

FINAL REPORT



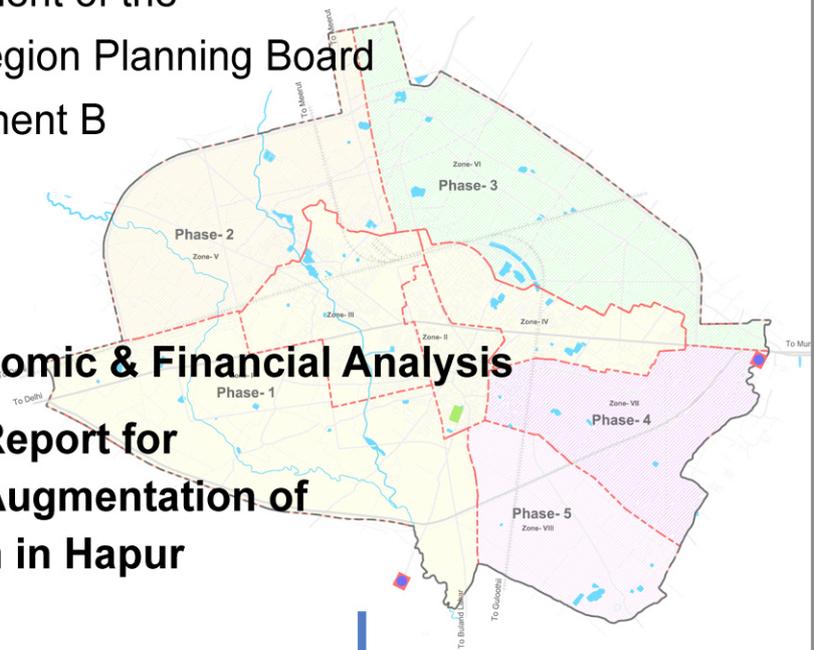
ADB

Asian Development Bank
National Capital Region Planning Board



Capacity Development of the
National Capital Region Planning Board
Package 2 Component B
TA No. 7055-IND

Volume II-E: Economic & Financial Analysis
**Detailed Project Report for
Rehabilitation & Augmentation of
Sewerage System in Hapur**



WilburSmith
ASSOCIATES

July 2010

NCR Planning Board
Asian Development Bank

Capacity Development of the National Capital Region Planning Board (NCRPB) – Component B (TA No. 7055-IND)

FINAL REPORT

Volume II-E: Detailed Project Report for Augmentation &
Rehabilitation of Sewerage System in Hapur –
Economic & Financial Analysis

July 2010



Abbreviations

ADB	:	Asian Development Bank
BOQ	:	Bill of Quantity
CAA	:	Constitutional Amendment Act
CAGR	:	Compound Annual Growth Rate
CDP	:	city development plan
CF	:	Conversion Factor
CNCR	:	Central National Capital Region
CPHEEO	:	Central Public Health and Environmental Engineering Organization
DSC	:	Design Supervision Consultant
EA,	:	Executing Agency
EIRR	:	economic internal rate of return
ENPV	:	economic net present value
EOCC	:	Economic Opportunity Cost of Capital
FY	:	Financial Year
FYP	:	Five Year Plan
GoI	:	Government of India
GoUP	:	Government of Uttar Pradesh
HHs	:	Households
HN	:	Hapur Nagar Palika
HPDA	:	Hapur Palkhua Development Authority
HUDCO	:	Housing and Urban Development Corporation
IA	:	Implementing Agency Agency
IEC	:	Information, Education & Communication activities
JNNURM	:	Jawaharlal Nehru Urban Renewal Mission
LA	:	Land Acquisition
LPCD	:	Litres Per Capita per Day
MDG	:	Millennium Development Goals
NCR	:	National Capital Region
NCRPB,	:	National Capital Region Planning Board
NCT	:	National Capital Territory
NH	:	National Highway
O&M	:	Operation and Maintenance
OR	:	operating ratio
PDA	:	Patiala Urban Planning & Development Authority
PIU	:	Project Implementation Unit
Rs.	:	Indian Rupee
SCF	:	Standard Conversion Factor
SFC	:	State Finance Commission
SWM	:	Solid Waste Management
TPI	:	Third Party Inspection
UGD	:	Under Ground Drainage
ULB	:	urban local bodies
UP	:	Uttar Pradesh

Contents

1. ECONOMIC ANALYSIS.....	1
A. Review of macroeconomic context.....	1
1. City / Town Profile.....	1
2. Economic Policy.....	2
B. Review of Sector Context.....	3
1. Present Status.....	3
C. Justification for Government Intervention to Sector.....	4
D. Demand Analysis.....	4
1. Water Supply situation in Hapur.....	5
2. Effective Demand for Water Supply: and sewerage.....	6
E. Identification of project rationale.....	7
F. Identification of Project Alternatives.....	7
G. Identification and Comparison of Project Costs and Benefits.....	8
1. Economic Cost:.....	8
2. Project Benefits:.....	8
H. Economic Feasibility Analysis.....	9
1. Analysis Period.....	9
2. Economic Feasibility criteria:.....	9
3. Economic Opportunity Cost of Capital (EOCC).....	10
I. Sensitivity Analysis.....	10
J. Conclusion.....	11
2. FINANCIAL MANAGEMENT AND ANALYSIS OF PROJECTS.....	12
A. Introduction.....	12
B. Financial Management Assessment.....	13
1. Policy Context.....	13
2. National Capital Region Planning Board (NCRPB).....	17
3. Hapur Nagar Palika (HNP).....	18
4. Private Sector Participation.....	19
5. User Charges.....	20
6. Financing Plan.....	20
7. Operation and Maintenance:.....	20
8. Cost Recovery.....	21
9. Disbursement Procedures and Fund-Flow Mechanisms.....	21
10. Accounting Policy.....	21
11. Financial Regulations.....	22
C. Financial Analysis.....	23
1. Present Financial Condition.....	23
2. Cost Recovery and Profitability.....	28
3. User Charges.....	28
4. Financial Improvement Action Plan.....	28
5. Affordability Analysis.....	29
6. Cost benefit analysis.....	30
7. Financial Analysis of Subprojects.....	31
8. Conclusion.....	32

Tables

Table 1-1: Details of Design Coverage	4
Table 1-2: Per Capita Consumption Forecast – Hapur water Supply.....	5
Table 1-3: Consumer Projection – Hapur water Supply	5
Table 1-4: Per Capita Sewage Generation Forecast – Hapur Town	7
Table 1-5: Sewerage Coverage Projection – Hapur Town.....	7
Table 1-6: Economic Cost-Benefit Analysis for Sewerage Component, Hapur Town.....	10
Table 1-7: Sensitivity Analysis for Sewerage Component (EIRR).....	11
Table 2-1: SFC Recommendations on Tax Sharing – Uttar Pradesh	14
Table 2-2: Tenth Plan Allocation for Urban Development in Uttar Pradesh	16
Table 2-3: Major head summary for the Budget Year 2009-2010 for Urban Development, Uttar Pradesh (Rs. Thousands).....	16
Table 2-4: Institutions and Their Functions	18
Table 2-5: NCRPB – Summary of Income & Expenditure Account	24
Table 2-6: Hapur Nagar Palika (HNP) Revenue Expenditure Account	25
Table 2-7: Details of Per capita Revenue Income and Expenditure - Hapur Nagar Palika.....	27
Table 2-8: Details of Estimated sewer User Charges Requirement- Hapur	29
Table 2-9: Financial Improvement Action Plan	30
Table 2-10: Weighted Average Cost of Capital (%) - Uttar Pradesh & Haryana	31
Table 2-11: Project Capital Cost - Rs Million	32
Table 2-12: Financial viability sensitivity analysis results – sewer Subproject, Hapur	32

Appendices

Appendix 1-1	Economic Cost
Appendix 1-2	Valuing Economic Benefits – Sewerage Project
Appendix 1-3	Economic Cost-Benefit Analysis of Sewerage Component - Hapur Town(Base Case)
Appendix 2-1	The Constitution (Seventy-Fourth Amendment) Act, 1992
Appendix 2-2	Impact of 73rd & 74th Amendments on ULBs in Uttar Pradesh
Appendix 2-3	NCRPB Income & Expenditure Account
Appendix 2-4	Municipal Financial Performance – Hapur Nagarpalika
Appendix 2-5	Financial Feasibility Analysis - Sewerage Component, Hapur Town

1. ECONOMIC ANALYSIS

A. Review of macroeconomic context.

1. City / Town Profile

1. Hapur Municipality is an important town of NCR and Teshil headquarters, situated in Ghaziabad district of UP State and situated at 28° 44' N latitude and 77° 47' E Longitude. Hapur is located at about 54 Km east of Delhi, 32 Km from Meerut, 39 Km from Bulandsahar and 432 Km from the State Capital, Lucknow. It is well connected with important cities of country through NH 24 (Delhi-Lucknow-Moradabad Road) and NH 18 (Meerut-Bulandsahar Road) and the main Delhi- Lucknow-Howra Rail Line. Typical humid subtropical climate of north India prevails in Hapur, with high variation between summer and winter temperatures and precipitation and the average annual rainfall is 732 mm
2. Hapur Municipal Town covers 14 sq.km and its Master Plan (2005) area is 55 sq.km with a population of 211,983, as per census 2001. Over the decades, the population growth for Hapur Town was found increasing from 12.2% (1941-51) to 44.9% (1991-2001). The projected population for year 2041 is 628,302.
3. *Major Economic Activity.* The town is located in the catchment area of the Ganges River, (30 km east of the town) and its tributary River Kali and thus town has a fertile land surrounding. Thus the main occupation of inhabitants has become agriculture and agro based trade and business. Hapur is an important commercial centre for Grains, Gur, and Potato etc. Six big silos of grains owned by the Ministry of Food and Agriculture of the Government of India, exist in the town.
4. Small to medium industries manufacturing sewing machines, motor spare parts, all type of agricultural machinery & equipments, oil expellers etc. have already developed in the town. Due to enormous growth of potatoes in the area around, there are many cold storages in the town.
5. *Its importance in the NCR.* It is an important town in NCR area, which is being developed to decongest National Capital Delhi by improving infrastructure in NCR towns with the aim of shifting some of the offices and establishments of Government of India. With all the required facilities and proximity to Delhi and Ghaziabad, Hapur has become one of the fast developing town in NCR.
6. Hapur Palkhua Development Authority (HPDA) was created in 1998 to implement Master Plan and area under Viniyamit Area. The Master Plan for Hapur for period 1979-2001 for target population of 200,000 was approved by GoUP in 1983. The regional plan NCR 2001 proposed population of Hapur in year 2001 as 450,000 and as such the Master Plan 2005 was modified considering population in the year 2005 of 450,000. Now the master

plan for next 20 years is under preparation. The master plan proposes land use plan for the city with the intention of achieving balanced distribution of various land uses.

2. *Economic Policy*

7. *Implication on Town's growth.* The Millennium Development Goals (MDGs) (Goal No.7) enjoin upon the signatory nations requiring them "to halving the proportion of people without sustainable access to safe drinking water and basic sanitation by 2015" and 100 percent access by 2025. This implies extending coverage to households which are presently without improved sanitation, and providing proper sanitation facilities in public places to make cities open-defecation free
8. *National Urban Sanitation Policy.* Based on the recommendations of National Urban Sanitation Task Force in 2005, a National Urban Sanitation Policy has been approved by the Government of India in October 2008. The vision of the policy is that all Indian cities and towns become totally sanitized, healthy and livable and ensure and sustain good public health and environmental outcomes for all their citizens with a special focus on hygienic and affordable sanitation facilities for the urban poor and women with the following goals:
 - Awareness Generation and Behavioral Change:
 - Open Defecation Free Cities:
 - Integrated City Wide Sanitation.
 - Sanitary and Safe Disposal: the environment
 - Proper Operation and Maintenance of all Sanitary Installations:
9. Eleventh Five Year Plan of GoI with the support of states including UP have identified action program to achieve 100 per cent population coverage for sewerage, sewage treatment and low cost sanitation facilities in urban areas.
10. The NCR Regional Plan 2021 defined Central NCR (CNCR) and area of NCR except CNCR i.e. outside CNCR and proposed 7 metro centres and 11 regional centres. Hapur-Pilkhua has been proposed as a regional centre outside CNCR and population estimated is as follows: 300,000 in 2011 and 450,000 (2021)
11. HPDA is developing residential sectors (Preeti Vihar Phases I & II, Anand Vihar etc) which will attract more related activities and will fasten the town growth.
12. Landuse use pattern for residential purpose had increased to 56% in 2005 Master Plan from 50% from 1994 Plan. This will increase the residential density in the town in coming years.

13. Four laning of the NH24 connecting Delhi and Lucknow along with Hapur Bypass had attracted major educational, institutional, tourism and industrial activities. These together will have more pressure on Hapur Town and subsequently for urban civic infrastructure including water supply and sewer.

