryana will be submitted to NCRPB.

7. On behalf of **Govt. of Rajasthan**, Ms. Indira Chaudhary, Chief Town Planner (CTP), NCR Planning & Monitoring Cell (NCR Cell), Rajasthan informed that the Govt. of Rajasthan is of the view that all Teshils of Alwar and Bharatpur districts should remain as a part of NCR and in second Option, area of tehsil Virat Nagar (part) in Jaipur District along NH-8 should be extended up to boundary of Jaipur Development Authority (JDA), so that RRTS corridor can be extended up to Jaipur which is a Counter Magnet Area (CMA) of NCR. She mentioned that

observations of the State, approved by the Hon'ble Urban Development Minister and Hon'ble Chief Minister, has been sent to NCRPB through email on 16.01.2020.

8. Representing **Govt. of Uttar Pradesh**, Shri Deepak Kumar, Principal Secretary, Housing & Urban Planning (H&UP) Department, Govt. of Uttar Pradesh stated that consultation at higher level will be carried out shortly and final views of the Govt. of Uttar Pradesh will be communicated to NCRPB. He further informed that the Department is in the process of making Master Plans for 60 towns and cities for horizon year 2031.

9. On request of Principal Secretary, H&UP Department, Govt. of Uttar Pradesh, Shri Rajesh Prakash, Additional Commissioner, NCR Cell, Uttar Pradesh while putting forward the views pointed out that study has been done merely taking 100 Km. radius with Delhi as centre and no other parameter has been considered, whereas different State have different types of physical geographies. He suggested that different States should be treated differently. U.P. is very contiguous & compact and the whole NCR sub-region of U.P. has a large towns at every 18 – 20 km. He informed that Govt. of Uttar Pradesh has already decided and communicated to NCRPB that district should be taken as a unit for any inclusion or exclusion instead of Tehsil, as development is taking place district wise.

10. **Shri S. Surendra, Addl. Chief Planner, TCPO**, Govt. of India mentioned that considering past Regional Plans i.e. for horizon year 2001 & 2021, it would be appropriate that area of 34,144 sq. km. (RP-2021) may be kept as it is and same boundaries may be fixed considering contiguity aspect, as it will make planning exercise much easier. He suggested that this may be looked into.

11. **Dr. Sanjukta Bhaduri, Prof. Urban Planning, SPA, Delhi** suggested that while considering corridor based development on either side of roads, hierarchy of roads like NH, Expressways, SH, etc. should be taken care and width of corridor development be fixed as per the potential of corridors. It needs to be accounted for, as all roads are not of same hierarchy and don't have similar development potential.

12. Member Secretary, NCRPB requested participants to share their views on whether TOD should take place or not and on whether TOD should take place beyond buffer zone. In this regard, Principal Secretary, T&C Deptt., Govt. of Haryana stated that TOD should be taken up along with the buffer.

13. **Shri V. K. Goyal, CCP, NCR Cell, Haryana** stated that development occurs beyond the earmarked corridor zones, as once corridors/ areas becomes part of controlled/ regulated zones, various kinds of fees & restrictions are levied on the same, so development beyond controlled areas is cheaper. Member Secretary, NCRPB informed that idea of having these zones is to save farmers land, so that development take place in earmarked zones only, therefore, fee structure need to be decided accordingly by the State Govts.

14. **Dr. S.K. Kulshreshtha, Regional Planning Expert**, emphasized that certain nodes need to be identified along corridors in Sub-Regional Plans by the States depending upon their potential, however, there should not be a blanket rule/ norm for the development in these areas. He suggested that larger towns can be identified as major nodes along corridors and between two larger nodes/ towns smaller towns or villages can act as lower hierarchy nodes. He stressed that towns having proximity to Delhi will have more potential for development & growth.

    He emphasized that in context of corridor width not just 1 km on either side should be considered but it has to be taken in a very proactive manner and State's need to identify the real potential areas, as proposed in its policies and suggested by its Departments like industry, trade, commerce, tourism, etc. Further, the Regional Plan for NCR may suggest that the further detailing needs to be done at the State level. He also highlighted the need of spatial plan for district, both physical & economic plan, in accordance with 74th Constitutional Amendment.

He added that if district is taken as a unit for Plan, it will have plans for both urban & rural areas.

He mentioned NCR 'public interest' should also be taken into account. He was of the opinion that if any area is excluded from notified NCR, it may not be feasible in the interest of public of that area and it might face lot of resistance. He recommended strongly that current boundary of NCR should be taken as a boundary for subsequent Plan period uptill 2041with a rider that no more district shall be added.

15. Principal Secretary, T&CP Deptt., Govt. of Haryana mentioned that such provision/ rider should be applicable for five years at least. He cited an example of Kerala where development was observed along highways and habitation, shops & other activities were being developed alongside transport networks and interior parts have very sparse density. He suggested that every State has different ethos and culture, therefore, development of area should be left to the State and if any conflicts arises with NCR Regional Plan, the State Plans and Statute should prevail. He was of the opinion that the Regional Plan should be 'loose' and not 'vague'. He suggested that NCRPB should focus more on NCT Delhi, not just outward and NCRPB should supplement DDA.

16. Member Secretary, NCRPB while referring to development of nodes mentioned that Mr. Pedro, Ex. Mayor from Madrid and currently associated with European Union, had discussion/ lecture on Metropolitan Planning at MoHUA and was in favour of polycentric development. The nodes will be the potential areas of development with future prospects and not just Delhi, but along with Delhi we may have many such nodes of development which can cumulatively bring the entire region together and will decongest Delhi. She informed that Mr. Pedro was of the opinion that there should be a rectangular/grid transport system around such centres. She supported the idea of District Development Plan as suggested by Dr. S. K. Kulshrestha, and added that Regional Plan should be a much comprehensive Plan and accordingly, efforts are being made through various stakeholders' workshop wherein representatives from districts, zila panchayats, and representative from different walks of life are being invited.

17. **Shri S. C. Gaur, CCP, NCR Cell, U.P.,** stated that while delineating NCR, potential of areas as decided by the State should also be considered. He mentioned that States have identified towns in a specific capacity, economic/ industrial areas or urban development areas and has designated them as controlled or development areas. He added that in place of Bijnor, Aligarh should be given priority.

18. **Shri Satish Parasher, CRP, NCRPB** suggested that in terms of Corridor Centric Development, a Corridor Course Development should be talked about, as the course may change like the river but it will have its own form. He added that exercise carried out for NCR Delineation is not merely based on taking areas within certain radius from Delhi and it has considered a lot of parameters, as also agreed by the Planning Committee.

19. **Prof. PSN Rao, Director, SPA, Delhi** while giving closing remarks, mentioned that the concept of regional planning is based on influence mapping of the 'mother city' on the region. Some influence mapping has been done while arriving at Two Options of the Study. Although primary surveys were not done but analysis relied on the available secondary data. He added that the question whether a half or full tehsil or district should be taken as a unit, should be addressed based on practical considerations, however, if district is taken, there are better advantages because it is a very strong unit in term of administration & programme implementation. He was of the opinion that contiguous influence area between 100-120 km. from centre of Delhi is more appropriate and then beyond it, transport corridor based approach should be followed. He stated that all States are working for 'One India' & 'One Bharat'. therefore, if States need little freedom, they should have the same & it should be permitted, the Regional Plan has to be a broad policy oriented document and should not go into the nitty-gritty because these are local planning functions to be dealt by the States with some freedom.

20. **It was summarized that formal observations on the draft Report on Delineation have been received from Govt. of Rajasthan vide its letter dated 16.01.2020, however, the Govts. of Haryana, Uttar Pradesh and NCT Delhi will submit their detailed observations to NCRPB, at the earliest.**

The meeting ended with the vote of thanks to the Chair and participants by Shri Satish Parasher, Chief Regional Planner, NCRPB.