B. Review of Sector Context.

1. Present Status

14. Despite the increasing importance of the town in the economic growth of the national capital region, the urban infrastructure is not adequate.
 - Sewerage system in city developed by UP Jal Nigam during year 1972-1974 in about 30 percent area of the old town (Eleven of the 27 wards and another three wards partially) is almost defunct.
 - Most of the sewer lines are choked and are overflowing and discharging into open drains. Almost all of the open drains in the congested city area are carrying sewage. The sewage reaching sewage pumping station is hardly 5-10 percent of design flow; which confirms that the existing sewerage system is almost defunct.
 - Sewage Pumping Station was developed near Awas Vikas Colony (Ward 15), along Circular Road. The sewage flow is so less that at present pumping is done for 2 hours a day and that too with one pump operating against installation of four pumps. The Mechanical and electrical equipments are in use for almost 30 years, and needs immediate replacement.
 - The sewerage system in Hapur was developed without a sewage treatment facility. Sewage pumped from SPS is discharged directly into natural stream and used for irrigation in the surrounding agricultural fields without any treatment. The past demand for raw sewage from farmers, has greatly been reduced but due to urbanization, the farming activity, and at present there is no demand, and untreated sewage is disposed off directly.
 - Though Hapur with a Development Authority (HPDA) has more potential like other major towns in UP State like Ghaziabad, NOIDA but has been deprived of major urban infrastructure schemes like sewerage, from the state, as it is not a district head quarters.
15. Therefore, the inadequacy in provision of sewerage is likely to be the major constraint to the potential economic growth in the National Capital Region. Reduction of disparities through targeting less developed areas was a core element of the Government of India's 10th Five Year Plan (2002-2007). The objective of the 11th Five Year Plan is 'faster and more inclusive growth,' citing the issues on inequitable share of growth, which was seen as increasing disparities among states, and regions within states, between urban and rural areas, and between various sections of the community. In order to realize the Five Year Plans, investment into sewerage sector in Hapur town is necessary.

C. Justification for Government Intervention to Sector.

16. The basic urban services include water supply, sewerage, drainage and solid waste management (SWM). All of them are the mandatory functions of urban local bodies (ULB) under the 74th Constitutional Amendment Act (CAA). Unfortunately, immediate transfer of functions from the states to ULB is highly impractical due to the inadequate technical and financial strength of the ULB. Consequently, many of the state governments take initiative on capital investment and operation of water supply and sewerage while delegating SWM to ULB, which require less technical and financial strength than water supply and sewerage. In some states, the state governments take initiative on capital investment on water supply and sewerage projects and on completion of the construction they will be handed over to the ULBs for operation and maintenance, similar to UP. In UP, generally UP Jal Nigam will develop the sewerage project and will hand over to ULB for O&M and this will be applicable to Hapur sewerage scheme also.
17. In addition to being a constitutional obligation, provision of these services has economic rationales for government intervention for the following reasons: (i) many of the services (especially wastewater treatment, drainage and solid waste management) are natural monopolies unsuited to unregulated private investment, and hence justify government intervention at least in regulation; (ii) environmental sanitation improvement (a) protects a public good such as a hygienic environment, and (b) prevents a negative situation arising from pollution; and (iii) poverty alleviation programs minimize the inefficiency in economic growth in the urban areas. The economic rationale for government intervention is therefore sound.

D. Demand Analysis.

18. Proposed sewerage DPR in Hapur is planned for four zones covering 2180 Ha area and 0.41 million projected population (2041) as Phase I of the Mater Plan requirements as shown in **Table 1.1**. Design parameters considered to serve the coverage are listed below.

Table 1-1: Details of Design Coverage

Zone No	Zone Details	Area in Hectare	Projected Population
I	9 sectors being developed by HPDA	1142.05	15,835
II	The area covers the existing sewerage area of Hapur.	181.85	83,730
III	Uncovered area of Municipality to drain to the western part of STP	493.33	152,547
IV	Uncovered area of Municipality to drain to the southern part of STP	362.78	58,925
Total		2180.01	411,037

- Design period of 30 years has been proposed for the DPR with base year as 2011 and design horizon year as 2041
- The rate of water supply has been adopted as per the norms of CPHEEO manual as 135 lpcd at consumer end throughout the whole design period. 80 percent of the water supply has been considered as sewage flow into the sewerage system which works out

108 LPCD. In case of bulk consumers rate of water supply has been taken as per CPHEEO manual with a return factor of 80 percent or as per actual measured quantity of effluent.

- At places sewage-pumping station has been proposed to lift the sewage to nearby manhole or to the STP, from where it will flow by gravity.
- Considering the normal availability of electricity in the town 16 hours per day pumping has been considered.
- The STP will be modular such that planning will be for 2041 capacity but initially one module will be developed for year 2026 requirement or even less depending on techno economic criteria because sewer connectivity is at a low pace.

1. *Water Supply situation in Hapur.*

19. At present about 60 percent population that is about 150,000, is covered with water supply. The present rate of water supply in the town is about 100 LPCD. There are 18 tube wells for water supply, about 40 percent are directly connected to distribution system and remaining are feeding in three areas, where water is supplied through over head reservoirs. At present water supply is one hour a day from 6 AM to 7 AM. It was found that in non – slum areas 60.00 percent households are having piped water supply. Nearly 34 percent slum households are having piped water supply through community points.
20. The Socio-Economic Survey analysis for Hapur (2008) had revealed that there is a shortage of water in dry season and water collection from (i) ground water and (ii) ground water from other houses were the two major sources of during the period of shortage. The source of water during the shortage, ground water as source ranked the highest. Within the ground water category for non-slum and slum, tube well with in the community is the major source of water. Water vending is not a commonly practiced phenomenon as it is depicted from the survey results.
21. Proposed water supply project in Hapur Town is aimed to increase the supply level of 100 lpcd and 60% coverage in 2009 to 135 lpcd and 100% coverage by the year 2034. This amounts to 185% increase in the water supply level by 2034 and this indicates the increased demand level for sewer system for Hapur Town.

Table 1-2: Per Capita Consumption Forecast – Hapur water Supply

City/Town	Current Consumption	Supplied by Piped Water*	Target Year Consumption (2034)**	Supplied by piped water in Target Year
Hapur Town	100 lpcd	60 lpcd	135 lpcd	135 lpcd

*- Only 60% of the population in Hapur only covered under the piped water supply.

** - Reorganization scheme for water supply of Hapur City prepared by UP Jal Nigam

Table 1-3: Consumer Projection – Hapur water Supply

City/Town	Current Population	Current Coverage	Target Year Population (2034)	Target Coverage	% Increase
Hapur Town	248,771	60%	425,331	100%	185%

2. *Effective Demand for Water Supply: and sewerage*

22. The socio-economic baseline survey ¹ was aimed at understanding the perception of the public towards the existing urban civic infrastructure and their service levels including their opinion towards the improvement of these services and their willingness to pay for assessing the 'effective demand'. Though this survey had covered the 'willingness to pay' aspect, it was not given specific focus so as to amend the results to statistical framework.
23. The Base line Survey results had indicated that 55.6 percent of slum households (HHs) and 40.8 percent HHs in the non-slum category are willing to avail the new connections if available and most of these HHs were not presently covered by the water supply (WS). Though 100% of the HHs that are willing to avail the service are willing to pay the user charges for the new household level connections, 79% of non-slum HHs and 100% of slum HHs were opinioned to pay less than Rs 150 per month. Present monthly charge for domestic connection is Rs 50. Also, in general, HHs were found with willing to pay the increased user charges with additional 20% to the existing one, for the increased service levels as shown in **Table 1-4** and **Table 1-5**.

¹ conducted as part of the present project (2008) in Hapur Town (with 0.5% sample size with stratified sampling approach giving representation to all administrative wards and all notified slums)

Table 1-4: Per Capita Sewage Generation Forecast – Hapur Town

City/Town	Current Generation	Sewage collected	Target Year Generation	Target Year Collected
Hapur Town	80 lpcd	24 lpcd	108 lpcd	108 lpcd

Source: Consultant

Table 1-5: Sewerage Coverage Projection – Hapur Town

City/Town	Current Population (2011)	Current Coverage	Target Year Population (2041)*	Target Year Coverage
Hapur Town	0.278 million	30%	0.411 million	100%

*Phase I covering four zones

Source: Consultant

24. The Base line Survey results had indicated that only about 25% HHs in Hapur Town were having access to sewerage system and remaining HHs were resorting to roadside drains and soak pits. Cent percent showed positive response for the UGD system both among the non-slum and slum HHs, but majority of them (about 95%) are willing to pay less Rs 1000 as connection charges. Also all the HHs are willing to pay for the user charges on monthly basis, but willing to pay less than Rs 150. All these together underline the positive response among the HHs for the proposed sewerage system with increased service levels, and to the introduction of user charges like initial connection fee and monthly user charges. This indicates the effective demand for the project.

E. Identification of project rationale.

25. The present drainage system covers only part of the town area and is almost defunct as most of the existing drains are choked and over-flowing in number of areas. Also the Drainage Master Plan (DMP) prepared for the town has identified deficiencies and formulated recommendations to be implemented in phased manner that include (i) Elimination of cross sewer connections; (ii) Rehabilitation and desilting of existing drains; (iii) Augmentation and rectifying the missing links of existing drains and (iv) Provision of new drains.. Thus the main project rationale lies for the rehabilitation of the drainage system for Hapur Town in filling the demand – supply gap resulted from

- Lack of coverage and
- Inefficient functioning of the existing system

F. Identification of Project Alternatives.

26. Alternative designs were assessed on three aspects, namely, cost-effectiveness, operation and maintenance capacity of the states governments and ULB, and safety to beneficiaries. The proposed design of the project incorporates that (i) service coverage are limited to higher density areas of the municipal town and the residential sectors developed by

HPDA, (ii) selected optimum network with least cost options including size and material for pipes (iii) decision on rehabilitation of the existing system (iv) selection of STP locations (v) selected optimum technology for STP operation (vi) selected technologies meet geographical restrictions and can be operated and maintained by the asset owners with minor training, and (vii) materials and equipments are locally available and incur least cost during construction and maintenance, but are internationally accepted as health hazard free. These Assessments are discussed in the design section of this DPR.

G. Identification and Comparison of Project Costs and Benefits.

1. Economic Cost:

27. From the cost estimate discussed in Section of this report, the 'base' project financial cost is estimated to Rs. 103.03 million. Considering the contingency and allowances of additional 12% (Physical contingency (3%), DSC+Third Party Inspection (TPI) - 3%, IEC activities 1%, o Incremental Administration (PIU) – 2%, Environmental mitigation 1%, Social intervention 1%, and Institutional development and capacity building activities 1%) and tax components to be incurred during execution, the total project financial cost was worked out to Rs 125.70 million and this is phased during the three year construction period as follows:

- 2010-11 – 10%
- 2011-12 – 50%
- 2012-13 – 40%

28. Provision of STP Augmentation during the eleventh year of operation (Rs. 250 million) to cope up with the demand requirement also considered in the analysis.

29. Considering the standard procedures recommended for economic feasibility analysis, the above financial cost was converted into economic cost for the analysis. Details of economic cost analysis are presented in **Appendix 1-1**.

2. Project Benefits:

30. The benefits arising from improved sewerage or sanitation, solid waste management, and storm water drainage results in improved environmental and living conditions and public health in the Project city / town. However, quantifying environmental and health benefits is difficult because of the need for data to establish the magnitude of impacts of the improvements and to separate out the effects of an improved sewerage, solid waste collection or drainage system from other factors such as personal hygiene habits, housing standards, water quality, etc.

31. The economic benefits considered in the present analysis for the sewerage component in Hapur Town include:

- (i) Cost of savings for residential and non-residential sewage generators, which are no longer required to operate on-site disposal systems (from purchase of septic tanks

- and O&M cost of septic tanks);
 - (ii) Reduction of household medical expenditure cost due to wastewater related disease; and
 - (iii) Reduction in earning lost due to illness
32. *Exclusions:* The following benefits of sewage and sanitation have not been quantified for want of adequate data and quantification techniques. These qualitative benefits along with the quantifiable benefits discussed above, the proposed sewage system will tend to provide better living condition in the project town. Detailed discussion on the project benefits considered for the analysis is given in **Appendix 1-2**.
- (i) Public cost of treating diseases due to poor environmental sanitation;
 - (ii) Private and public costs of mosquito control;
 - (iii) Avoided costs of on-site sewage/wastewater disposal by commercial, industrial and institutional premises;
 - (iv) Public costs of flooding, including traffic disruption, road repair and building repair;
 - (v) Effects on businesses and industries, such as aquaculture and fisheries, agriculture and washing; and
 - (vi) Effects on tourism and tourist-related businesses.

H. Economic Feasibility Analysis

1. Analysis Period

33. The analysis period of the project is taken as 24 years from the base year 2009-10 for different sections of the project road as follows:

- Base Year 2009-10
- Construction period – 2010-11 to 2012-13
- Project opened start year – 2013-14
- End of the analysis period –2032-33

34. Number of operating years after project improvement, considered for economic analysis – 20 years. Thus, 20 years of operation, in effect, from the operation start of the proposed project i.e. 2013-14, has been considered for economic evaluation for the project road.

2. Economic Feasibility criteria:

35. The cost – benefit analysis is carried out by using the discounted cash flow (DCF) technique to obtain the economic internal rate of return (EIRR) and economic net present value (ENPV) for the proposed investments and the likely quantified project benefits linked with the project during the defined project analysis period

3. *Economic Opportunity Cost of Capital (EOCC).*
36. Given the complexity of estimating country-specific economic opportunity cost of capital (EOCC), a discount rate of 12% in constant economic prices is generally used as a proxy for EOCC in the economic analysis of ADB-financed projects. The EIRR must be compared with the economic opportunity cost of capital, for interpretation purpose of project feasibility. Results of the analysis are presented in **Table 1-6**.