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Annexure-I

List of Participants

S. No.	Name and Designation
1.	Mrs. Archana Agrawal, Member Secretary, NCRPB – ***in Chair***
	Govt. of Uttar Pradesh
2.	Shri Deepak Kumar, Principal Secretary, Housing and Urban Planning Department, Govt. of UP.
3.	Shri Rajesh Prakash, Addl. Commissioner, NCR Planning & Monitoring Cell, Ghaziabad, U.P.
4.	Shri Mohd. Shafqat Kamal, Vice Chairman, BKDA, Bulandshahr, U.P.
5.	Mrs. Kanchan Verma, Vice Chairman, GDA, Ghaziabad, UP.
6.	Shri Rajesh Pandey, Vice Chairman, Meerut Development Authority, Meerut, UP
7.	Shri Mahendra Prasad, Secretary, Muzaffarnagar Development Authority, Muzaffarnagar, UP
8.	Shri S. C. Gaur, Chief Coordinator Planner, NCR Planning & Monitoring Cell, Ghaziabad, U.P.
9.	Shri Ishtiyak Ahmed, CTP, MDA, Meerut
10.	Shri W. Sukhabir Singh, SM (Planning), GNIDA
11.	Shri Rajeev Ratan Shah, Town Planner, GDA, Ghaziabad, U.P.
12.	Shri Praveen Kumar, Tehsildar (J), Revenue, Shamli, UP
13.	Shri Prabhat Kr. Paul, A.T.P. HPDA, Hapur, U.P
14.	Shri Arvind Sharma, AE, BBKDA, Baghpat, UP
	Govt. of Rajasthan
15.	Mrs. Indira Chaudhary, CTP (NCR), NCR Planning & Monitoring Cell, Jaipur, Rajasthan.
16.	Shri Vijay Meena, DTP, NCR Planning & Monitoring Cell, Jaipur, Rajasthan.
17.	Shri Ashok Kumar Ambesh, SE, Watershed Development, Bharatpur, Rajasthan
18.	Shri Manrendra Singh, Joint Director, DC Office, Bharatpur, Rajasthan.
	Govt. of Haryana
19.	Shri A. K. Singh, Principal Secretary, Town and Country Planning Deptt. Govt. of Haryana
20.	Shri Uttam Singh, IAS, ADC, Jhajjar, Haryana
21.	Shri V. K. Goyal, Chief Coordinator Planner, NCR Planning & Monitoring Cell, Haryana
22.	Shri Arvinder Dhull, DTP, Sonipat, Haryana
23.	Shri Ajmer Singh, ATP, Karnal, Haryana
24.	Shri Hemant Sharma, JE, o/o DTP, Bhiwani, Haryana
25.	Shri Parveen Raghav, Municipal Engineer, M.C. Palwal, Haryana
26.	Shri Sandeep Kumar, JD, O/o DTP Charkhi Dadri, Haryana
	Govt. of NCT Delhi
27.	Shri Vijender Kumar, Dy. Commissioner, Transport Department, Govt. of NCT Delhi.
28.	Shri P K Tomar, SE (F/5), PWD, Govt. of NCT Delhi
29.	Shri D D Gulati, S.E (Plg.) North DMC, Delhi
30.	Shri G. S. Rawat, Joint Director, PWD, Govt. of NCT Delhi
31.	Shri B S Meena, Assistant Director, Delhi Transport Department, NCT Delhi
	Central Ministries / NCRTC / TCPO / DDA/ HUDCO /NHAI
32.	Shri R. K. Singh, Executive Director (Infra.), Ministry of Railways, Govt. of India
33.	Shri Sailender, AGM / Civil, NCRTC, New Delhi
34.	Dr. C. Rangrajan, Addl. Commissioner (Plg.), DDA
35.	Shri S. Surendra, Additional Chief Planner, TCPO, Govt. of India, New Delhi
36.	Ms. Neetu Randhawa, Dy. Director (Plg.), DDA
37.	Dr. Manika Negi, General Manager (Projects), HUDCO
38.	Shri Arijit Sengupta, Director, Bureau of Energy Efficiency (BEE), Ministry of Power
39.	Shri Saurabh Diddi, Director, BEE, Ministry of Power
40.	Shri Abhishek Sharma, Joint Director, BEE, Ministry of Power, Govt. of India, New Delhi.
41.	Shri Ajendra Singh, Project Engineer, BEE, Ministry of Power, Govt. of India, New Delhi.
42.	Ms. Piyush Agarwal, Dy. Manager (T), NHAI
43.	Shri Naresh Kumar, Sr. Technical Asstt. Plg. Zone, MoRT&H, Govt. of India
44.	Shri Anil Bhatia, Assistant S.O. MoRT&H, Govt. of India, New Delhi
	CMAs
45.	Shri V.K. Sharma, CEO, SADA, CMA, Gwalior

S. No.	Name and Designation
46.	Mrs. Mandeep Kaur, Sr. Town Planner, Patiala & PDA
47.	Shri Rajinder Kumar, DTP, Patiala, Punjab
	Subject Expert
48.	Dr. (Prof.) P.S.N. Rao, Director, School of Planning and Architecture, New Delhi.
49.	Dr. S. K. Kulshrestha, Urban & Regional Planning
50.	Dr. (Prof.) Mahavir, Prof. & Dean (A), School of Planning and Architecture, New Delhi.
51.	Dr. (Prof.) Sanjukta Bhaduri, Dean (R), Deptt. of Urban Planning, SPA, New Delhi.
	AMDA
52.	Shri P. Selvadurai, Director, AMDA
53.	Shri Totak Acharya, AD (Plg.), AMDA
54.	Mrs. Gurpreet Kaur, AD (CB&T), AMDA
55.	Ms. Neelanjali, Deputy Director, AMDA
56.	Shri Mohit Jain, Accounts Officer, AMDA
57.	Shri Gaurav Jain, Admin Officer, AMDA
	Media
58.	Shri Anand Kumar, DD News
59.	Shri Keshav Prasad, DD News
60.	Shri Arun Sharma, DD News
61.	Shri B S Rawat, Correspondent
62.	Shri Pushkar Vyas (P), Photo Division, PIB
63.	Ms. Ananya Sengupta, PTI
64.	Shri Vijay Kr. Arora
65.	Ms. Vandana
66.	Shri Purushottam
67.	Shri Nitin Kumar, Time of India
68.	Shri R P Dubey (DIP)
69.	Shri Pranab Prakhar, Vision TV
70.	Shri Brajesh Yadav, Vision TV
71.	Ms. Neha, Time of India
72.	Ms. Mallica Joshi, The India Express
73.	Ms. Ananya Tiwari, The Indian Express
74.	Ms. Shikha Garg Jain, Editor,
	NCR Planning Board
75.	Shri Satish Parasher, Chief Regional Planner, NCRPB
76.	Shri Jagdish Parwani, Director (A&F), NCRPB
77.	Shri Ajitabh Saxena, Finance and Accounts Officer, NCRPB
78.	Shri Nabil Jafri, Dy. Director (Tech.-GIS), NCRPB
79.	Shri Abhijeet Samanta, Dy. Director (Tech.), NCRPB
80.	Shri Ramesh Dev, Dy. Director (Tech.-URP), NCRPB
81.	Ms. Neelima Majhi, Dy. Director (Tech.), NCRPB
82.	Shri Naresh Kumar, Assistant Director (Tech.), NCRPB
83.	Shri Satyabir Singh, Assistant Director (Tech.), NCRPB
84.	Shri S. K. Katariya, DDO/ AD(Fin.), NCRPB
85.	Shri Shireesh Sharma, Assistant Director (Admn.), NCRPB
86.	Shri Syed Hussain Asghar, Assistant Director (PMC & FM), NCRPB
87.	Shri Devender Kumar, AD (Fin.), NCRPB
88.	Smt. Shilpa Vijayvargiya, Consultant (Admn.) , NCRPB
89.	Dr. Himadri S. Dey, Consultant (Planning), NCRPB
90.	Ms. Shivangi Dubey, Consultant (Planning & PMC) , NCRPB

Identification of Projects from Policies and Proposals of RP 2021 and Functional Plans prepared by NCRPB

Chapter 5: Economic Scenario

1. Project for implementation of following policies and proposals of RP-2021 may be prepared:

   i) Development/delivery of cultural services like museums, historic sites, antiques, theatres, film making, cinemas etc., as part of the activities underpinning tourism and other international travel.

   ii) The rapid growth of population of Delhi is mainly due to immigration of people in search of employment from the rural areas where the capacity to generate employment is either exhausted or under-utilised. Thus, there is a need to develop agro-based industries in the rural areas in order to support urbanisation in NCR as a whole on the one hand and to stabilise the rural economy on the other. In the long run this will prevent exodus of people from rural areas to Delhi.

❖ ***Project for development of museums, historic sites, antiques, theatres, film making, cinemas etc. and agro-based industries in the rural areas may be prepared by the State Govts. and NCRPB may provide financial assistance for the same.***

2. Functional Plan for Economic Development of NCR recommended following:

Sector-specific recommendations:

Agro-based and Food Processing Industry:

- Establishment of Food testing laboratories in Haryana sub-region.
- Setting up of Fruit and Vegetable Processing Park in Bulandshahr district of U.P. sub-region and Jhajjar district in Haryana sub-region for horticulture produce.

Electronics and Information & Communication Technology

- It is recommended that appropriate policy interventions are made for operationalisation of the approved SEZs to boost export.
- Software Development in NCT-Delhi, Gurgaon and NOIDA (need intensification especially in case of NCT-Delhi).

Automobiles & Automotive Components

- Induced cluster at IMT Manesar and Bawal for automobiles and auto components including provision of skilled manpower and infrastructure like workers' hostel etc.
- Adequate level of support infrastructure, including forward and backward linkages, to be established for the Auto-Park (e.g. upcoming Auto-Park at Alwar) and Research Institutes (e.g. upcoming National automotive testing, research and development infrastructure project in Haryana).
- Infrastructure support for auto component industries for Faridabad, Gurgaon, NOIDA, Meerut and Alwar.