Table 1-6: Economic Cost-Benefit Analysis for Sewerage Component, Hapur Town

Details	Present Value
	<i>(Rs. million) a/</i>
Costs	
Capital costs	
Sewerage	857.12
O&M costs	
Sewerage	77.67
Total costs	934.79
Benefits	
Avoided costs of	
- health care & earning lost due to illness	484.06
- On-site Sewage Disposal	451.52
Revenue from STP Water for Irrigation	39.40
Total benefits	974.98
Economic Return Measures	
Net present value (Rs. Million)	40.18
EIRR (%)	13.05%

a/ In 2009-10 prices. Discounted to 2009-10 at 12% real discount rate.

Source: Consultant

I. Sensitivity Analysis

37. Sensitivity analysis was carried out to their economic feasibility results for the following scenarios:
- Capital cost increase by 20%
 - O&M costs increased by 20%
 - Target beneficiaries reduced by 20%
 - Delay in accrual of benefit by 1 year
 - Combined adverse condition
38. Results of the sensitivity analysis for the proposed project are summarized below in **Table 1-7**. Detailed calculations are given in Appendix III.

Table 1-7: Sensitivity Analysis for Sewerage Component (EIRR)

Details	EIRR	Switching Value c/
Main Evaluation (Base Case) a/	13.0%	
Capital Cost Overrun b/	9.3%	7.0%
O&M Cost Overrun d/	12.6%	60.0%
Decrease in Project Benefits e/	8.2%	5.0%
One Year Delay in Implementation	12.2%	
All Four Tests Combined	2.89%	

a/ From **Table 1-6**.

b/ 20% increase in capital cost estimates.

c/ Calculated as the percentage change in a variable required for EIRR to reduce to 12%. For example the capital cost can increase by 63% or project benefits can reduce by 33% to get the minimum required level of EIRR of 12%

d/ 20% increase in O&M cost.

e/ 20% decrease in project benefits

Source: Consultant

39. Of the four sensitivity scenarios (cost overrun, O&M cost increase, reduced beneficiaries, delay in implementation) reduced beneficiaries is the most vulnerable to EIRR, followed cost overrun. Considering the more sensitiveness of these variables, following implementation arrangements need to be focused more so as minimize the project risk:

- Ensuring adequate project coverage of beneficiaries through advance commitment from HHs for individual connections or making mandatory for all individual connections through project design;
- Timely implementation of the project through appropriate procurement method in which incentive for early completion may be included;
- Adequate focus for LA related project components

J. Conclusion

40. The main evaluation has indicated that the proposed sewerage sub project for Hapur Town was found to be economically viable, with the calculated EIRR values exceeding the economic opportunity cost of capital. The sensitivity analysis has demonstrated the robustness of this result, with the subproject component economically viable when all the individual assumptions were tested.

41. Furthermore, for the proposed drainage subproject, the calculated EIRR value is considered minimum estimates of economic return, as there are a number of economic benefits of reduced pollution, a cleaner city and improved waterway environment that have not been quantified.

2. FINANCIAL MANAGEMENT AND ANALYSIS OF PROJECTS

A. Introduction

42. Financial analysis for subprojects generally consists of both (i) Financial Management Assessment and (ii) Financial Analysis and this is the specific requirements for the financial analysis to the projects funded by ADB. The minimum requirement for Financial Management Assessment and analysis, are described in ADB's 'Financial Management and Analysis of Projects (the Guidelines)'.
 43. Financial Management Assessment, the first part of analysis, concentrates on the assessment review of Executing Agency (EA) and Implementing Agency (IA) with respect to the subproject subjected to financial analysis. Assessment review will cover the areas like financing policies; accounting policies; project implementation plan; financing plan; disbursement procedures and fund-flow mechanisms and regulatory provisions.
 44. Second part of the analysis is the 'Financial Analysis' for subprojects. This will mainly focus on the review of EA, IA and the proposed subproject with respect to the following components:
 - past and present financial condition
 - Cost Recovery and Profitability
 - Financial Improvement Action Plan
 - Affordability Analysis
 - Projected Financial Forecasts
 - Cost benefit analysis
 - Sensitivity Analysis
 45. In the scenario of the proposed subproject is to be funded from ADB fund through NCRPB, NCRPB will become the Executing Agency (EA) as it will have the direct control of ADB Loan and the Hapur Naga Palika (HNP) with the guarantee of the Uttar Pradesh State will become the Implementing Agency (IA) as HNP is the asset owner and responsible for the implementation and operation of the proposed subproject, utilizing the loan proceed. Accordingly, both NCRPB as EA and HNP as IA are considered for financial management assessment purpose.
 46. Considering the focus of the present assignment 'to support the project preparation efforts of the implementing agencies by preparing demonstration feasibility studies and DPRs that include all due diligence documentations required for processing of the project in accordance with the best practices, including ADB's policies and guidelines', the following two requirements in carrying out the financial analysis emerge:

- For the subprojects funded through ADB loan, both NCRPB and the respective implementing agencies have to be assessed; and
 - For the subprojects funded through NCRPB own fund, only the respective implementing agencies have to be assessed;
47. With this background, the present financial feasibility analysis concentrates more on the project financial analysis as this is the area where the capacity of the IAs needs to be enhanced for both format of loans. Also the financial management assessment part of the analysis is covered to the level of data availability. On finalization of the projects for ADB funding (in which the present subprojects under review may or may not be a part), subsequent consultancies will improve this financial management assessment part of the financial analysis.

B. Financial Management Assessment

1. Policy Context

48. Subsequent to the 74th Constitution Amendment Act (CAA), 1992 (Refer **Appendix 2-1**) the Government of Uttar Pradesh (GoUP) embarked on a policy of decentralization of powers to local governments. Uttar Pradesh Local Self Government Laws (Amendment) Act, 1994 was drafted based on decentralization principles laid down in the 74th CAA, which came into force w.e.f. 31.05.1994. Impact of 73rd & 74th Amendments on ULBs in Uttar Pradesh State is summarized in **Appendix 2-2**.
49. Key features of the decentralization initiative comprised (i) transferring health related institutions (except medical colleges and regional specialty hospitals) to local governments; (ii) transferring all schools to Urban Local Bodies (ULBs); (iii) planning and implementing centrally sponsored poverty alleviation schemes through ULBs; (iv) planning social welfare schemes, implementing Integrated Child Development Scheme (ICDS), payment of various social security pensions, and creating centre for disabled care are ULB responsibilities; (v) planning and providing urban basic services, including water supply, sanitation, storm water drainage and urban roads (excluding those provided / maintained by the State Public Works Department); (vi) Ward Committees in all municipal corporations and municipalities which have a population of three lakhs or more; and (vii) increase of financial power for ULB Heads.
50. *Constitution of State Finance Commission (SFC)*. Consequent upto 73rd and 74th Amendments to the Constitution of India, and in exercise of the powers conferred by Article 243(1) & (X), the Governor vide Finance Departments Notification no. RG-1933/x-53-94 dated October 22, 1994 constituted the State Finance Commission (Panchayat Raj & Local Bodies). Two SFCs were constituted in UP and the UP Government had mostly accepted their recommendations (more than 80 percent). Status of the recommendations of the SFCs on tax sharing to local bodies is summarized in **Table 2-1**. In Indian Federal structure, SFC created by 73rd and 74th CAA is the only channel to address issues of state-local fiscal relations. SFCs thus acquire unique place in fiscal decentralization and local finance issues.

Table 2-1: SFC Recommendations on Tax Sharing – Uttar Pradesh

Sl. No.	State	Recommended and accepted share of Local Bodies (Urban & Rural)	
		First SFC	Second SFC
1	Uttar Pradesh	10 % of net own tax revenue receipts of state govt. (7 % for ULBs)	12.5 % of net proceeds of taxes, duties, tolls & fees, exclu. entertainment tax & land revenue (7.5 % for ULBs)

Source: Decentralization and Local Finance Issues - The Workings of State Finance Commissions in India, Dr. Ravikant Joshi

51. Some of the major recommendations from SFCs that affect the financial management of ULBs in UP include:
- (i) Conversion of certain category of loans sanctioned to the urban local bodies which was over due on 31st March as state grants
 - (ii) Rates of Non-Tax Revenue have been revised and as mentioned earlier the power to further revise these rates in future by framing or amending the bye laws has been delegated to urban local bodies.
 - (iii) To increase the own sources of tax revenue of urban local bodies the target has been fixed to fix the demand as per the estimated population of 1997, minimum per capita of Rs. 120 for municipal Corporation and Rs. 40 to 90 per capita in Nagar Palika Parishad (depending upon the population) and Rs. 20 per capita in Nagar Panchayats vide g.o. No. 3488/IX-9-97-55/97 dated October 22, 1997.
 - (iv) Imposition of all types of taxes enumerated in the Act, has been made compulsory vide g.o. No. 2371(1)/IX-91998 dated September 23, 1998.
 - (v) The recommendations in respect of profession tax have been accepted by most states as per the available information.
 - (vi) Participation of the community and the private sector, especially in the delivery of urban services is being emphasized. In Uttar Pradesh, decisions have been taken on providing civic services on contract basis and to promote citizen participation
 - (vii) The Finance Commissions of Uttar Pradesh have given importance to devolution of functions, functionaries and powers along with a transfer of funds.
52. The share of transfers from state governments in the revenues of municipalities was 31.7 per cent (2001/02). This is, however, the average; municipalities in several states are almost entirely transfer-dependent for running of local services. The dependence of urban local bodies was as high as 83.71 per cent in case of Jammu & Kashmir, 83.33 in case of Rajasthan and 74.48 in case of Uttar Pradesh². This scenario is a result of the following three factors –
- The inferior local taxes which have low elasticity and buoyancy;
 - Poor administration of tax and other powers by local governments; and
 - Absence of autonomy for local governments in respect of tax rate setting, rate revision and other spheres of their functioning.

² Decentralization and Local Finance Issues - The Workings of State Finance Commissions in India, Dr. Ravikant Joshi

53. *Five Year Plans*. Government of India (GoI) in its Tenth Five Year Plan (2002 -2007) emphasized the role of the ULBs:
- To be responsive and accountable to the community;
 - to develop cities with standards of service comparable to the best in that particular category;
 - to constantly improve their capabilities so as to equip themselves to undertake their tasks in resource-raising, service provision, and poverty alleviation
54. Tenth Plan had focused the reforms in land and housing policy, and of pricing of utilities, should be to augment the resources of the ULBs, provide for adequate maintenance of civic services, and undertake expansion of infrastructure to meet growing needs.
55. Apart from the State Finance Commissions, GoI has found providing support to ULBs through various schemes including AUWSP, IDSMT, JNNURM, Mega City Scheme, NCR PLAN :, HUDCO loan assistance, Tax-Free Bonds scheme and external assistance from multilateral lending agencies like the Asian Development Bank (ADB), World Bank and bilateral agencies.
56. *Govt. of Uttar Pradesh (GoUP)*. Based on the lessons learnt through the 9th FYP, the 10th FYP (2002-07) for Uttar Pradesh is based upon local government's development plan and focuses on (i) reforms and improving organization efficiencies; (ii) increasing allocation in information technology, tourism infrastructure, poverty reduction and health; (iii) planning programs to facilitate employment generation; (iv) promoting private sector investment in economic development; (v) preparing sub-plans for poverty reduction with participation of women groups and focus on vulnerable sections of the society; (vi) evolving a plan for the disabled and women beneficiaries; (vii) strengthening decentralization and improving the planning process; (viii) continuing support to increased use of information technology in all facets of development; (ix) continuing support to tourism infrastructure development; (x) promoting the development of village and small industries; (xi) promoting the participation of private sector in providing education; and (xii) improving service delivery in key areas like health, revenue, education, etc.
57. Govt. of Uttar Pradesh had allotted Rs 102066 Lakhs for the urban development during the Tenth Plan (2002-2007) which was about 2% of the total plan outlay. However, the actual plan outlay during the plan period was increased to Rs 143142 Lakhs (**Table 2-2**). Also the annual budget for 2009-10 during the Eleventh Plan for urban development was increased to Rs 180420 Lakhs (**Table 2-3**) in which water supply, sanitation and urban development were the focus areas. These together underline the importance given to the urban development by the GoUP, which includes the project city of Ghaziabad.

Table 2-2: Tenth Plan Allocation for Urban Development in Uttar Pradesh

Year	Annual Plan Allocation for Urban Development during the Tenth Five Year Plan (Rs. Lakhs)
2002-03	22,347
2003-04	14,378
2004-05	14,174
2005-06	23,489
2006-07	68,754
Total	143,142

Source: Govt. of UP

Table 2-3: Major head summary for the Budget Year 2009-2010 for Urban Development, Uttar Pradesh (Rs. Thousands)

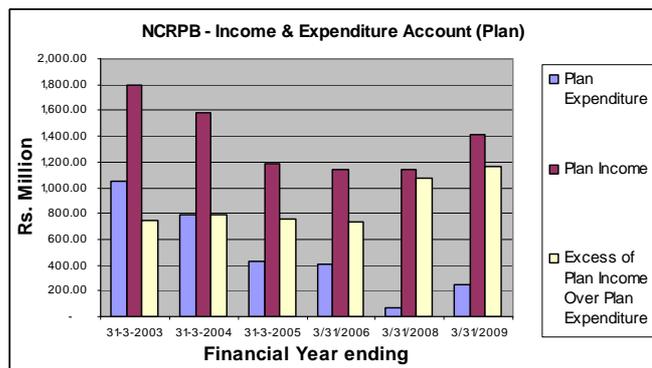
Major Head and Description	Current year Budget (2009-10)			Composition (%)
	Plan	Non Plan	Total	
2015—Elections	-	83,836	83,836	0.46%
2052--Secretariat - General Services	542	62,350	62,892	0.35%
2053--District Administration	2	98,278	98,280	0.54%
2070--Other Administrative Services	-	5,171	5,171	0.03%
2215--Water Supply and Sanitation	1,220,000	-	1,220,000	6.76%
2217--Urban Development	2,755,324	1,036,092	3,791,416	21.01%
2230--Labour and Employment	125,404	-	125,404	0.70%
3054--Roads and Bridges	-	-	-	0.00%
3604--Compensation and Assignments to Local Bodies and Panchayati Raj	-	550	550	0.00%
4070--Capital Outlay on Other Administrative Services	1	-	1	0.00%
4215--Capital Outlay on Water Supply And Sanitation	1,480,003	-	1,480,003	8.20%
4217--Capital Outlay on Urban Development	9,024,502	150,000	9,174,502	50.85%
6215--Loans for Water Supply and Sanitation	2,000,000	-	2,000,000	11.09%
Total	16,605,778	1,436,277	18,042,055	100.00%

Source: http://budget.up.nic.in/Estimates/maj_sumry.asp

2. *National Capital Region Planning Board (NCRPB)*

58. The National Capital Region Planning Board (NCRPB), constituted in 1985 under the provisions of NCRPB Act, 1985³, is a statutory body functioning under the Ministry of Urban Development, Government of India. NCRPB has a mandate to systematically develop the National Capital Region (NCR) of India which comprises of (i) National Capital Territory Delhi (constitutes 4.4 percent of NCR area); (ii) Haryana Sub-region (40.0 percent of NCR area); (iii) Rajasthan Sub-region (23.3 percent of NCR area);(iv) Uttar Pradesh Sub-region (32.3 percent of NCR area) and (v) Five Counter Magnet Areas (CMA) The project town Ghaziabad City also part of the NCR.

59. According to the NCRPB Act, 1985 major functions of the Board include: (i)Preparation of the Regional Plan and Functional Plans; (ii) Coordinate enforcement and implementation of the Regional Plan, Functional Plans, Sub-regional Plans, and Project Plans through the participating states and NCT; (iii) Ensure proper and systematic



programming by the participating states and the NCT in project formulation, determination of priorities in NCR or Sub-regions and phasing of the development of NCR in accordance with the stages indicated in regional plan; and, (v) Arrange and oversee the financing of selected development project in the NCR through Central and State Plan funds and other sources of revenue.

60. NCRPB has prepared regional plan for NCR area with the perspective year 2021. Further, the Board also initiated preparation of functional plans to elaborate one or more elements of the Regional Plan. Accordingly the functional plan for water supply and transport is under preparation but plans for other infrastructure is yet to take off.

61. NCRPB has been providing financial assistance to the participating state governments, ULBs, and other IAs in the NCR and in counter magnet towns. Till March 2008, NCRPB has financed 212 infrastructure projects involving total project outlays exceeding Rs. 139 billion. It has sanctioned loans amounting to Rs. 53 billion and disbursed Rs. 33.3 billion⁴. NCRPB gives significant emphasis for building water supply and sanitation infrastructure.

³ THE NATIONAL CAPITAL REGION PLANNING BOARD ACT, 1985, No.2 OF 1985, 9th February, 1985, published by The Gazette of India on FEBRUARY 11, 1985. This Act provide for the constitution of a Planning Board for the preparation of a plan for the development of the National Capital Region and for co-ordinating and monitoring the implementation of such plan and for evolving harmonized policies for the control of land-uses and development of infrastructure in the National Capital Region so as to avoid any haphazard development of that region and for matters connected therewith or incidental thereto

⁴ Annual Report 2007-2008, NCRPB

3. *Hapur Nagar Palika (HNP)*

62. Hapur Municipality is an important town of NCR and Teshil headquarters, situated in Ghaziabad district of UP State and located at about 54 Km east of Delhi, 32 Km from Meerut, 39 Km from Bulandsahar and 432 Km from the State Capital, Lucknow. It is well connected with important cities of country through NH 24 (Delhi-Lucknow-Muradabad Road) and NH 18 (Meerut-Bulandsahar Road) and the main Delhi- Lucknow-Howra Rail Line.
63. It is an important town in NCR area, which is being developed to decongest National Capital Delhi by improving infrastructure in NCR towns with the aim of shifting some of the offices and establishments of Government of India. With all the required facilities and proximity to Delhi and Ghaziabad, Hapur has become one of the fast developing town in NCR.
64. Hapur Pikhua Development Authority (HPDA) was created in 1998 to implement Master Plan and area under Viniyamt Area. The Master Plan for Hapur for period 1979-2001 for target population of 200,000 was approved by GoUP in 1983. The regional plan NCR 2001 proposed population of Hapur in year 2001 as 450,000 and as such the Master Plan 2005 was modified considering population in the year 2005 of 450,000. Now the master plan for next 20 years is under preparation. The master plan proposes land use plan for the city with the intention of achieving balanced distribution of various land uses.
65. Urban development and service delivery in Hapur Nagar Palika (HNP) is the combined responsibility of a set of state level and city level institutions. These institutions and their key functions are listed in **Table 2-4** below segregated in terms of institutions functioning at the state level and city level.

Table 2-4: Institutions and Their Functions

Institution	Key Function
<i>I. State Level</i>	
UP Pollution Control Board (UPPCB)	Pollution control and monitoring especially river water quality and regulating industries
Public Works Department (PWD)	Construction of roads main roads and transport infrastructure including construction and maintenance of Government houses and Institutions
State Urban Development Authority (SUDA)	Apex policy-making and monitoring agency for the urban areas of the state. Responsible for providing overall guidance to the District Urban Development Authority (DUDA) for implementation of community development programs
Town and Country Planning Department (TCPD)	Preparation of Master Plans including infrastructure for the state (rural and urban)
UP Jal Nigam (JN)	Water supply and sewerage including design of water supply and sewerage networks. In the last two decades 'pollution control of rivers' has become one of their primary focus areas
UP Avas Vikas Parishad (AVP)	Nodal agency for housing in the state. Additionally involved in planning, designing, construction and development of almost

	all types of urban development projects in the state. Autonomous body generating its own resources through loans from financial institutions
<i>II. City Level</i>	
Hapur Nagar Palika (HNP)	Nodal agency for municipal service delivery and O&M. Its key functions include: <ul style="list-style-type: none"> • Primary Collection of Solid Waste • Maintenance of Storm Water Drains • Maintenance of internal roads • Allotment of Trade Licenses under the Prevention of Food Adulteration Act • O&M of internal sewers and community toilets • Management of ghats • Construction of Community Toilets
Hapur Pilikula Development Authority (HPDA)	Responsible for preparing spatial Master Plans for land use and development of new areas as well as provision of housing and necessary infrastructure
District Urban Development Authority (DUDA)	Implementing agency for plans prepared by SUDA. Responsible for the field work relating to community development – focusing on the development of slum communities, construction of community toilets, assistance in construction of individual household latrines, awareness generation etc.

66. In real sense, 74th Amendment is partially implemented in UP. HNP, HPDA, Jal Nigam and various other government agencies are functioning in Hapur and are playing different roles of a ULB under different capacities (and other cities of UP). This makes the municipal corporation inadequate resulting in limited power and weak municipal administration. These cities are dependent on the state legislature for decisions concerning their regulations and it is critical for the decision making process required at a local level. However, with regard to the issue of reforms, current status and future proposals the state government /ULB are in the process of initiating steps in this direction and the willingness of the governments to undertake the required reforms

4. *Private Sector Participation*

67. The current legal and political climate for the involvement of FI's or Private parties for building urban infrastructure and or operating urban services in UP Cities including Hapur does not look very promising in its present form, as revealed from available CDP Reports. Many reforms, legislative changes and a greater commitment from the local body as well as the GoUP are required for attracting private investment and safeguarding investors' interest. However, three broad areas can be identified and explored for private investment for urban infrastructure, namely transportation services, Parking (multilevel parking with commercial space] and Solid Waste Management.

5. *User Charges*

68. Hapur Nagar Palika is not in a position to collect user charges from different authorities in the desired manner to reflect the actual usage of different urban services. For example in water supply there is not a meter system in place, the user fee is being charged on per connection basis without taking into account the actual expenses on O&M for the provision the service.
69. The property tax collection in force in HNP has provisions for water and sewer components as indicated below. It does not have the provision for SWM and drainage component in the property tax.

ARV Based Property Tax System followed in Ghaziabad City

Average Rental Value (ARV) = Plinth Area (sqft) x Rs. 0.60 x 12 months

House Tax = 10% of ARV

Water Tax = 10% of ARV

Sewer Tax = 4 % of ARV

6. *Financing Plan*

70. Total investment program will be shared between ADB, GoI and participating states in such a way that ADB share will be 70% and participating states will be the balance 30%. As per the existing arrangements, for UP state, the entire 70% loan component will be transferred to states without grant from GoI and hence the total contribution by GoUP will be 100% (30% own contribution + 70 % ADB loan). Loan component and own contributions component of the state will be the responsibility of the state government and nothing will be passed on to the implementing agencies. For implementation, the state will identify the Executing Agency for the Investment Program and responsible for overall strategic guidance, technical supervision and work quality and ensuring compliance with loan and PFR provisions and due diligence. For the present case, HNP will be the Executing Agency

7. *Operation and Maintenance:*

71. Current practice in the UP State, as in many other states in India, ULB is to operate and maintain the sewerage. Accordingly HNP will operate and manage O&M of the improved sewerage facilities in Hapur with adequate fund provision and the required technical capability.

8. *Cost Recovery*

72. Presently there is no user charge for sewer component. Property tax ⁵ has component for sewer tax and also no 'user fee' charges for households. Considering the limited coverage and its working condition, the present system did not give more attention to cost recovery.

9. *Disbursement Procedures and Fund-Flow Mechanisms*

73. Loan disbursement is a key element in the project cycle. ADB expects that proposed disbursement procedures and fund-flow mechanisms will be suitable for the particular project. ADB procedures for withdrawal of loan proceeds are standardized to facilitate disbursements under most loans.
74. In the present case, it is assumed that the ADB Loan will be passed on through NCRPB on terms and conditions mutually agreed between ADB and NCRPB, to the HNP with the UP State government guarantee. Thus NCRPB will be the borrower from ADB and HNP will be the second borrower from NCRPB with the UP State support. HNP will enter into supply and civil work contracts and issues and signs the payment checks through a suitable arrangement agreed with NCRPB. Created assets will be owned by HNP as Drainage will be its responsibility. With regards to repayment of the interest and principle, HNP will pay to NCRPB and for ADB NCRPB will pay and both are governed by separate terms and conditions agreeable in the disbursement procedures.

10. *Accounting Policy*

75. Long-, medium- and short-term planning should be the primary elements in financial management. Long- and medium-term plans are often referred to as corporate plans. Short-term financial plans are usually called budgets. ADB will seek assurance that satisfactory plans and budgets will be prepared in a regular, orderly and timely manner. Also ADB will consider the acceptability of accounting policies, including standards of financial reporting and general accounting practices. ADB expects these policies to be materially consistent with accepted national or international standards and practices.
76. Accordingly the potential agencies like National Capital Region Planning Board (NCRPB) and Hapur Nagapalika (HNP) that are involved in the project loan were considered for review. Accounting policy of NCRPB is already discussed. Discussion on HNP's accounting policy is given below.
77. HNP maintains records on single entry cash based system of accounting. The output of this cash basis of accounting is a Statement of Receipts and Payments that classifies cash receipts and cash payments under different heads. A statement of assets and liabilities is not prepared.

⁵ Property Tax comprises of 10% ARV as House Tax, 10% of ARV as Water Tax and 4% of ARV as Sewer Tax.

78. The cash basis of accounting fails to meet most of financial reporting objectives. The measurement of performance and financial position under the cash basis of accounting is unlikely to yield correct results, because the evaluation of performance requires the measurement of accomplishment (the revenues) during a period and the efforts expended for those accomplishments (the expenses). In current scenario, the timings of cash receipts and cash payments may not coincide with earning of revenues or incurrence of expenses. Thus cash basis of accounting fails to meet most of the financial reporting objectives.
79. HNP accounts of receipts and expenditure shall be maintained in such a manner as prescribed as per Section 142 of MC Adhiniyam, 1959. There is no mandatory provision for the maintenance of accounts on double entry accrual based system of accounting as per Municipal Act. Recently great development has taken place in all over the country in this regard. UP Government has issued an order for switching over the accounts from single entry to Double entry accrual based system.