Handloom, Hosiery, Textile and Garments Manufacturing

- Apparel park in Gurgaon SEZ and at Barhi (Sonepat) under the Apparel Park for Exports Scheme of Government of India. International Trade and Convention Center at Panipat.
- International Trade Center at Gurgaon for promotion of garments.
- Textile Park in Alwar District.
- Dyeing Houses in Faridabad and Ghaziabad Districts.
- Textile Skill Development Centre at Okhla.

Footwear, leather garments and accessories

- Infrastructure for leather development at Bahadurgarh, Haryana.

General Engineering

- Infrastructure development for the existing general engineering clusters/areas in Faridabad, NOIDA and Gurgaon.

Logistics

- Considering the DFC and the DMIC projects which includes part of Haryana and Uttar Pradesh sub-regions, it is recommended that logistics infrastructure such as Inland Container Depots (ICDs), Container Freight Stations (CFS), Integrated Freight Complexes (IFCs) be set up in these sub-regions at strategic locations.

Sub-region wise recommendations

NCT-Delhi

- More focus is required on major value-add sectors like software, BPO, communications and biotechnology. .
- Better infrastructure (roads, water, sanitation etc.) in industrial areas.

Haryana sub-region

- Development of infrastructure in industrial clusters/areas, including uninterrupted and quality power supply, roads and water supply and infrastructure/facilities for combating environmental pollution in industrial towns such as Bahadurgarh, Faridabad, Panipat etc.
- Strengthening rural infrastructure to promote agro base industries.

Uttar Pradesh sub-region

- Development of infrastructure in traditional/old industrial clusters/areas be undertaken.
- Need to provide common infrastructure (power, roads, etc.) for industries especially in the existing industrial areas
- Need to address congestion and pollution in industrial areas of Ghaziabad.
- Need to improve rural infrastructure to avail opportunities of modernization of nonfarm activities; and
- Proper infrastructure including technological and marketing support for traditional craft clusters in Khurja, Ghaziabad etc.

Rajasthan sub-region

- Need to adopt induced cluster based approach with strong support infrastructure for manufacturing activities, especially in the already existing & upcoming areas, i.e. (i) Bhiwadi-Tapookara-Khushkhera Complex, (ii) Alwar and (iii) ShahjahanpurNeemrana-Behror Complex.
- Need for encouraging investment in greenfield auto and textile sector.

❖ ***Functional provides Sector wise and State wise recommendation for economic development of the area/city specific. Project for the same may be prepared by the State Govts. and NCRPB may provide financial assistance for the same.***

Chapter 6: Transport

1. Major Objectives stipulated in Transport Chapter of RP-2021 are:

   a) To decongest NCT-Delhi roads, rail and rail terminals by diverting the by passable traffic from Delhi.
   b) To provide linkages amongst Metro/Regional Urban Settlements in the outlying areas of NCR.
   c) To connect Metro/Regional Centres with the Capital by an efficient and effective transport network for facilitating faster movement of traffic among such centres and NCT-Delhi.

d) To link the Sub-regional Centres with effective and efficient transport network for facilitating the faster movement of traffic among such centers and higher order settlements.
e) To directly link other urban nodes having maximum attracting and generating characteristics.

3. Considering these objectives, Functional Plan on Transport has been prepared. Following components of Functional Plan may be taken up for projects:

a) Up-gradation of Roads and Expressways
b) Bus Terminals
c) Logistic Hubs
d) Integrated Freight Complexes
e) Aerotropolis

a) Proposals for improvement of Road System:

Phase-wise Programme for Development of Expressways in NCR

S. No.	Categories	Length (Km)	ROW (m)	Type	Phase-I 2012-17 (lanes)	Phase-II 2017-22 (lanes)
Expressways						
1	Ganga Expressway (within NCR)*	65.0	100	Greenfield	6	6
2	Yamuna Expressway (within NCR)*	65.0	100	Greenfield	6**	8
3	Western Peripheral Expressway	135.6	100	Greenfield	8***	10
4	Eastern Peripheral Expressway	136.0	100	Greenfield	8***	10
	Total	**401.6**				
Regional Expressways (Greenfield Alignments)						
1	Delhi - Panipat	69.75	100	Greenfield	6	6
2	Delhi - Ghaziabad	15.34	100	Greenfield	4***	6
3	Ghaziabad - Modinagar - Meerut	33.21	100	Greenfield	4***	6
4	Ghaziabad - Hapur	25.90	100	Greenfield	4	6
5	Delhi - Faridabad - Palwal	44.75	100	Greenfield	4	6
6	Gurgaon - Manesar - Dharuhera	64.55	100	Greenfield	4	6
7	Panipat - Gohana - Rohtak	58.40	100	Greenfield	4	6
8	Rohtak - Rewari	80.01	100	Greenfield	4	6
9	Rewari - Dharuhera - Bhiwadi - Palwal	21.38	100	Greenfield	4	6
10	Palwal - Khurja	50.98	100	Greenfield	4	6
11	Khurja - Hapur - Meerut	72.44	100	Greenfield	4	6
12	Meerut - Baghpat - Sonepat	37.48	100	Greenfield	4	6
13	Ghaziabad - Bulandshahr till Dadri	18.17	100	Greenfield	4	6
14	Delhi - Baghpat	36.28	100	Greenfield	4	6
15	Gurgaon - Faridabad	18.72	100	Greenfield	4	6
16	Delhi - Bahadurgarh - Rohtak	57.94	100	Greenfield	4	6
	Total Length	**705.3**				

*Source: Functional Plan on Transport for NCR-2032, *Proposals of Govt. of UP, ** Implemented, *** Under Implementation*

Phase-wise Programme for Development of Regional Arterials in NCR

S. No.	Regional Arterials	Length (km)	ROW (m)	Existing Configuration	Phase-I 2012-17 (lanes)	Phase-II 2017-22 (lanes)
1	Delhi-Panipat (NH-1)	84.0	100	6	8***	10
2	Delhi - Ghaziabad (NH-24)	21.0	100	4	8[A]	10
3	Ghaziabad - Modinagar - Meerut (NH-58)	53.0	60	4	6***	8
4	Ghaziabad - Dadri - Bulandshahr - Khurja (NH-91)	48.0	60	2	6*	8
5	Ghaziabad - Hapur (NH 24)	37.0	60	2	6	8
6	Delhi - Faridabad - Ballabgarh - Palwal (NH-2)	60.0	100	4	8***	10
7	Delhi - Gurgaon (NH-8)	30.0	100	8	10[B]	10
8	Gurgaon - Manesar - Dharuhera (NH-8)	49.0	100	4	8***	10
9	Delhi - Bahadurgarh (NH-10)	28.0	60	4	6*	8
10	Bahadurgarh - Rohtak (NH-10)	42.0	60	2	4*	6
11	Panipat - Gohana - Rohtak (NH-71A)	67.0	60	2	4*	6
12	Rohtak - Rewari (NH-71)	80.0	60	2	4*	6
13	Rewari - Palwal (NH-71 B)	83.0	60	2	4	6
14	Palwal - Khurja	56.0	60	1	4	6
15	Khurja - Hapur (part NH-235)	53.0	60	2	4*	6
16	Hapur - Meerut (NH-235)	33.0	60	2	4*	6
17	Gurgaon - Sohna (old NH-8)	23.0	60	6	8@	8
18	Sohna - Alwar (old NH-8)	94.0	60	2	4@	6
19	Jhajjar - Gurgaon	48.0	60	2	4	6
20	Sonepat - Jhajjar	56.0	60	2	4	6
21	Ballabgarh - Gulavathi	45.0	60	1	2	4
22	Hodal - Tijara - Behror	133.0	60	1	2	4
23	Behror - Partapgarh	100.0	60	1	2	4
24	Meerut - Garhmukteshwar - Bulandshahr	93.0	60	2	4	6
25	Sonepat - Rohtak	46.0	60	1	2	4
26	Sonepat - Gohana - Asan	94.0	60	2	4	4
27	Gohana - Maham	51.0	60	2	2	2
28	Palwal - Hodal (NH-2)	33.0	100	6	8***	10
29	Meerut - Muzaffarnagar (NH-58) (till NCR Border)	19.0	60	2	6*	8
30	Rewari - Bawal (NH-71)	11.0	60	2	4*	6
31	Dharuhera - Behror (NH-8)	63.0	100	4	8***	10
32	Khurja - Border of NCR to Aligarh (NH-91)	19.0	60	2	6*	8
33	Panipat - Border of NCR (NH-1)	9.0	100	6	10***	10
34	Hapur - Garhmukteswar (NH-24)	35.0	60	2	6*	8
35	Rohtak - Quila Jafargarh (NH-10)	35.0	60	2	4*	6
36	Meerut - Bahsuma (NH-119)	50.0	60	2	4	6
37	NH - 93	38.0	60	2	4	6
38	NH - 11 A	37.0	60	2	4	6
39	Loni - Baghpat - Baraut - Till NCR Border	68.0	60	2	6	8
40	Rohtak - NCR Border (NH -71)	22.0	60	2	4*	6
	Total	**2046**				

*Source: Functional Plan on Transport for NCR-2032, [A] Part of Delhi-Meerut Expressway (to be 8 lane), [B] 8 lane Expressway Implemented, * 4 Laning Under Implementation, ** 4 Laning Implemented, *** 6 Laning Under Implementation, @ 4 lane implemented up to Nuh and 2 lane implemented from Nuh to Alwar*

Phase-wise Programme for Development of Regional Sub-arterials in NCR

S. No.	Regional Sub-Arterials	Length (km)	ROW	Existing Configuration (lanes)	Phase-I 2012-17 (lanes)	Phase-II 2017-22 (lanes)
1	Khurja - Pahasu	35.0	30	1	2	2
2	Badarpur - Dadri - Hapur	67.0	30	1	2	4
3	Pilana - Binaula	16.0	30	1	2	2
4	Darula - Sardhana - Baraut - Ganaur – Shahpur	93.0	30	1	2	2
5	Baraut - Samalkha - Naultha	44.0	30	1	2	2
6	Bansur - Hajipur - Kishangarh Bas	44.0	30	1	2	2
7	Thana Gazi - Malakher - Lachmangarh	90.0	30	1	2	2
8	Ajabgarh - Tehla - Rajgarh - Garhi – Lachmangarh	76.0	30	1	2	2
9	Ghasoli - Tapukrah	33.0	30	1	2	2
10	Samda - Alwar	36.0	30	1	2	2
11	Hodal - Nuh - Taoru	56.0	30	1	2	4
12	Taoru - Pataudi - Kulana	41.0	30	1	2	4
	Total	**631**				

Source: Functional Plan on Transport for NCR-2032

- ***The State Governments should also develop the other lower hierarchy of roads to connect Block headquarters and villages. Inter-State Road links may also be identified/ detailed out by the concerned States for connectivity. Accordingly, detailed project may be prepared.***

Interchanges

Regional Road Network System is envisaged as a high capacity, high speed and high quality road network. Access control is required to be provided at important intersections between the roads of same class or different classes enabled with full or partial grade separated interchanges.

1	Between Expressway & Expressway	Full Interchange
2	Between Expressway & Regional Arterial – (National Highways)	Full or Partial Interchange
3	Between Regional Arterial & Regional Arterial	Partial Interchange
4	Regional Arterial & Regional Collector (State Highway)	Partial Interchange
5	Between Regional Collector & Regional Collector	At Grade (with proper design)

Source: Functional Plan on Transport for NCR-2032

- ***Intersections along expressway networks are listed in Table 14.3, Page 109 of the Functional Plan. The project may accordingly be prepared.*** Copy endorsed

Bypass System around All Major Urban Centers

- ***Bypasses should be planned /developed which may be elevated/ access controlled on high embankment as far as possible, to avoid becoming urban arterial roads in future.***

Bicycles and Pedestrian Facilities

It is proposed in the Functional Plan that the 'Strategies and Methodologies for Mitigation' for bicycle path and pedestrian path as recommended by National Mission on Sustainable Habitat, MoUD need to be adopted by State Governments for development of Non-motorised facilities in the towns of NCR.

- ***Project on development/improvement of Bicycles and Pedestrian Facilities may be prepared.***

b) Bus Terminals

- Standards and norms for Bus Terminals have been given in the Functional Plan. ***The project for construction/upgradation of Bus Terminals may be prepared.***

c) Logistics Hubs/Inland Container Depots/Yards

Logistics Park is proposed at Dadri where Western and Eastern Dedicated Freight Corridors are proposed to interest each other. In addition, proposed tentative locations of distribution centres are as follows:

i.	Asaoti/ Pirthala	iv.	Panipat (along ORC)
ii.	Dharuhera	v.	Meerut (along ORC)
iii.	Rohtak (along ORC)	vi.	Hapur (along ORC)

d) Integrated Freight Complexes

IFCs at all the regional urban nodes integrated with the Outer Grid Roads/ National Highways/ Expressway Systems are proposed in following towns:

i.	Sonepat	vii.	Bulandshahr
ii.	Baghpat	viii.	Palwal
iii.	Bahadurgarh	ix.	Alwar
iv.	Ghaziabad	x.	Behror
v.	Jhajjar	xi.	Shahjahanpur or Neemrana
vi.	Gurgaon		

Source: Functional Plan on Transport for NCR-2032

- ***Project for establishment of Integrated Freight Complex and Logistics Hub (distribution Centres) as identified in Functional Plan may be prepared.***

e) Aerotropolis

- In the Functional Plan, it is proposed that there is a great scope for development of an aerotropolis complex near the Greater Noida Airport at Jewar. A number of air transport related functional complexes could be located in this area and a New Town of reasonable size could be planned and developed. ***Govt. of U.P. may prepare project in this regard.***

Chapter 7: Power

1. Regional Plan-2021 proposed that in order to meet this additional demand, State Governments should take initiative to improve the power situation in their respective Sub-regions by establishing new power plants for getting additional power allocation.

2. RP also proposed that transmission and distribution system in the region should be improved keeping in view the increased demand of power by properly designing the L.T. distribution system viz., service line and service mains by providing transformers with adequate capacities, electronic meters, LT/HT breakers conforming to IE rules & specifications and by promoting communications (automation) in power supply system.

- ***Therefore, Project for establishment of new power generation plants and strengthening and upgradation of power transmission and distribution system (smart grid project) may be formulated by the NCR participating State Government.***

3. As regards promotion for Non-Conventional Energy Resources, it is proposed that emphasis should be given for promoting non-conventional energy resources such as solar energy plants on roof top etc. in big hotels, institutions, commercial buildings, group housing etc., to meet a part of the power demand.

- ***Accordingly, State Government may be prepared project for installation of Solar Energy Plants in Government Building, Institutions, etc. and also for street lighting.***

Chapter 8: Water Supply

1. In the RP-2021, it is proposed that long term solution for Augmentation of Drinking Water Supply will include construction of upstream reservoirs to store excess water during monsoon for use in the lean period and inter-basin transfer of water such as the Sarda-Yamuna link canal which envisages transfer of surplus waters of Sarda river for meeting various requirements in U.P., NCT-Delhi and further transfer for use in water short areas of Haryana and Rajasthan.

- ***Therefore, Integrated Regional project for Augmentation of Drinking Water Supply may be prepared by the NCR participating States. Project for upgradation/improvement/new project for Drinking Water Supply in towns/city may also be prepared.***

2. Regarding recharging of Aquifer, it is proposed in the RP-2021 that Artificial recharge through rainwater harvesting in ponds, Yamuna flood plains, construction of small check dams at favorable locations in part of the ridge for recharge etc. may be adopted. In the ***Functional Plan for Ground Water Recharge, various structure have been suggested and provided sub-region wise project (refer page No. 131-134).*** copy enclosed.

- ***NCR participating States may prepare detailed Project Report accordingly.***
- ***Detailed Project Report for recharging/augmentation of Water bodies to improve the ground water level in the region may be prepared.***

Chapter 9: Sewerage, Solid Waste Management, Drainage and Irrigation

Sewerage

- ***Project for Rehabilitation/Augmentation of Sewerage System and Treatment Facilities may be prepared by NCR States.***
- ***Project for decentralised wastewater treatment system at institutional building/community level for recycling of Waste Water for Non Drinking Water Use may be prepared***

Solid Waste Management

- ***Solid Waste Treatment Plant for disposal of solid waste as the plant can not only remove waste pollution and improve the environment but also create great profits and drive the economy.***

Drainage and Irrigation

1. In the Functional Plan on Drainage, it is suggested that integrated planning and design of drains for the region should be done well in advance to fix the invert levels of the drains. Since regional drains pass through more than one District/ State, their agencies should come together for designing the drain as a single project. It identified State wise all natural drainage system and also inter-State drains.

- ***Project for improvement of storm water drainage system and natural drainage system of city/town may be prepared by concerned Development Authorities of NCR States.***

2. In the RP-2021, it is suggested that where irrigation canal escapes including the tail escapes are out falling in the drains or in the neighboring ponds, the provision for efficient draining of surplus irrigation water by enhancing their capacity should be made during monsoon and on-monsoon period while planning for improvement in the integrated Regional Drainage System. ***In this regard projects may be formulated by the NCR State Governments.***

Chapter 12: Social Infrastructure (Education and Health)

1. It is pointed out in the RP-2021 that if good institutions (Educational and Medical) are established in the surrounding areas, the people would definitely like to move out of Delhi, thus helping in decongestion of Delhi. It also mentioned that considering the popularity of integrated medicine and indigenous systems of medicine in Delhi and NCR, culture-based health facilities system like Ayurvedic, Unani, Homeopathy, Naturopathy, Yoga and Meditation should be strengthened and augmented to provide low cost and locally accessible health care. It would be desirable to identify suitable locations for one to two specialized centres for each of the indigenous systems within the Regional Centres and Central NCR towns and their rural hinterland.