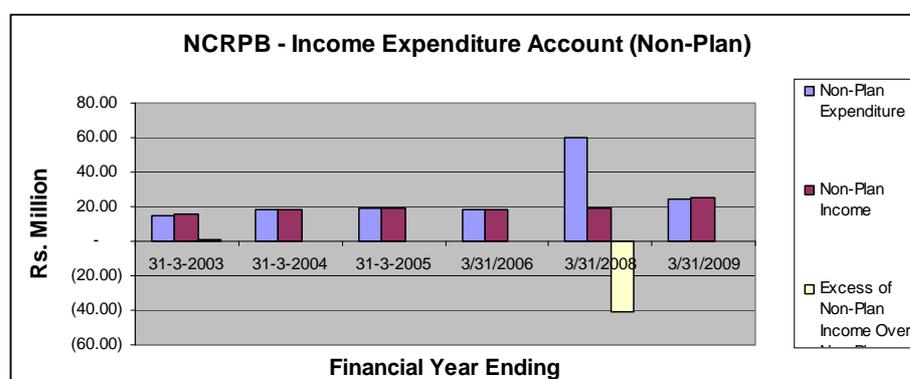
11. *Financial Regulations*

80. A sound accounting system is underpinned by financial regulations. These are usually designed to define the objectives of—and responsibilities within—the financial management system. ADB expects acceptable financial regulations to be in place.
81. For the present Drainage Subproject, in case of the proposed project is funded by ADB through National Capital Region Planning Board (NCRPB), NCRPB will be the Executing Agency (EA) and the Hapur Nagar Palika (HNP) will be the implementing agency (IA).
- Financial regulations for NCRPB, as part of the Ministry of Urban Development, Govt. of India, will be governed by the well defined regulatory system designed by Govt. of India.
 - Hapur Nagar Palika (HNP) will be governed by the financial regulation provisions laid by Uttar Pradesh State under Municipal Act.
 - Both regulation procedures will cover all the 17 aspects to be considered under financial regulations review, though there may be variations in quality and quantity aspects in between them.

C. Financial Analysis

1. Present Financial Condition

82. *National Capital Region Planning Board (NCRPB)*. NCRPB Act 1985, Chapter VI discusses the provisions for finance, accounts and audit that regulate NCRPB accounting policies. It discusses about the financial sources, constitution of NCRPB Fund, requirement of annual budget, annual report etc, account and audit requirements, Annual auditors' report and report to be laid before Parliament.
83. The accounts of the NCRPB will be maintained and audited in such manner as may be prescribed in consultation with the Comptroller and Auditor-General of India and the Board will furnish, to the Central Government, before such date as may be prescribed, a copy of its audited accounts together with the auditors' report thereon. Annual auditors' report and report to be laid before Parliament.
84. NCRPB maintains annual accounts in the form of Income & Expenditure Account (Plan & Non-Plan), Balance Sheets and detailed Receipts & Payment Account with appropriate Schedules. Review of NCRPB Annual Accounts during the period FY 2002-03 to FY 2008-09 indicate the following: (**Table 2-5 & Appendix 2-3**)
- Income, expenditure and net revenue under Plan head form the major revenue source
 - Plan income is observed with fluctuating trend over the analysis period.
 - Plan expenditure found drastically reduced from Rs 1055 million in FY 2002-03 to Rs 252 million in FY 2008-09 which had resulted in increase trend of net plan income.
 - Under Non-Plan head, both income and expenditure found to be more or less equal resulting no surplus during the analysis period.
 - Under non-plan, salaries and office expenses are the major expenditure items and grant in-aids and interest receipts from provident fund are the major revenue item.



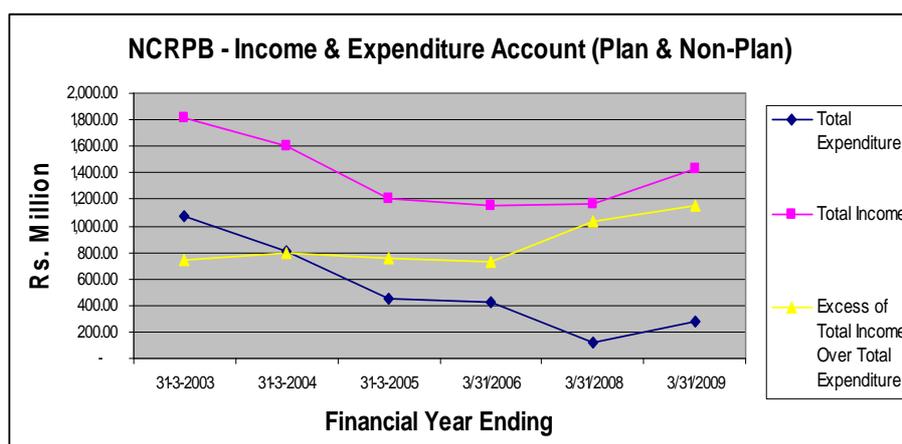


Table 2-5: NCRPB – Summary of Income & Expenditure Account

Details	Financial Year Ending					
	31/3/2003	31/3/2004	31/3/2005	3/31/2006	3/31/2008	3/31/2009
Plan Expenditure	1,055.55	790.47	432.30	403.89	63.83	252.48
Plan Income	1,796.15	1,584.47	1,190.45	1,136.77	1,141.03	1,411.11
Excess of Plan Income Over Plan Expenditure	740.60	794.00	758.14	732.88	1,077.20	1,158.63
Non-Plan Expenditure	15.14	17.94	18.96	18.32	59.99	24.62
Non-Plan Income	15.92	18.03	19.07	18.38	19.55	24.84
Excess of Non-Plan Income Over Non-Plan Expenditure	0.78	0.10	0.10	0.06	(40.44)	0.22
Total Expenditure	1,070.69	808.41	451.27	422.21	123.83	277.10
Total Income	1,812.07	1,602.50	1,209.51	1,155.15	1,160.58	1,435.95
Excess of Total Income Over Total Expenditure	741.38	794.10	758.25	732.94	1,036.75	1,158.85

Source: NCRPB Annual Reports & Annual Accounts

85. NCR Planning Board continued to provide financial assistance to the constituent States / NCT of Delhi and their implementing agencies in the form of loans upto a maximum of 75% of the estimated cost of Projects. The constituent States of NCR/ NCT of Delhi or its implementing agency contributed a minimum of 25% of the project cost as its counter-part share. During the recent years, NCRPB's lending activity had increased considerably and from the FY 2005-06 its annual loan dispersal had crossed Rs 300 crores. Rs 705 crores were distributed as loan to infrastructure development projects during the FY 2007-08 in which transport, power and water supply were the major sectors constituting 81% of the loan dispersal.
86. There recovery rate of interest and installment of principal amount from any State Government or its implementing agencies was found to be good over the years. except one from the Patiala Urban Planning & Development Authority (PDA), Govt. of Punjab in respect of sewerage scheme of Patiala Municipal Corporation

87. In order to meet the gap between budgetary support and actual fund requirement for providing financial assistance for the infrastructure development, the Board raises from the capital market by issuing unsecured redeemable non-convertible taxable bonds periodically. The bonds have also been listed at National Stock Exchange (NSE)-WDM segment.
88. *Hapur Nagar Palika (HNP)*. Financial sustainability addresses the required as well as appropriate taxation and tariff reforms. Hapur Nagar Palika (HNP) Revenue Account and sub-project cash flows take cognizance of policy directives undertaken by Hapur Nagar Palika (HNP) in addressing infrastructure investment and sustenance needs – the focus is on property taxation, water, sewer/drainage and conservancy charges. While the Nagar Palika continues to draw a substantial proportion of its income from government grant, in lieu of Octroi, in the long-term, the strategy of HNP shall be to capitalize on the benefits accruing from property taxes. Urban infrastructure investments as part of the city development plan (CDP) should recognize the fact that property taxes pay for capital investments and user charges pay for system operation and maintenance – given the aforesaid approach, the financial sustainability analysis focuses on reviewing net cash flows arising out of taxation and tariff reforms
89. The review of finances involves a time-series analysis of the income and expenditure of the Hapur Nagar Palika (HNP) to ascertain the trends and the major sources and uses of funds. In addition to this, certain key financial indicators relating to property tax, water tax, per capita income, per capita expenditure and debt servicing; have been considered to assess the financial performance of the HNP.
90. The Municipal Accounts code of Government of Uttar Pradesh prescribes the organization of the municipal fund into three broad categories of General Account, Capital Account and Debt and Suspense (or Extraordinary) Account. Based on the availability, revenue account data collected from the annual accounts of HNP were compiled and analyzed. For the purpose of municipal fiscal assessment, financial data pertaining to the last four years (2006-07 to 2009-10) were compiled in an abstract format (**Table 2-6**). Detailed analysis on HNP municipal financial performance is presented in **Appendix 2-4**.

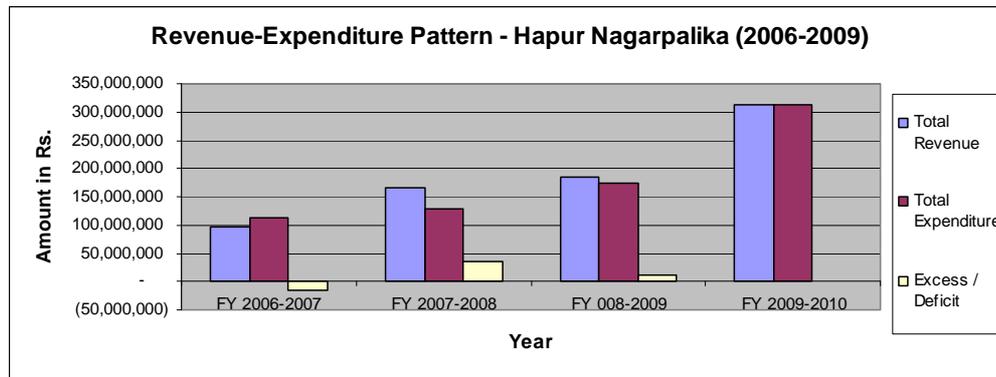
Table 2-6: Hapur Nagar Palika (HNP) Revenue Expenditure Account

Details	FY 2006-2007	FY 2007-2008	FY 008-2009	FY 2009-2010
Total Revenue	96,547,336	165,006,313	185,450,152	312,055,000
Total Expenditure	112,046,045	129,909,462	174,395,885	311,595,000
Excess / Deficit	(15,498,709)	35,096,851	11,054,267	460,000

Source: Hapur Nagar Palika (HNP).

91. Revenue income found increased at a compounded annual growth rate (CAGR) of 48 percent during the assessment period. Further analysis of Revenue Income components Hapur indicate that own tax revenue found increased at 134 percent CAGR. Non-tax revenue and state support are other major revenue with about 37 percent CAGR growth. With increasing trend, Revenue grant is one of the major revenue sources for HNP (37

percent). Amongst the non-tax revenues, water charges contributed only 0.8 percent of total revenue income and have found with more fluctuating growth trend.



92. Revenue expenditure has been found to be with steady increase from FY 2006-07 during the review period. Expenditure on general establishment and administration accounted for 22 percent of the total revenue expenditure in FY09. Of the total revenue expenditure, expenditure on operation and maintenance of municipal services constituted 50 percent. Operation and maintenance expenditure had accounted about 50 percent of the total expenditure and witnessed a increase at a CAGR of 41 percent.
93. *Key Financial Indicators.* A set of key financial indicators have been derived using the financial data procured from the HNP for the assessment period. These indicators are used to assess the municipal performance with regards resource mobilization, fund utilization, financial performance and collection efficiencies.
- Resource Mobilization indicators. These indicators summarize the performance of the HNP with regards sources of funds. HNP derives about 10 percent to 27 per cent of its revenue income from own sources, which is a not good sign but there is scope for improvements.
 - Fund Application indicators. These indicators are a measure to ascertain the utilization from the municipal fund. Nearly 50 per cent of the revenue expenditure is spent on establishment heads, leaving only 50 per cent for O&M of municipal assets and services that include 11 percent for water supply account. Establishment expenditure including sweepers salary accounts for about 600 per cent in FY2006 of the total own-tax revenue generated by the HNP and this had reduced to 218 percent.
 - Overall Financial Performance indicators. These indicators are a measure to assess the overall financial performance of the municipality with regards operational performance and effective growth in revenue income and expenditure. The average operating ratio during the assessment period was less than unity and it was observed more than unity only for one year during the assessment period (FY 2006-07). The indicators of growth in per capita income and expenditure item heads indicate the effective growth, giving a performance measure relative to the growing population. Annual growth in per capita revenue income found to be consistently with increasing trend where as the per capita revenue expenditure during the assessment period, found to be with increasing trend but with a slightly slow pace (**Table 2-7**).

Table 2-7: Details of Percapita Revenue Income and Expenditure - Hapur Nagar Palika

S. No.	Details	FY 2006-2007	FY 2007-2008	FY 2008-2009	FY 2009-2010
1	Population	246,942	254,597	262,489	270,627
2	Revenue Income (Rs. Lakhs)	965	1,650	1,855	3,121
3	Revenue Expenditure (Rs. Lakhs)	1,120	1,299	1,744	3,116
4	Revenue Account Surplus (Rs. Lakh)	(155)	351	111	5
5	Per Capita Revenue Income (Rs.)	391.0	648.1	706.5	1,153.1
6	Per Capita Revenue Expenditure (Rs.)	453.7	510.3	664.4	1,151.4

94. *Key Issues.*

- (i) Maintenance and Reporting of Accounts. A common accounting and financial reporting code, updated annually, with interim up-dations when required, supported with a user manual and organized training of municipal accounts staff will substantially streamline financial accounting and reporting.
- (ii) Revenue Realization. Taxes and charges are major own sources of revenue income. Being more dynamic in nature and within the control of the HNP, these revenue incomes have potential to contribute more to the municipal fund. Key issues regarding revenue realization comprise (i) coverage of properties under property tax, (ii) poor collection of water charges; (iii) unclear status on extent of outstanding taxes and charges collectable; and (iv) extent of gap between the cost of service provided and user charges levied.
- (iii) Fund Application. Key issues regarding application from the municipal fund comprise (i) most of the revenue expenditure is accounted for by establishment item heads, (ii) an efficient system of costing to enable the actual cost of services provided in a scientific manner thus enabling logical mechanism for tariff structuring and (iii) the absence of information with regard to actual assets and liabilities of HNP at a particular point of time render it difficult to ascertain the actual fiscal position.
- (iv) Operating Ratio. Hapur Nagar Palika has mostly maintained an operating ratio (OR) less than unity during the assessment year, except for one year with more than unity. A key reason for the mixed performance is tax revenue collection and expenditure management. However, Hapur Nagar Palika has untapped revenue potentials from property tax and water charges. While the OR indicates efficiency in revenue management, inability to capitalize on property tax and user charge revenues indicates over dependency on revenue grants and a level of complacency regarding other revenue income sources.