- ***Detailed Project for establishment of Institutions*** (Educational and Medical) ***may be prepared by the State Govts.***

Chapter 13: Heritage and Tourism

- ***Detailed Project Report for infrastructure development such as drinking water supply, toilet facilities, etc at Heritage and Tourism sites may be prepared by the concerned States.***
- ***Smaller tourist circuits with one to four days trip within the sub-region region to promote tourism may be identified and its development/implementation, a detailed project report may be prepared by the NCR States.***

Chapter 16: Rural Development

RP-2021 proposed that urban amenities/facilities in rural areas such as housing, better sanitation, water supply, communication system, social infrastructure etc., to improve the quality of life in the rural areas should be provided, along with connectivity among various types of settlements in the rural areas.

- ***Project for Infrastructure development in Rural area may be prepared by NCR States.***

Development of Dasna – Siyana (55kms)

On the recommendation of NCR cell, U.P. this road has been included in the transport plan to be upgraded in 2 – lane road. This road will provide an alternative route to the people moving from Garhmukteshwar to Dasna or Ghaziabad. It can take the load of traffic moving on NH-24 **(Figure 14.17).**

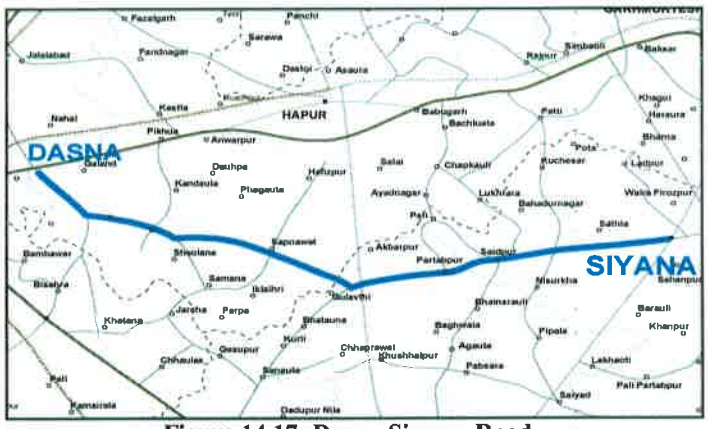


Figure 14.17: Dasna-Siyana Road

14.2.1.8 Regional Collector/Distributors

An extensive network of existing Major District Roads and upgraded Other District Roads form the Collector/Distributor system. The total extent of this network is 4266 km.

14.2.1.9 High Occupancy Lanes along all Major Regional Roads

The Integrated Multi-modal Transport System lays emphasis on, and accords priority to, the public transport system. To provide priority for movement of road based bus system, it is proposed that dedicated High Occupancy Vehicle (HOV) Lanes of 2 lanes be provided along all the proposed and existing Expressways, National Highways and other major regional Arterial roads/corridors. The HOV lanes would facilitate high efficiency and productivity of the regional bus transport system. While mainly meant for public transport, the HOV lanes may be made accessible for use by private modes having occupancy of more than a fixed number e.g. it could be minimum two or more occupants for private cars. The vehicles in HOV lanes may also be given a concession in toll charges. These measures would promote reduction in the number of personalized modes on the network system.

14.2.1.10 Interchanges

Regional Road Network System is envisaged as a high capacity, high speed, high quality road network. Access control is required to be provided at important intersections between the roads of same class or different classes enabled with full or partial grade separated interchanges. The general policy proposed is as under:

1	Between Expressway & Expressway	Full Interchange
2	Between Expressway & Regional Arterial – (National Highways)	Full or Partial Interchage
3	Between Regional Arterial & Regional Arterial	Partial Interchange
4	Regional Arterial & Regional Collector (State Highway)	Partial Interchange
5	Between Regional Collector & Regional Collector	At Grade (with proper design)

Source: Study on Integrated Transportation Plan for NCR

While the above policy is a general guideline, there may be variations based on traffic volume and other needs. Intersections along expressway networks are listed in **Table 14.3**.

Table 14.3: Proposed Locations of Interchanges in NCR

Sl. No.	Location	Between	Type
1	Kundli	KMP EW x Delhi Peripheral Expressway	Full
2	Kundli	KMP EW X Delhi Peripheral Regional Arterial (NH-1)	Parital
3	Bahadurgarh	KMP EW X Delhi-Rohtak EW	Full
4	Bahadurgarh	KMP EW x Delhi-Rohtak Regional Arterial (NH 10)	Partial
5	Farrukhpur	KMP EW X Jhajjar-Gurgaon CNCR Grid Arterial (NH)	Full
6	Manesar	KMP EW X Delhi-Gurgaon – Dharuhera EW	Partial
7	Taoru	KMP EW x Rewari-Taoru Expressway	Full
8	Taoru	KMP EW x Rewari – Palwal RA x Pataudi – Nuh RC/D	Partial
9	Palwal	KMP EW x Delhi – Peripheral EW	Full
10	Ghori	KMP EX x Palwal-Khurja EW	Full
11	Gharora	PGK EW x Ballabgarh-Sikandarabad RA	Partial
12	Kondli	PGK EW x Yanuna EW	Full
13	Surajpur	PGK EW x Ganga Expressway	Full
14	Dadri	PGK EW x Ghaziabad-Dadri EW x Faridabad-Dardri-Hapur RC/D	Full
15	Dasna	PGK EW X Ghaziabad-Hapur EW	Full
16	Dasna	PGK EW X Ghaziabad – Hapur RA	Partial
17	Murdnagar	PGK EW x Ghaziabad-Meerut EW	Full
18	Muradnagar	PGK EW x Ghaziabad-Meerut RA (NH-58)	Partial
19	Baghpat	PGK EW x Loni-Baghpat EW	Full
20	Panipiat	Delhi-Panipat EW x Panipat Bypass	Full
21	Panipat	Panipat-Rohtal EW x Panipat Byapss	Full
22	Rohtak	Rohtak Bypass x Rohtak Panipat EW	Full
23	Rohtak	Rohtak Bypass x Rohtak-Delhi EW	Full
24	Rohtak	Rohtak Bypass x Rohtak Jhajjar-Rewari EW	Full
25	Rewari	Rewari Bypass x Rewari – Rohtak EW	Full
26	Rewari	Rewari Bypass x Dharuhera-Taoru EW	Full
27	Rewari	Rewari Bypass x Dharuhera-Taoru EW	Full
28	Gurgaon	Delhi-Gurgaon-Dharuhera EW x Gurgaion –Faridabad EW	Full
29	Faridabad	Delhi-Faridabad-Palwal EW x Faridabad-Gurgaon EW	Full
30	Jewar	Yamuna EW x Palwal-Kheja EW	Full
31	Bulandshahr	Ganga EW x Khurja – Hapur-Meerut EW	Full
32	Hapur	Ghaziabad-Hapur EW x Khurja-Hapur-Meerut EW	Full
33	Meerut	Meerut Bypass x Meerut-Hapur EW	Full
34	Meerut	Meerut Bypass x Ghaziabad-Meerut EW	Full
35	Meerut	Meerut Bypass x Meerut – Baghpat EW	Full

Source: Study on Integrated Transportation Plan for NCR

14.2.1.11 Bypass System around All Major Urban Centers

It is important that intra-regional and inter-regional traffic is segregated from intra-urban traffic. Most of the master plans for regional centers have proposed some systems of bypass roads. However, in the context of higher envisaged growth of the regional urban centers, it is proposed that necessary provisions may be made in the master plans for new bypass systems around each of the urban centre planned and developed with appropriate interchanges recommended in the transport plan. These bypasses should be elevated as far as possible to avoid becoming urban arterial road in future.

14.2.1.12 Integrating and Interfacing Regional and Urban Road Network Systems

While the development of the regional roads would enable high capacity, high speed movement between urban nodes, it is important to ensure that the advantage is not lost when they move within the urban centre to reach their final destination.

It is proposed that each urban centre, as part of its road network master plan, identify an internal network system comprising radial and orbital roads to be developed to expressway standards and

Table 10.1: Functional Plan for Ground Water Recharge in National Capital Region

A: Rajasthan Sub- Region

Sl no	Geographic Location	Water Recharge Methods	Type of Recharge Structure	Nos of Recharging Structure	Unit Recharge capacity (in TCM)	Total Recharge (in TCM)	Unit Cost (Rs in Lakhs)	Total Cost (Rs in Lakhs)
1	Area Fringing Aravali Hills	Trench	Trench Backfilled with boulders and pebbles (length in KM)	75	500	37500	75	5625
	- Upper Slopes Segments							
2	Micro-Watershed	Watershed management interventions	Check Dams (CD)	100	30	3000	7.5	750
	- Stream Draining down the Aravali Hills		Gabion (G)	500	5	2500	2	1000
3	Abandoned Quarry	RRR of Quarries Channelizing runoff to them	Revival and channelization	50	300	15000	4	200
4	Village Ponds	Desilting of ponds with four vertical shaft driven up to water level	Ponds Desilting	250	100	25000	5	1250
			Vertical shafts	1000	10	10000	3	3000
5	Farm Lands	Dug well	Dug wells with filtration system	5,000	5	25000	0.2	1000
6	Institutions/ Institutional Plots/Schools and colleges	Trench cum Recharge shaft	Well Recharge/Shaft driven trenches	5000	10	50000	5	25000
7	Flood Plain Rivers (Sahibi)	Basin and Pit Method	Basin Recharge structure	30	300	9000	7.5	225
			River Recharge Pit	30	150	4500	10	300
	Total			12035		181500		38350

B: NCT Sub- Region

Sl no	Geographic Location	Water Recharge Methods	Type of Recharge Structure	Nos of Recharging Structure	Unit Recharge capacity (in TCM)	Total Recharge (in TCM)	Unit Cost (Rs in Lakhs)	Total Cost (Rs in Lakhs)
1	Aravali Ridge Area	Watershed method	Check Dams (CD)	50	30	1500	7.5	375
			Gabion (G)	200	5	1000	2	400
2	Village Ponds	Desilting of ponds with four vertical shaft driven up to water level	Ponds Desilting	500	100	50000	5	2500
			Vertical shafts	2000	10	20000	3	6000
3	Urban Area	Park Type	Park Type Recharge Structure	2000	50	100000	7.5	15000
		Urban Storm along Roads	Trenches with shafts	4000	10	40000	5	20000
4	Institutions/ Institutional Plots/Schools & colleges, Industries, Govt Buildings	Rain Water Harvesting and recharging	Well Recharge/Shaft driven trenches	3000	10	30000	5	15000
5	Flood Plain of Yamuna	Basin and Pit Method	Basin Recharge structure	100	300	30000	7.5	750
			River Recharge Pit	100	150	15000	10	1000
6	Abandoned quarries	RRR of Quarries Channelizing runoff to them	Revival and channelization	20	300	6000	4	80
	Total			11970		293500		61105

C: Haryana Sub- Region

Sl no	Geographic Location	Water Recharge Methods	Type of Recharge Structure	Nos of Recharging Structure	Unit Recharge capacity (in TCM)	Total Recharge (in TCM)	Unit Cost (Rs in Lakhs)	Total Cost (Rs in Lakhs)
1	Rural Area	Desilting of ponds with four vertical shaft driven up to water level	Ponds Desilting	1000	100	100000	5	5000
			Vertical shafts	4000	10	40000	3	12000
2	Institutions/ Institutional Plots/Schools & colleges, Industries, Govt Buildings	Rain Water Harvesting and recharging	Well Recharge/Shaft driven trenches	3000	10	30000	5	15000
3	Urban Area	Park Type	Park Type Recharge Structure	3000	50	150000	7.5	22500
4	Yamuna Flood Plain	Basin and Pit Method	Basin Recharge structure	150	300	45000	7.5	1125
			River recharge Pit	150	150	22500	10	1500
5	Abandoned quarries	RRR of Quarries Channelizing runoff to them	Revival and channelization	50	300	15000	4	200
6	Farmers Field	Dug well	Dug wells with filtration system	3,000	5	15000	0.2	600
	Total			14350		417500		57925

D: UP Sub- Region

Sl no	Geographic Location	Water Recharge Methods	Type of Recharge Structure	Nos of Recharging Structure	Unit Recharge capacity (in TCM)	Total Recharge (in TCM)	Unit Cost (Rs in Lakhs)	Total Cost (Rs in Lakhs)
1	Rural Area	Desilting of ponds with four vertical shaft driven up to water level	Ponds Desilting	500	100	50000	5	2500
			Vertical shafts	2000	10	20000	3	6000
2	Institutions/ Institutional Plots/Schools & colleges, Industries, Govt Buildings	Rain Water Harvesting and recharging	Well Recharge/Shaft driven trenches	1000	10	10000	5	5000
3	Urban Area	Park Type	Park Type Recharge Structure	1000	50	50000	7.5	7500
4	Ganga and Hindon Flood Plain	Basin and Pit Method	Basin Recharge structure	75	300	22500	7.5	562.5
			River Recharge Pit	75	150	11250	10	750
5	Farmers Field	Dug well	Dug wells with filtration system	2,000	5	10000	0.2	400
	Total			6650		173750		22712.5

राष्ट्रीय राजधानी क्षेत्र योजना बोर्ड
NATIONAL CAPITAL REGION PLANNING BOARD
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स्वच्छ भारत
एक कदम स्वच्छता की ओर

Speed Post

No.K-14011/02/2020-NCRPB

Dated: 18.03.2020

Sub: Minutes of the 68th Meeting of the Planning Committee of the NCR Planning Board held on 16.03.2020 at 11:30 AM at NCR Planning Board, New Delhi

The 68th Meeting of the Planning Committee of the NCR Planning Board under the chairpersonship of Member Secretary, NCR Planning Board was held on 16.03.2020 at 11.30 AM in the Conference Room of NCR Planning Board, Core-4B, 1st Floor, India Habitat Centre, Lodhi Road, New Delhi-110003.

2. The Minutes of the meeting are enclosed for information and necessary action.

18-3-20

(Satish Parasher)
Chief Regional Planner

To:

Members

1. Additional Secretary (D), Ministry of Housing & Urban Affairs, Govt. of India, Nirman Bhawan, New Delhi.
2. Principal Secretary, Department of Urban Development & Housing, Govt. of Rajasthan, Rajasthan Secretariat, Jaipur-302005, Rajasthan.
3. Principal Secretary, Town & Country Planning Department, Govt. of Haryana, Haryana Mini Secretariat, Sector -17, Chandigarh, Haryana-160017.
4. Principal Secretary, Housing &Urban Planning Department, Govt. of Uttar Pradesh, 3rd Floor, Bapu Bhawan, Uttar Pradesh Secretariat, Lucknow-226001, Uttar Pradesh.
5. Vice-Chairman, Delhi Development Authority, Vikas Sadan, New Delhi-110023.
6. Director General, Town & Country Planning Department, Government of Haryana, SCO 71-75, Sec.17C, Chandigarh-160017.
7. Principal Secretary (UD), Govt. of NCT-Delhi, 9TH & 10TH Level, Delhi Secretariat, I.P. Estate, New Delhi-110002.
8. Chief Planner, Town & Country Planning Organisation, Govt. of India, E-Block, Vikas Bhawan, I.P. Estate, New Delhi-110002.

P.T.O

9. Chief Town & Country Planner, Uttar Pradesh, Town & Country Planning Department, Govt. of Uttar Pradesh, 7 Bandaria Bagh, Lucknow-226001, Uttar Pradesh.
10. Chief Town Planner (NCR), Town & Country Planning Department, Govt. of Rajasthan, Nagar Niyojan Bhawan, Jawaharlal Nehru Marg, Jaipur-302004, Rajasthan.

Co-opted Members

11. Joint Secretary (UT), Ministry of Housing & Urban Affairs, Govt. of India, Nirman Bhawan, New Delhi.
12. Joint Secretary (IA), Deptt. of Environment, Ministry of Environment, Forest & Climate Change, Govt. of India, Indira Paryavaran Bhavan, Jor Bagh Road, New Delhi-110003.
13. Senior Advisor (HUD), NITI Aayog, Sansad Marg, New Delhi-110001.
14. Chairman & Managing Director, Housing & Urban Development Corporation, HUDCO House, Lodhi Road, New Delhi-110003.

CMA

1. Secretary, Housing, Govt. of Uttarakhand, 4, Subash Road, **Dehradun**-248001, Uttarakhand
2. Chief Executive Officer, NCR Special Area Development Authority (Counter Magnet), Sheetla Sahai Administration Bhawan, Sojna Tighra, **Gwalior**-474001 (M.P.)
3. The Chief Administrator, Patiala Urban Planning & Development Authority, PUDA Complex, Urban Estate, Phase-II, **Patiala**-147002.

Copy to:

1. Consultant Planning, NCRPB
2. All officers from Planning Wing
3. FAO, NCRPB
4. PS to MS, NCRPB
5. PA to Director (A&F)

MINUTES OF THE MEETING

68TH MEETING OF THE PLANNING COMMITTEE HELD ON 16.03.2020 AT 11.30 A.M. IN THE OFFICE OF N C R PLANNING BOARD, NEW DELHI.

1. Chairperson welcomed the members and participants to the Planning Committee meeting and after a brief round of introduction, requested Sh. Satish Parasher, Chief Regional Planner (CRP), NCRPB to initiate the discussion. After a brief background to the meeting from CRP, NCRPB , Sh. Abhijeet Samanta, Deputy Director (Tech), NCRPB gave a short presentation on the various agenda items of the meeting. Agenda wise brief of discussions on the agenda items, along with the decisions taken are on the same, are as presented below:

List of participants is at **Annexure-I**.

AGENDA ITEM NO.1: CONFIRMATION OF THE MINUTES OF THE 67th MEETING OF THE PLANNING COMMITTEE

Planning Committee noted that no comments have been received on the Minutes of its 67th meeting held on 15.07.2019.

Minutes of the 67th Meeting of the Planning Committee were confirmed.