2. *Cost Recovery and Profitability*

95. Where cost recovery and/or profitability are primary objectives, the financial consequences of policies, strategies, and practices relating to the entity's (IA) operations or trade should be set out, for instance: (i) policies on recovery of costs of its products and/or services, (ii) tariffs and charges levied, (iii) systems of establishing costs of products and/or services, (iv) inventory controls, and (v) possibility and extent of external regulation (e.g., by government).
96. *Existing Scenario.* Hapur Nagar Palika (HNP) is responsible for drainage including development, operation and maintenance of the drainage in the city. Presently there is sewer tax component in the property tax and no user charges and is operating on budget support. As there is no revenue collection through user charges for the services they are providing, it is difficult to carryout sustainability analysis for HNP.
97. *Policy Initiatives.* HNP does not have adequate operational income to finance operational expenses. This calls for institutional reform to improve the financial base in the short term, including (i) an increase in the property tax base by reassessment or mapping and computerized database, (ii) a gradual increase in user charges, and (iii) improvement in collection efficiency. The memorandum of agreement for the JNNURM financing requires ULBs, amongst others things, to adopt (i) accrual-based double-entry accounting, (ii) geographic information systems based property tax with collection efficiency at 85% within the next 7 years, and (iii) reasonable user charges for O&M cost recovery within the next 7 years. This stimulates considerable reform approach among the states in municipal administration, including UP State.
98. Both ADB and JNNURM, the major urban development partners of the state, have focused on 100% O&M cost recovery through user charges as the medium term targets for urban infrastructure projects.

3. *User Charges*

58. The project benefits are city-wide and this is an obligatory public health function (service project) and is generally met out of general taxation (Property Tax based). Also private sector and NGOs are engaged in waste collection for nominal monthly charges. There fore it would be necessary for the Municipal Corporation to introduce user charge to raise revenues to meet the O&M cost and if possible the capital cost also.

4. *Financial Improvement Action Plan*

99. ULB level financial projection analysis indicates that even in the case of existing property tax based sewer tax along with increase in collection efficiency, the full sewer project may require government support or introduction of user charges for Hapur ULB. This is mainly because the projected revenue account and the resultant overall status of financial for

Hapur ULB do not have adequate strength to support the present project in total. However, as an essential function, the proposed sewer project can not be compromised. Hence, a stand alone project level financial analysis was carried out, with possible and required revenue support through tax and user charges.

5. Affordability Analysis

100. With the backdrop of the willingness to pay survey results for sewerage system in Hapur, the proposed tariff rates (user charges and taxes)⁶ for the year 2013-14 presented in **Table 2-8** found to be reasonable and within the affordable level⁷. This underlines the ‘effective demand’ for the proposed urban infrastructure services, backed-up with affordability from the consumers. Considering these, an appropriate ‘Financial Improvement Action Plan’ (FIAP) is worked out and presented in **Table 2-9**.

Table 2-8: Details of Estimated sewer User Charges Requirement- Hapur

Description	Value in Rs	
Average ARV (2013) (average of 700 sq.ft & @ Rs 0.6/Sqft)	6,432	
Average ARV (2009)	5,040	
% ARV for Conservancy in Property Tax	4.0%	
Share in Property Tax (Annual)	257.30	
Share in Property Tax (Annual) After considering 30% Houses with <Rs 500 ARV	180.11	
Share in Property Tax (Monthly)	15.01	
<i>Monthly User Charges Rs (2013-14)</i>		
	Domestic	Non-Domestic
	70	210
<i>Total Monthly Charge</i>		
User Charge	70.00	210.00
Share of PT	15.01	15.01
Total Monthly Charge	85.01	225.01
Connection Fee (Rs.)- 2013-14	1,000	3,000

Source: Analysis

⁶ Proposed tariff rates are the estimated requirement of tariff rates to sustain the sewer project in the city with 100% recovery of O&M through user charges and partial / full recovery of the capital cost through property tax share.

⁷ Cent percent showed positive response for the UGD system both among the non-slum and slum HHs, but majority of them (about 95%) are willing to pay less Rs 1000 as connection charges. Also all the HHs are willing to pay for the user charges on monthly basis, but willing to pay less than Rs 150. All these together underline the positive response among the HHs for the proposed sewerage system with increased service levels, and to the introduction of user charges like initial connection fee and monthly user charges.

Table 2-9: Financial Improvement Action Plan

Item	Current	Project Implementation Period			Post Implementation	
		2010-11	2011-12	2012-13	2013-14	Remarks
<i>Sewerage, Hapur</i>						
Monthly User charges - Domestic	Nil	-	-	-	70	25% increase in FY 2019-20 and once in every five years subsequently
Monthly User charges - Non-Domestic	Nil		-	-	210	
Sewer Connection Fee – Domestic	Nil				1,000	
Sewer Connection Fee – Non-Domestic (Rs.)	Nil				3,000	
% ARV for Conservancy in Property Tax	Nil				4%	Upward Revision of ARV by 25% in 2019-20 and once every five years subsequently

Source: Analysis

6. *Cost benefit analysis*

101. The projects for the purpose of financial analysis have been categorized as Service, Cost Recovery and Remunerative. The present project of sewer is a Cost Recovery one and accordingly feasibility analysis is carried out.
102. *Weighted Average Cost of Capital:* The financial viability of subprojects was assessed by comparing the subproject’s financial internal rate of return (FIRR) with the financial opportunity cost of capital. As proxy for the financial opportunity cost of capital, the weighted average cost of capital (WACC) of the subprojects in real terms is used. The FIRR is the discount rate that equalizes the present values of costs and revenues over the subproject life, while the WACC represents the cost incurred by the GNN with the support of the UP State government in raising the capital necessary to implement the subprojects. The WACC was estimated based on the central governments on lending policy (**Table 2-10**).

Table 2-10: Weighted Average Cost of Capital (%) - Uttar Pradesh & Haryana

Item	Govt. of India On-lending \b	Govt. of India Grant \a	Govt. of UP / Haryana Equity	WACC
Amount weighting	70%	0%	30%	
Nominal cost	2.10%	8.50%	10.00%	
Tax Rate	0	0	0	
Tax-Adjustable Nominal Cost	2.10%	8.50%	10.00%	
Inflation Rate \c	0.80%	4.50%	5.50%	
Real Cost	1.30%	4.00%	4.50%	
Minimum Test Rate (H = 4%) d	4.00%	4.00%	4.50%	
Weighted Component of WACC	2.80%	0.00%	1.35%	4.15%

WACC = weighted average cost of capital, UP = Uttar Pradesh.

\a - Nominal cost of Government of India grant is estimated at 8.5%, based on the Government's long-term bond rate.

\b - Indicative Lending Rates for Loans under the LIBOR-Based Loan Facility & Cap/Collar Premiums for Floating Rate Loans, Treasury Department, ADB, March 2009

\c - Global Price escalation is based on - INTERNATIONAL COST ESCALATION FACTORS 2008–2012, World Bank, Table 1.1 The global outlook in summary. Global Development Finance 2008: The Role of International Banking, page 8.

7. Financial Analysis of Subprojects

103. The revenue streams for the financial analysis of sub project include a property tax based levy starting 2013-14 and a monthly charge. A decision on implementing the above discussed revenue stream (property tax based levy and monthly charge) is critical to project sustenance. Apart from a revision on completion of the capital works, it would be necessary to revise the sewer user charges periodically so as to compensate the increasing O&M cost.
104. The key assumptions used for analysis include:
- Maintaining the existing sewer Tax in property tax component;
 - revision to the property tax base every five years if not annually (@ 5% per year);
 - maintain tax collection percentages at least 80% of the demand, and
 - implementing the project on schedule
105. On the user charge front, the key assumptions include
- a monthly user charge option irrespective of above;
 - one-time connection charge for new connections;
 - non domestic rates at least 3 times that of domestic
 - revision to the user charge periodically;
 - Maintain tax collection percentages at least 80% of the demand

106. Initial project capital cost is estimated to Rs.1257 million to be implanted during the three year constriction period (**Table 2-11**)

Table 2-11: Project Capital Cost - Rs Million

Details	Capital Cost - Rs Million
Base Cost	1,030
Landed Cost	1,257

Source: Analysis

107. Financial sustainability and viability analysis and the sensitivity analysis results in terms FIRR are presented in **Table 2-12**. Detailed FIRR analysis is presented in **Appendix 2-5**.

Table 2-12: Financial viability sensitivity analysis results – sewer Subproject, Hapur

Component	Base Case	Capital cost increase by 10%	O&M cost increase by 10%	Project Revenue decrease by 10%	Project Revenue delay by one year
Sewer, Hapur	4.2%	3.3%	4.1%	3.1%	3.1%

Note: Base Case refers to the Scenario with the assumption of implementing FIAP user charge proposals, without sensitivity test.

Source: Analysis

108. Of the four sensitivity scenarios (cost overrun, O&M cost increase, reduced beneficiaries, revenue delay by one year) Project Revenue delay by one year is the most vulnerable to FIRR, followed by reduced beneficiaries and cost overrun. Considering the more sensitiveness of these variables, following implementation arrangements need to be focused more so as minimize the project risk:
- Timely implementation of the project user charges through appropriate method;
 - Timely implementation of the project through appropriate procurement method in which incentive for early completion may be included;
 - Ensuring adequate project coverage of beneficiaries through advance commitment from HHs for individual access or making mandatory for all individual access through project design;
 - Adequate focus for LA related project components

8. Conclusion

109. The main evaluation has indicated that the proposed sewer sub project for Hapur Town was found to be financially viable, with the calculated FIRR values equal to the WACC (4.15%), for the recommended user charges under FIAP. The sensitivity analysis has demonstrated the robustness of this result, with the subproject component financially viable even when different assumptions was tested.

APPENDICES

Appendix 1-1: Economic Cost

The economic costs of capital works and annual operation and maintenance are calculated from the financial cost estimates on the following basis:

- (i) Price contingencies are excluded but physical contingencies are included because they represent real consumption of resources;
- (ii) Import duties and taxes are excluded because they represent transfer payments. For this the shadow exchange rate factor worked out below was used;

Table 1: Shadow exchange rate factor

Details	2008-09	2007-08	2006-07	2005-06
	RE	Actual	Actual	Actual
National export (free on board) = Ex *	766,934	655,864	571,779	456,418
National import (CIF) = Im*	1,305,503	1,012,312	840,506	660,409
Customs Duties =Ct*	84,710	72,029	62,819	46,645
AD-HOC STANDARD CONVERSION FACTOR				
(CF = (Ex + Im)/(Ex + Im+Ct))	0.961	0.959	0.957	0.960
Shadow exchange rate factor (Y):(Y=1/CF)	1.04	1.04	1.04	1.04

* - Source : Reserve Bank of India

RE - Revised Estimates

Note: Calculation Method based on the handout on Economic Analysis

- (iii) The existence of unemployment and under-employment for unskilled workers within the Indian economy means that the opportunity cost of unskilled labour can be considered to be lower than its wage rate – a conversion factor of 0.5 of the market wage rate for agriculture casual labour is used to estimate the shadow wage rate

Table 2: Shadow Wage-rate Factor (Y)

Casual agriculture labor cost (Rs. per day)* (L)	80
National minimum wage of unskilled worker (Rs. per day)** (M)	159
Shadow Wage-rate Factor (Y); Y = L/M	0.50

*- Minimum Agricultural Labor wage fixed by many states incl. Tamil Nadu at Rs. 80 a day (for men working six hours) and Rs. 70 (for women working five hours)

** Uttar Pradesh: Minimum Wages w.e.f. 01.04.2009 to 30.09.2009, Labor Department, Government of Uttar Pradesh.

- (iv) The market wage rate for skilled labour and the acquisition cost of land are considered to represent opportunity costs, as both factors are in demand;
- (v) All costs are valued using the domestic price numeraire, to enable an easier comparison with the information used to measure benefits (e.g. a significant component of benefit is the savings in resources, which would be used in the without project situation).