AGENDA ITEM NO. 2: ACTION TAKEN ON THE DECISIONS OF THE 67th MEETING OF THE PLANNING COMMITTEE

2. The Committee noted the information on action taken on decisions on agenda items 2 (sub agenda item 3.2 & 10), 3, 8, 9, 11, 18, 19 and 20 of the 67th Planning Committee Minutes.
3. It was informed that most of the balance agenda items discussed in the last meeting were being dealt as separate agenda item.
4. During deliberations on the 'Operational effectiveness of NCR Planning & Monitoring Cells in NCR participating States, it emerged that despite repeated requests to States, the vacancies in all the four NCR Planning and Monitoring Cells were still to be filled up.
   a) Special Secretary, UD, GNCT of Delhi while conveying its issues regarding staff and space for Cell, assured that necessary action regarding filling up of the vacancies in NCR Cell of Delhi by March 2020. It was also suggested that matter could be raised in the meeting with Chief Secretary, Delhi as well, to expedite filling up the posts.
   b) Director, T&CP, Haryana, also assured that the action for 15 vacant posts of NCR Cell of Haryana will be taken up by next month.

c) Additional Commissioner, NCR Cell, Uttar Pradesh, informed that the action for its 15 vacant posts of its NCR Cell had been taken up with the State Government and possibility of filling the posts through NCRPB was also being explored as an alternative.

d) With respect to NCR Cell Rajasthan, CTP, Rajasthan, submitted that as few posts are related to promotions in Town Planning Department, Rajasthan, and action was to be taken by the State. State Government has already been requested for the same.

It was clarified that NCR Planning and Monitoring Cells have been established under administrative control of respective State Governments to carry out duties and functions assigned by NCRPB, and therefore, the pay & allowances and recurring office expenditures are being reimbursed by NCRPB. These posts are not under the regular promotion structure of the State Governments and cannot be kept vacant due to delay in promotions in State Governments. The Cells have to act as a bridge between NCRPB and respective State Governments. It was reiterated that the NCR Cells need to get the vacant posts, filled at the earliest as per decisions of the 67th Planning Committee.

(Action: NCR Participating States)

5. On the aspect of Delineation and Ground Truthing of Natural Conservation Zone (NCZ) and Notices issued U/s 29(2) OF NCRPB ACT, 1985 regarding NCZ, representatives from the State informed their status as follows:

a) Director, T&CP, Haryana reiterated that their Report on NCZ is under submission to the State Govt. and is expected to be submitted to NCRPB and to the Committee chaired by Secretary, MoHUA, within 10 days.

b) With respect to NCT of Delhi it was noted that the matter was being coordinated by UD, Department, GNCTD with other Departments in Delhi. Special Secretary, UD, GNCTD informed that the Report was sent to DDA, however, DDA has sent it back to UD Department stating that DDA has done its part and for the other areas, UD Department is to get the work done from the concerned Departments. He further informed that a meeting has been scheduled for 18.03.20 under the Chairmanship of Chief Secretary Delhi, on this matter.

c) CTP, NCR Cell, Rajasthan stated that the state was taking up the matter on high priority and Principal Secretary, UDH had also directed DC, Alwar to expedite the matter. She added that the matter was being followed up but was unable to give a clear timeline by which the works were expected to be completed.

(Action: Govt. of Haryana, Rajasthan and GNCT of Delhi)

6. The Committee was apprised with the decision of the 38th Board meeting with regard to the matter on Population density of Master plans/ Development plans & Density norms of RP-2021 and notices issued U/s 29(2) of NCRPB Act, 1985.

After deliberations, it was observed that appropriate replies were still awaited from Govts. of Rajasthan, Uttar Pradesh and Haryana, and State representatives were again requested to expedite the submission focusing on target populations for year 2021 in the respective Master Plans and steps/initiatives undertaken by States to meet the suggestive densities of RP 2021 for the towns. Representatives from Uttar Pradesh and Haryana assured to send the replies in a week.

(Action: NCR participating States of Rajasthan, Uttar Pradesh and Haryana)

7. With respect to Counter Magnet Areas, the Committee was informed about the decision of the 38th Board meeting and concerned participants provides updates on the status of action taken by them. It emerged after deliberations that necessary Plan of Action was still to be submitted by Haryana (for Ambala & Hisar), Uttar Pradesh (for Bareilly, Kanpur corridor), Dehradun, Gwalior and Patiala. Representatives from Patiala informed that they were in process of Notifying the Patiala – Rajpura Corridor area as CMA as was approved in the 38th Board meeting, and the same was expected within this month. The Committee expressed its extreme displeasure on the delays in the process of Notification, by Patiala and cautioned that the matter cannot be kept pending for so long despite Board approvals and Board may be constrained to reconsider its approval, if it is delayed any further.

After deliberations, the Committee directed that all CMAs need to submit the Plan of Actions within a month so that NCRPB has on record, the activities planned to be undertaken in CMAs for which financial assistance can also be provided by NCRPB if required.

Further, Patiala to immediately take action regarding notification of Patiala- Rajpura Corridor as CMA of NCR, as already approved in 38th Board meeting of NCRPB.

(Action: Go Haryana, Uttar Pradesh, Madhya Pradesh, Punjab & Uttarakahnd)

8. With respect to directions of the Hon'ble High Court of Allahabad in the matter of Raghuraj Singh vs. State of UP & 10 Ors. (Civil misc. PIL. no.-29004 of 2016), the ***Committee suggested that it may be checked again if the case has been concluded and matter reserved for judgment /order, as was being suggested by representatives from Uttar Pradesh.***

9. While appraising the Committee regarding the status of Reciprocal Common Transport Agreements, it was informed that RCTA for Contract Carriage is currently valid till April 2020 (after extensions), while the RCTA(Stage Carriage) was also ending in April 2020.
Accordingly, a Combined Agreement was discussed in last CoTS meeting held on 06.03.20 wherein all participating States had informally agreed. Draft Combined Agreement was circulated to the States on 11.03.20 for necessary comments.

After deliberations, Committee suggested that NCR Planning & Monitoring Cells who have to act as catalysts, may follow-up the matter regarding Combined Transport Agreements (Stage Carriage & Contract Carriage) with the respective Transport Departments and ensure necessary submissions by end of March, 2020. Further, representatives of Delhi and Haryana were also requested to follow up on the matter of making public buses tax-free to encourage public mobility modes.

(Action: NCR Participating States)

10. Discussing the action taken on the decision in last meeting regarding, constitution of a Committee with Secretary / Commissioners of Tourism Department of NCR States and representative of Ministry of Tourism, ASI (Centre & State both), etc. to discuss and resolve issues related to tourism sector in NCR, on the pattern of Committee of Transport Secretaries/Commissioners, it was informed that the said committee was constitute by NCRPB vide its order dated 08.08.19. NCRPB vide letter dtd. 08.08.19 had requested for nominations for the same. Subsequently reminder was sent on 03.10.2019. Nomination from Mo Tourism, ASI, Dept. of Archaeology & Museum, Haryana & ASI, Agra Circle, U.P. were received.

As nominations from Govt. of Haryana, U.P, Delhi & Rajasthan and ASI Circle Rajasthan were still awaited, representatives from the states were requested to ensure and expedite the same at the earliest, and NCR Cells to follow up on the matter.

It was decided that similar action will be taken with respect to Health, Sanitation and water sector as well, after the Committee on Tourism initiates its actions.

(Action: NCR Participating States & NCRPB)

AGENDA ITEM 3: PREPARATION OF REGIONAL PLAN 2041 FOR NCR

11. Participants were briefed about the action taken w.r.t. work regarding RP-2041 preparation, the same being placed in 38th Board meeting (13.09.19) and decisions of the Board regarding

its considering the Final Review Reports of Study Groups w.r.t. RP-2021 and recommendations of 'Report on Population Projections for NCR-2041' and approving them to be used as one of inputs for RP-2041.

12. Committee was also apprised about the Board decision that Regional Plan need not have satellite imagery based maps with tentative details and that it may have schematic maps presenting the broad policies and proposals. Detailing of the maps at the scale of 1:10,000 and below along with ground truthing and detailed planning may be left to the States through their Sub Regional Plans and Master Plans.

    Additional Chief Planner, TCPO, Govt. of India, mentioned that any schematic map would have certain scale. After discussions, Committee decided that Maps of RP-2041 can be in form of 'Schematic Maps', wherein it may be clarified that it is 'not to scale'.

AGENDA ITEM 3.1: STAKEHOLDER CONCLAVE & WORKSHOPS HELD FOR PREPARATION OF RP- 2041

13. Committee was also apprised about the series of discussions & dialogues initiated by NCRPB, which included the Inaugural Conclave on NCR-2041 – Planning for Tomorrow's Greatest Capital Region" chaired by Secretary, MoHUA organized on 11.11.19 at Vigyan Bhavan and the 17 Stakeholder Workshops covering probable sectors & topics for RP-2041 formulation that were organised from 03.12.19 to 24.01.20 with active participation from all NCR States, concerned Ministries/Departments of Govt. of India, Knowledge Institutions, Industry & Housing Associations, Experts, Field Officers from Districts, and other stakeholders.