Estimated financial base cost without contingencies and allowances for the Hapur drainage project is estimated Rs165.87 million as shown in **Table 3**. Using the basis, the economic cost (resource cost) was estimated both for capital cost and operation & maintenance costs and presented in **Tables 4 & 5**. For estimating the economic cost from the financial cost, the following other assumptions were also considered:

A. Capital Cost

1. (i) Contingences and other allowances considered to the base cost (12%):
 - Design Supervision Consultancy (DSC)+ Third Party Inspection (TPI) - 3%,
 - Information, Education & Communication (IEC) activities 1%,
 - Incremental Administration (PIU) – 2%,
 - Physical contingency 3%,
 - Environmental mitigation 1%,
 - Social intervention 1%,
 - Institutional development and capacity building activities 1%
- (ii) Share of foreign cost to total project cost:

Share of foreign Cost (%)

Sector	Services	Materials	Total
Water Supply	0.75%	2%	2.75%
Sewerage	0.75%	0%	0.75%
Drainage	0.75%	0%	0.75%
SWM	0.75%	0%	0.75%
Urban Transport	0.75%	0%	0.75%

- (iii) Tax and duties
 - Local cost – 12%
 - Foreign Cost – 4%
 - Share of unskilled labor in Local Cost – 12%

B. Maintenance Cost

2. (i) Share of foreign cost to total project cost
 - Water supply – 0%
 - Sewer – 0%
 - Storm water Drainage – 0%
 - Solid Waste Management – 0%
 - Urban Transport – 0%
 - Tax and duties
 - Local cost – 12%
 - Foreign Cost – 4%
 - Share of unskilled labor in Local Cost – 15%

Table 3: Details of Base Financial Cost – Hapur Sewerage

Details	Amount (Rs.)
Earthwork in Excavation , Shoring & Strutting, Dismantling, Disposal of Surplus Earth, Road Cutting and Road Reinstatement Works	175,345,837
Supply and Laying RCC NP 2 Pipe Line works	77,138,248
Bedding and Allied Works	163,592,494
Manholes and Ancillary Works	70,830,245
House Chamber to Manhole Connections and General works	68,224,610
Miscellaneous Works	4,532,655
Connection with in house premises to Man hole/house chamber	66,226,589

Details	Amount (Rs.)
Rising Main for 3 Pumping stations	15,897,617
Sewage Pumping Stations Civil woks	3984967
Sewage Pumping Stations Mechanical woks	2190000
Sewage Pumping Stations Electrical woks	1235400
Sewage Treatment Plant South 25 MLD on WSP Process	121147746
Land acquisition 26 Hectares	260,000,000
Total	1,030,346,409

Source: Analysis

Table 4: Details of Resource Cost Estimation – Capital Cost (Hapur Sewerage)

Details	Financial Cost (Capital)		Resource Cost (Capital)	
		Rs Million	Rs Million	S P Factor
Base Cost		1,030.35		
Allowances	12%	123.64		
Foreign Cost				
- Base cost & allowance	1%	8.65	9.00	1.04
- Taxes & Duties	3%	0.26	-	-
		8.91	9.00	
Local Cost				
- Unskilled labour	12%	137.44	68.72	0.50
- Skilled labour & Others	88%	1,007.89	1,007.89	1.00
- Taxes & Duties	9%	102.76	-	-
		1,248.09	1,076.61	
Total		1,257.00	1,085.61	

Note:

1. Shadow Exchange Rate Factor was worked on the RBL data on national exports, imports and exports and using the Method based on the ADB Handout on Economic Analysis

Source: Analysis

Table 5: Details of Resource Cost Estimation – O&M Cost (Hapur Sewerage)

Details	Financial Cost	Resource Cost (Capital)	
	Rs Million	Rs Million	S P Factor
O&M Cost	15.46		
Foreign Cost	0%		
- Base cost	0.00	-	1.04
Local Cost	100%	-	
- Unskilled labour (25%)	3.86	1.93	0.50
- Skilled labour & Others (75%)	11.59	11.59	1.00
	15.46	13.52	
Total	15.46	13.52	

Source: Consultant

Considering 2009-10 as base year followed by three construction period and 20 years implementation period considered for the analysis, the cash outflow for economic cost was worked out and presented in **Table 6**.

Table 6: Details of Phasing and Expenditure Flow
Economic Cost -Sewerage (Hapur Town, Uttar Pradesh)

all values in Rs. Million

Year	Capital Cost	O & M Cost	Total O & M
2009-10			
2010-11	108.56	-	-
2011-12	542.81	-	-
2012-13	434.25	-	-
2013-14	-	13.52	13.52
2014-15	-	13.52	13.52
2015-16	-	13.52	13.52
2016-17	-	13.52	13.52
2017-18	-	13.52	13.52
2018-19	-	13.52	13.52
2019-20	-	13.52	13.52
2020-21	-	13.52	13.52
2021-22	-	13.52	13.52
2022-23	-	13.52	13.52
2023-24a/	207.28	13.52	13.52
2024-25	-	13.52	13.52
2025-26	-	13.52	13.52
2026-27	-	13.52	13.52
2027-28	-	13.52	13.52
2028-29	-	13.52	13.52
2029-30	-	13.52	13.52
2030-31	-	13.52	13.52
2031-32	-	13.52	13.52
2032-33	-	13.52	13.52

Source: Analysis

Note: a/ STP Augmentation to additional 24 MLD is considered

Appendix 1-2 Valuing Economic Benefits – Sewerage Project

The benefits arising from improved sewerage or sanitation, solid waste management, and storm water drainage results in improved environmental and living conditions and public health in the Project city / town. Benefits are achieved through more effective removal of sewage, solid waste and stagnant water from in and around living areas and prevention of sewage, solid waste leachate and stagnant water from entering drains and waterways and, in some areas, broken water supply pipelines. Improved disposal of sewage, solid waste and stagnant water will result also in more pleasant surroundings through a reduction in odour and an improvement in the aesthetic quality of drains, waterways, low-lying areas and other areas where solid waste is dumped.

However, quantifying environmental and health benefits is difficult because of the need for data to establish the magnitude of impacts of the improvements and to separate out the effects of an improved sewerage, solid waste collection or drainage system from other factors such as personal hygiene habits, housing standards, water quality, etc.

Difficulties in estimation have meant that benefits that are more readily valued have been used in the economic evaluation of environmental improvements – for example, increased property values, revenues from service tariffs or charges (as indicators of willingness to pay) and avoided economic costs for households or businesses from not having to take alternative actions because of the poor delivery by government agencies of environmental services.

The economic benefits considered in the present analysis for the sewerage component in Hapur Town include:

- (i) Cost of savings for residential and non-residential sewage generators, which are no longer required to operate on-site disposal systems (from purchase of septic tanks and O&M cost of septic tanks);
- (ii) Reduction of household medical expenditure cost due to wastewater related disease;
- (iii) Reduction in earning lost due to illness; and
- (iv) Revenue from the disposed water for irrigation purpose

Willingness to Pay (WTP). Broad information on willingness to pay for improved facilities was collected during the socio-economic/baseline survey. Presently the sewer is functioning only in limited areas with defunct condition. Hence the HHs presently served and the HHs from the remaining unserved area are willing to avail the services if provided. WTP Survey in Hapur (2009) revealed that only about 25% HHs in Hapur Town were having access to sewerage system and remaining HHs were resorting to roadside drains and soak pits. Cent percent showed positive response for the UGD system both among the non-slum and slum HHs, but majority of them (about 95%) are willing to pay less Rs 1000 as connection charges. Also all the HHs are willing to pay for the user charges on monthly basis, but willing to pay less than Rs 150. All these together underline the positive response among the HHs for the proposed sewerage system with increased service levels, and to the introduction of user charges like initial connection fee and monthly user charges. Broadly, this is considered as the 'effective demand' for the project components design

On-site Sewage Disposal Costs: Only 24% of non-slum HHs and 22.3% of slum HHs were having access to UGD and remaining HHs were found resorting to mainly septic tanks for sewage disposal in Hapur Town.

Households receiving connections to the sewerage system with the Project would otherwise need to dispose of sewage on-site, by installing septic tanks or low cost sanitary toilets such as twin pit pour flush latrines or dry pit latrines. The cost savings of not having to undertake on-site treatment is an economic benefit of the Project. For calculation of economic benefits, the avoidance of on-site sewage disposals cost for those who are going to avail new connections was considered. For these

households capital cost and the future O&M cost of existing on-site disposal facilities (collected from socio-economic survey), discounted at 7% for 15 years are considered as Project benefits (**Table 1**). These cost savings are applied to the beneficiaries of the sewerage system.

Table 1: Expenditure on disposing of sewage on-site per HH

Sewage Category	Capital (Rs)	O&M/Year (Rs)	NPV of 15 years O&M cost (Rs)**	Life Cycle Cost (Rs)***
Septic tank	20000	400	3,643	23,643
LCS	8000	200	1,822	9,822

*- O&M cost assumed as Rs 2000 per every fifth year for Septic Tank and 2.5% of capital cost per year for LCS.

** - Net Present Value (NPV) of 15 years annual O&M cost discounted at 7%.

*** - Life cycle cost includes initial construction cost & NPV of 15 years O&M Cost.

Health Care Costs. Research findings indicate that sanitation improvements results in more health benefits, mainly in terms of reducing the waterborne diseases. “The regression results reported, show that expenditures on sanitation had a large impact on reducing the waterborne disease death rate. Sewage capital (particularly the initial sewage treatment works) and refuse collection and disposal had particularly large effects”¹. “Over all the cities in the pooled sample, a one percent increase in each of the six categories would have saved 18 lives annually in the average-sized city”.

According to the National Sample Survey Organisation survey findings, the monthly percapita expenditure on non-institutional medicine in urban areas was Rs 32.30 (2004-05)² and estimated to Rs 41 for 2008-09. If one include the institutional medical expenditure, the total household medical annual medical expenditure will be high and at national level this is estimated to be Rs 5000 – Rs 6000. Sanitation improvements in urban areas will help to reduce this high incidence of annual household medical expenditure by reducing the impact of waterborne diseases considerably. This will apply to the present project cities also.

Baseline survey respondents generally had difficulty separating out the costs of treating environmental sanitation diseases from other diseases. **Table 2** indicates average monthly household expenditure on health care and this expenditure as a percentage of household income. These assumptions are based upon the available secondary data resources, results from the socio-economic baseline study conducted by the ADB TA Consultant and finally the discussions with the HHs in the project city.

Table 2 Estimated Savings in Household Expenditure on Health (Rs.)- Hapur Sewerage

Health Exp. Savings for Sewerage - Hapur	Slum HHs	Non-Slum HHs
Annual HH income a/	91,536	133,620
% of Income for Health Exp. b/	6.6%	5.2%
Annual Health Exp. / HHs	6,041	6,948
Annual Sanitation related health Exp./ HHs (11.5%) ^{a/} (Rs.)	697	802
Annual Health exp. due to Sewerage (Rs) c/- 40%/HH	279	321

¹ DEATH AND SPENDING: URBAN MORTALITY AND MUNICIPAL EXPENDITURE ON SANITATION, Louis Cain *Department of Economics Loyola University Chicago* & Elyce Rotella, *Economics Department 105 Wylie Hall Indiana University*

² Household Consumption of Various Goods and Services in India, 2004-05, NATIONAL SAMPLE SURVEY ORGANISATION, MINISTRY OF STATISTICS AND PROGRAMME IMPLEMENTATION, Press Note Dated 30th April 2007

Health Exp. Savings for Sewerage - Hapur	Slum HHs	Non-Slum HHs
Annual Health exp.aviodance due to Sewerage (Rs) - 90%/HH	251	289
Total Annual earning lost during sick days d/	2,510	3,660
Annual Savings in earning lost during sick days due to sewerage(@ of 40% of earning lost)	1,004	1,464
Total Health Benefits /HH	1,255	1,753
No. of HHs benefited (@66% of total HHs) ^{a/}	8335	35837
Annual Savings in Health Expenditure (Rs Million) - 2013	10.46	62.81

a/ as per Household Baseline Survey in Hapur Town, 2009

b/ National Sample Survey on Consumption Expenditure, 50 th round, 55 th round & 61st Round

c/ Assumed based on the similar studies that 40% of the sanitation related health exp. Is due to sewerage problems.

d/ @ 10 earning days lost due to sanitation related diseases with the wage rates of Rs 366 for Non-slum HH member and Rs 251 for slum HH member - arrived from Baseline Survey, 2009

Source: Consultant

The avoided health care costs per household were applied in full to the number of households benefiting from sewerage improvement. The inadequacies of the sewerage system were considered major contributing factors to personal hygiene and public health conditions. The risk of environmental sanitation-related diseases would be reduced with properly maintained and functioning sewerage, together with increased public awareness on the effects of indiscriminate disposal of wastes into waterways and dumping of rubbish in open areas.

Revenue from the disposed water for irrigation purpose: based on the practice followed elsewhere, it is assumed that the output from the STP (treated water) will be used for irrigation purpose.

Accordingly, the opportunity cost of the released water is estimated and considered as one of the revenue source for the project (**Table 3**).

Table 3 Opportunity Cost for STP Water for Irrigation Purpose - Hapur Sewerage

Irrigation Area coverage through STP Water	m2	1,500,000
	Ha	150
	acre	371
production / acre b/	Rs	40,000
total production	Rs	14,820,000
loss due to non-availabilty of water a/	Rs million	7.41

a/ It is assumed that 50% of the production will be the gain due to availability of STP water & the balance 50% of the production will be realized through other crops with other water source

b/ two crops per year assumed

Source: Consultant

Exclusions. The following benefits of sewage and sanitation have not been quantified for want of adequate data and quantification techniques. These qualitative benefits along with the quantifiable benefits discusses above, the proposed sewage system will tend to provide better living condition in the project town.

- (i) Public cost of treating diseases due to poor environmental sanitation;
- (ii) Private and public costs of mosquito control;
- (iii) Avoided costs of on-site sewage/wastewater disposal by commercial, industrial and institutional premises;
- (iv) Public costs of flooding, including traffic disruption, road repair and building repair;
- (v) Effects on businesses and industries, such as aquaculture and fisheries, agriculture and washing; and
- (vi) Effects on tourism and tourist-related businesses.