14. On the aspect of planned State level Conclaves, the Committee, after deliberations, decided that while States are welcome to offer their further suggestions/comments for RP 2041, the sub-region wise conclaves may not be required, owing to, time constraints, exhaustive comments of states and various stakeholders being captured extensively during the workshops, with a dedicated session for NCR States and the evolving issue of Corona pandemic, which warrants necessary precautions for all.

AGENDA ITEM 3.2: CORE ADVISORY COMMITTEE FOR RP 2041

15. The Committee was informed that with a view to coordinate and monitor preparation of Regional Plan 2041 for National Capital Region, a Core Advisory Committee for Regional Plan 2041, was constituted. Two meetings dated 29.01.2020 and 25.02.2020 were already held for the same. It was indicated that as RP-2041 seeks to address aspects of Quality of life, Ease of living & doing business etc. and overall achievement of harmonious development of NCR,

efforts were being made to explore if the Regional Plan 2041 could be an Outcome Based Plan and accordingly a different chaptarization plan was under discussion. Comments were requested to CAC members on the suggested chapterisation.

After deliberations, the Committee appreciated the efforts and requested NCR participating states to expedite the submission of necessary comments and suggested the respective NCR Cells to follow-up.

(Action: NCR Participating States & NCRPB)

AGENDA ITEM 3.3: STATUS OF DATA COLLECTION FOR RP 2041 FOR NCR

16. It was informed that sector wise and district wise Data was requested from NCR States, on specially designed formats, which were circulated in May, 2019. Sub-region wise status on data collection indicated that data gaps remained for all NCR Participating states, for various districts despite repeated reminders. It was also updated that a lot of data has been received from Uttar Pradesh, recently.

After deliberations, NCR participating states were requested to expedite the submission of pending data which need to be duly signed and owned by them. Haryana, Delhi and Rajasthan assured to send all pending data within a week.

(Action: NCR Participating States/ Respective NCR Planning & Monitoring Cells)

AGENDA ITEM NO. 4: STATUS OF SUB-REGIONAL PLAN-2021 FOR NCR States

AGENDA ITEM NO. 4.1: HARYANA SUB REGION - NEWLY ADDED AREAS

17. Committee was informed that the Modified draft Sub Regional Plan-2021 for extended area of Haryana Sub-Region along with action report on observation was submitted by the GoHaryana in September 2019 and was thereafter examined in NCRPB & placed before Board in its 38th meet. The Board considered the submission as per Section 19(2) of NCRPB Act, 1985 subject to detailed NCZ delineation by Haryana & compliance of observations with respect of Karnal and Kaithal.

18. Director, T&CP, Haryana informed that while the action on observation with respect of Karnal and Kaithal had been taken, the publication of approved SRP for additional districts (without NCZ) is delayed due to some issue. He indicated that Haryana may send a proposal regarding SRP for consideration in the Board meeting. Further, necessary action regarding NCZ shall be undertaken after the delineation report is accepted.

Committee directed that action on the SRP be completed expeditiously and Govt. of Haryana may like to request for revised extension of time for reimbursement of SRP preparation expenses as it was approved only till September 2019 for Haryana.

(Action: Govt. Of Haryana)

AGENDA ITEM NO. 4.2: SUB REGIONAL PLAN FOR DELHI 2021

19. Additional Commissioner, DDA informed that the SRP 2021 had been prepared and submitted to GNCT of Delhi on 12.03.2020.

Committee requested GNCT of Delhi to expeditiously examine and process the submission, and submit the same to NCRPB after its approval. GNCTD representative assured that the matter will be taken up in the Chief Secretary's meeting on 18.03.2020 and will be sent early, to NCRPB.

(Action: GNCT of Delhi)

AGENDA ITEM NO. 4.3: SUB REGIONAL PLAN 2021 FOR RAJASTHAN SUB REGION NEWLY ADDED AREAS

20. CTP, NCR Cell, Rajasthan, informed that the SRP 2021 had been notified on18.02.20 but while finalizing the Draft SRP, an Annexure had been added due to minor factual errors and important suggestions received in meetings of CE&RC and various stakeholder/ organizations of Bharatpur district.

Committee suggested that incase there are any modification in SRP post Board approval, the same will have to be taken up to the Board again. Govt. of Rajasthan may like to send a reasoned proposal and may also request for revised extension of time for reimbursement of SRP preparation expenses as it was approved only till August 2019 for Rajasthan.

(Action: Govt. of Rajasthan)

AGENDA ITEM NO. 4.4: SUB REGIONAL PLAN 2021 FOR UTTAR PRADESH SUBREGION- NEWLY ADDED AREAS

21. CCP, NCR Cell, Uttar Pradesh, informed that the Draft report was expected from Consultant, within a week and same shall be thereafter forwarded to NCRPB after examination.

Committee suggested that Govt. of UP may also request for extension of time for reimbursement of SRP preparation expenses as its Report was getting delayed.

(Action: Govt. of Uttar Pradesh)

AGENDA ITEM NO. 5: STATUS OF DELINEATION OF NATIONAL CAPITAL REGION

22. The Committee was informed that the Report on NCR Delineation, was duly placed in 38th Board for consideration, wherein action taken by Committee constituted for Delineation of NCR was appreciated by Board. As Chairman, NCRPB had suggested that a workshop be organised inviting experts & stakeholders to discuss Options suggested in report, a Conference was organised on 17.01.20 in Vigyan Bhawan, wherein experts & Stakeholders were invited.

After Deliberations, Committee noted that comments of Govt. of Rajasthan & NCR Cell, UP were received. Haryana, Delhi and Uttar Pradesh assured to send their Comments on the Report by 25th March, 2020.

(Action: Govt. of Haryana, UP and NCT of Delhi)

AGENDA ITEM NO. 6: STATUS OF IMPLEMENTATION OF PROJECTS ENVISAGED IN REGIONAL PLAN-2021 & FUNCTIONAL PLANS

23. During discussions regarding status of implementation of project envisaged in Regional Plan and Functional Plans, it was agreed that States need to clearly bring out the status of implementation of projects that emerged from various plans already prepared for NCR. States may review the list already circulated, to examine and indicate the items for which action have already been taken; items for which they plan to take up implementation as well as identify items which may not be relevant anymore owing to changing scenarios. The proposals being submitted to NCRPB for financial assistance should also focus on the projects/ schemes proposed under the prepared plans

After Deliberations, Committee directed that NCR participating States may submit their comments along with ballpark cost estimates for proposals they intend to implement, as this shall help NCRPB have a tentative pipeline of projects for which funds could be arranged. The submissions may be made by 31st March 2020.

(Action: NCR Participating States)

The meeting ended with a vote of thanks to the Chair.

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ANNEXURE-I

List of the participants of the 68th Meeting of the Planning Committee held on 16.03.20

Chairperson	
1	Smt. Archana Agrawal, Member Secretary, NCR Planning Board
Member	
2.	Shri Kuldip Pakad, Spl. Secretary, Govt. of NCT Delhi- *representing Principal Secretary, UD, GNCT Delhi*
3.	Shri Makrand Pandurang, Director, Town & Country Planning Deptt., Govt. of Haryana, also *representing Principal Secretary, Town & Country Planning Deptt., Govt. of Haryana*
4.	Shri Rajesh Prakash, Addl. Commissioner, NCR Cell, UP, Ghaziabad- *representing Principal Secretary, Housing and Urban Planning Deptt., Govt. of UP*
5.	Smt. Indira Choudhary, Chief Town Planner (NCR), Govt. of Rajasthan also *representing Principal Secretary, Department of Urban Development & Housing, Govt. of Rajasthan*
6.	Dr. K. Srirangan, Addl. Commissioner (Plg.) III, Delhi Development Authority- *representing Vice Chairman, Delhi Development Authority*
7.	Shri S. Surendra, Addl. Chief Planner, Town & Country Planning Organisation
8.	Shri S C Gaur, Chief Coordinator Planner, NCR Planning & Monitoring Cell, UP, Ghaziabad- *representing CT&CP, Town & Country Planning Deptt., Govt. of UP*
Co-opted Member	
9.	Shri Satish Parasher, Chief Regional Planner, NCRPB
10.	Dr. Manika Negi, GM (P), HUDCO
Counter Magnet Areas	
11.	Ms. Seema Kaushal, Town & Country Planning Deptt. Patiala
12.	Shri Nawal Singh Rajput, Planning Officer, SADA Gwalior, Madhya Pradesh
Other Participants	
13.	Shri Ajay Kumar, Asstt. Director, UD Deptt. GNCTD

14.	Shri Mahendra Meena, Assistant Town Planner, Town Planning Deptt., Govt. of Rajasthan
NCRPB	
14.	Shri Jagdish Parwani, Director (A&F)
15.	Shri J.N. Barman, Consultant (Ex- Director (Tech))
16.	Shri Abhijeet Samanta, Deputy Director (Tech.)
17.	Shri Nabil Jafri, Deputy Director (T-GIS)
18.	Shri Ramesh Dev, Deputy Director (URP)
19.	Smt. Nilima Majhi, Deputy Director (Tech.)
20.	Shri Naresh Kumar, Assistant Director Tech)