Appendix 1-3

Economic Cost-Benefit Analysis of Drainage Component - Hapur Town (Base Case)

(Rs.in Million)

Year	Economic Capital Cost		Economic O&M Cost		Economic Benefits				Net Benefit
	Drainage	Total	Sewerage	Total	Savings in Health care Exp. & Earning lost	On-site Sewage Disposal	Revenue from STP Water for Irrigation	Total	
2009-10	-	-	-	-	-	-	-	-	-
2010-11	108.56	108.56	-	-	-	-	-	-	(108.56)
2011-12	542.81	542.81	-	-	-	-	-	-	(542.81)
2012-13	434.25	434.25	8.11	8.11	43.96	341.36	-	385.32	(57.04)
2013-14	-	-	13.52	13.52	73.27	227.57	7.41	308.26	294.73
2014-15	-	-	13.52	13.52	75.03	13.65	7.41	96.10	82.57
2015-16	-	-	13.52	13.52	76.83	13.65	7.41	97.90	84.37
2016-17	-	-	13.52	13.52	78.68	13.65	7.41	99.74	86.22
2017-18	-	-	13.52	13.52	80.56	13.65	7.41	101.63	88.11
2018-19	-	-	13.52	13.52	82.50	13.65	7.41	103.56	90.04
2019-20	-	-	13.52	13.52	84.48	13.65	7.41	105.54	92.02
2020-21	-	-	13.52	13.52	86.51	13.65	7.41	107.57	94.05
2021-22	-	-	13.52	13.52	88.58	13.65	7.41	109.65	96.12
2022-23	-	-	13.52	13.52	90.71	13.65	7.41	111.77	98.25
2023-24	207.28	207.28	13.52	13.52	92.88	13.65	7.41	113.95	(106.85)
2024-25	-	-	13.52	13.52	95.11	13.65	7.41	116.18	102.65
2025-26	-	-	13.52	13.52	97.40	13.65	7.41	118.46	104.94
2026-27	-	-	13.52	13.52	99.73	13.65	7.41	120.80	107.28
2027-28	-	-	13.52	13.52	102.13	13.65	7.41	123.19	109.67
2028-29	-	-	13.52	13.52	104.58	13.65	7.41	125.64	112.12
2029-30	-	-	13.52	13.52	107.09	13.65	7.41	128.15	114.63
2030-31	-	-	13.52	13.52	109.66	13.65	7.41	130.72	117.20
2031-32	-	-	13.52	13.52	112.29	13.65	7.41	133.35	119.83
2032-33	(325.68)	(325.68)	13.52	13.52	114.99	13.65	7.41	136.05	448.21
Total	967.21	967.21	278.58	278.58	1,896.97	828.36	148.20	2,873.53	1,627.75

NPV @12% (Rs. Million)	857.12	857.12	77.67	77.67	484.06	451.52	39.40	974.98	40.18
EIRR (%)									13.05%

Note:

1. Residual value of the capital cost (30%) is considered at the end of the analysis period, considering the high LA cost and the augmented STP commissioned only in 2024-25.
2. Based on the observation of the ERD (ADB) on account of double counting, the project benefit of 'improved property value' is not considered for the analysis.

The Constitution (Seventy-Fourth Amendment) Act, 1992

An Act Further to amend the Constitution of India

Be it enacted by Parliament in the Forty-third Year of the Republic of India as follows:-

1. (1) This Act may be called the Constitution (Seventy-fourth Amendment) Act, 1992
- (2) It shall come into force on such date as the Central Government may, by notification in the Official Gazette, appoint

2. After Part IX of the Constitution, the following Part shall be inserted, namely:-

1. 'PART IXA'

THE MUNICIPALITIES

1.1 243P. In this Part, unless the context otherwise requires,-

- (a) "Committee" means a Committee constituted under article 243S;
 - (b) "district" means a district of a State;
 - (c) "Metropolitan area" means an area having a population of ten lakhs or more comprised in one or more districts and consisting of two or more Municipalities or Panchayats or other contiguous areas, specified by the Governor by public notification to be a Metropolitan area for the purposes of this Part;
 - (d) "Municipal area" means the territorial area of a Municipality as is notified by the Governor;
 - (e) "Municipality" means an institution of self-government constituted under article 243Q;
 - (f) "Panchayat" means a Panchayat constituted under article 243B;
- (a) "population" means the population as ascertained at the last preceding census of which the relevant figures have been published.

243Q. (1) There shall be constituted in every State,-

- (a) a Nagar Panchayat (by whatever name called) for a transitional area, that is to say, an area in transition from a rural area to an urban area;
- (b) a Municipal Council for a smaller urban area; and
- (c) a Municipal Corporation for a larger urban area,

in accordance with the provisions of this Part:

Provided that a Municipality under this clause may not be constituted in such urban area or part thereof as the Governor may, having regard to the size of the area and the municipal services being provided or proposed to be provided by an industrial establishment in that area and such other factors as he may deem fit, by public notification, specify to be an industrial township.

(2) In this article, "a transitional area" "a smaller urban area" or "a larger urban area" means such area as the Governor may, having regard to the population of the area, the density of the population therein the revenue generated for local administration, the percentage of employment in non-agricultural activities, the economic importance or such other factors as he may deem fit, specify by public notification for the purposes of this Part.

243R. (1) Save as provided in clause (2), all the seats in a Municipality shall be filled by persons chosen by direct election from the territorial constituencies in the Municipal area and for this purpose each Municipal area shall be divided into territorial constituencies to be known as wards.

(2) The Legislature of a State may, by law, provide,-

- (a) for the representation in a Municipality of –

- (i) persons having special knowledge or experience in Municipal administration;
- (ii) the members of the House of the People and the members of the Legislative Assembly of the State representing constituencies which comprise wholly or partly the Municipal area;
- (iii) the members of the Council of States and the members of the Legislative Council of the State registered as electors within the Municipal area;
- (iv) the Chairpersons of the Committees constituted under clause (5) of article 243S.

Provided that the persons referred to in paragraph (i) shall not have the right to vote in the meetings of the Municipality;

(b) the manner of election of the Chairperson of a Municipality.

243S. (1) There shall be constituted Wards Committees, consisting of one or more wards, within the territorial area of a Municipality having a population of three lakhs or more.

(2) The Legislature of a State may, by law, make provision with respect to-

(a) the composition and the territorial area of a Wards Committee;

(b) the manner in which the seats in a Wards Committee shall be filled

(3) A member of a Municipality representing a ward within the territorial area of the Wards Committee shall be a member of that Committee.

(4) Where a Wards Committee consists of –

(a) one ward, the member representing that ward in the Municipality; or

(b) two or more wards, one of the members representing such wards in the Municipality elected by the Members of the Wards Committee, shall be the Chairperson of that Committee.

(5) Nothing in this article shall be deemed to prevent the Legislature of a State from making any provision for the constitution of Committees in addition to the Wards Committees.

243T. (1) Seats shall be reserved for the Scheduled Castes and the Scheduled Tribes in every Municipality and the number of seats so reserved shall bear, as nearly as may be, the same proportion to the total number of seats to be filled by direct election in that Municipality as the population of the Scheduled Castes in the Municipal area or of the Scheduled Tribes in the Municipal area bears to the total population of that area and such seats may be allotted by rotation to different constituencies in a Municipality.

(2) Not less than one-third of the total number of seats reserved under clause (1) shall be reserved for women belonging to the Scheduled Castes or, as the case may be, the Scheduled Tribes.

(3) Not less than one-third (including the number of seats reserved for women belonging to the Scheduled Castes and the Scheduled Tribes) of the total number of seats to be filled by direct election in every Municipality shall be reserved for women and such seats may be allotted by rotation to different constituencies in a Municipality.

(4) The office of Chairpersons in the Municipalities shall be reserved for the Scheduled Castes, the Scheduled Tribes and women in such manner as the Legislature of a State may, by law, provide.

(5) The reservation of seats under clauses (1) and (2) and the reservation of office of Chairpersons (other than the reservation for women) under clause (4) shall cease to have effect on the expiration of the period specified in article 334.

(6) Nothing in this Part shall prevent the Legislature of a State from making any provision for reservation of seats in any Municipality or office of Chairpersons in the Municipalities in favour of backward class of citizens.

243U. (1) Every Municipality, unless sooner dissolved under any law for the time being in force, shall continue for five years from the date appointed for its first meeting and no longer:

Provided that a Municipality shall be given a reasonable opportunity of being heard before its dissolution.

(2) No amendment of any law for the time being in force shall have the effect of causing dissolution of a Municipality at any level, which is functioning immediately before such amendment, till the expiration of its duration specified in clause (1).

(3) An election to constitute a Municipality shall be completed,-

(a) before the expiry of its duration specified in clause (1);

(b) before the expiration of a period of six months from the date of its dissolution:

Provided that where the remainder of the period for which the dissolved Municipality would have continued is less than six months, it shall not be necessary to hold any election under this clause for constituting the Municipality for such period.

(4) A Municipality constituted upon the dissolution of Municipality before the expiration of its duration shall continue only for the remainder of the period for which the dissolved Municipality would have continued under clause (1) had it not been so dissolved.

243V. (1) A person shall be disqualified for being chosen as, and for being, a member of a Municipality-

(a) if he is so disqualified by or under any law for the time being in force for the purposes of elections to the Legislature of the State concerned:

Provided that no person shall be disqualified on the ground that he is less than twenty-five years of age, if he has attained the age of twenty-one years;

(b) if he is so disqualified by or under any law made by the Legislature of the State.

(2) If any question arises as to whether a member of a Municipality has become subject to any of the disqualifications mentioned in clause (1), the question shall be referred for the decision of such authority and in such manner as the Legislature of a State may, by law, provide.

243W. Subject to the provisions of this Constitution, the Legislature of State may, by law, endow-

(a) The Municipalities with such powers and authority as may be necessary to enable them to function as institutions of self-government and such law may contain provision for the devolution of powers and responsibilities upon Municipalities, subject to such conditions as may be specified therein, with respect to-

(i) the preparation of plans for economic development and social justice;

(ii) the performance of functions and the implementation of schemes as may be entrusted to them including those in relation to the matter listed in the Twelfth Schedule;

(b) the committees with such powers and authority as may be necessary to enable them to carry out the responsibilities conferred upon them including those in relation to the matters listed in the Twelfth Schedule.

1.2 243X. The Legislature of a State may, by law-

(a) authorise a Municipality to levy, collect and appropriate such taxes, duties, tolls and fees in accordance with such procedure and subject to such limits;

(b) assign to a Municipality such taxes, duties, tolls and fees levied and collected by the State Government for such purposes and subject to such conditions and limits;

(c) provide for making such grants-in-aid to the Municipalities from the Consolidated Fund of the State; and

(d) provide for constitution of such funds for crediting all moneys received, respectively, by or on behalf of the Municipalities and also for the withdrawal of such moneys therefrom,

as may be specified in the law.

243Y. (1) The Finance Commission constituted under article 243-I shall also review the financial position of the Municipalities and make recommendations to the Governor as to-

(a) the principles which should govern-

- (i) the distribution between the State and the Municipalities of the net proceeds of the taxes, duties, tolls and fees leviable by the State, which may be divided between them under this Part and the allocation between the Municipalities at all levels of their respective shares of such proceeds;
 - (ii) the determination of the taxes duties, tolls and fees which may be assigned to, or appropriated by, the Municipalities;
 - (iii) the grants-in-aid to the Municipalities from the Consolidated Fund of the State;
- (b) the measures needed to improve the financial position of the Municipalities;
 - (c) any other matter referred to the Finance Commission by the Governor in the interests of sound finance of the Municipalities.

(2) The Governor shall cause every recommendation made by the Commission under this article together with an explanatory memorandum as to the action taken thereon to be laid before the Legislature of the State.

243Z. The Legislature of a State may, by law, make provisions with respect to the maintenance of accounts by the Municipalities and the audit of such accounts.

243ZA. (1) The superintendence, direction and control of the preparation of electoral rolls for, and the conduct of, all elections to the Municipalities shall be vested in the State Election Commission referred to in article 243K.

(2) Subject to the provisions of this Constitution, the Legislature of a State may, by law, make provision with respect to all matters relating to or in connection with, elections to the Municipalities.

243ZB. The provisions of this Part shall apply to the Union territories and shall, in their application to a Union territory, have effect as if the references to the Governor of a State were references to the Administrator of the Union Territory appointed under article 239 and references to the Legislature or the Legislative Assembly of a State were references in relation to a Union Territory having a Legislative Assembly, to that Legislative Assembly.

Provided that the President may, by public notification, direct that the provisions of this Part shall apply to any Union territory or part thereof subject to such exceptions and modifications as he may specify in the notification.

243ZC. (1) Nothing in this Part shall apply to the Scheduled Areas referred to in clause (1), and the tribal areas referred to in clause (2), of article 244.

(2) Nothing in this Part shall be construed to affect the functions and powers of the Darjeeling Gorkha Hill Council constituted under any law for the time being in force for the hill areas of the distinct of Darjeeling in the State of West Bengal.

(3) Notwithstanding anything in this Constitution, Parliament may, by law, extend the provisions of this Part to the Scheduled Areas and the tribal areas referred to in clause (1) subject to such exceptions and modifications as may be specified in such law, and no such law shall be deemed to be an amendment of this Constitution for the purposes of article 368.

243ZD. (1) There shall be constituted in every State at the district level a District Planning Committee to consolidate the plans prepared by the Panchayats and the Municipalities in the district and to prepare a draft development plan for the district as a whole.

(2) The Legislature of a State may by law, make provision with respect to-

- (a) the composition of the District Planning Committees;

- (b) the manner in which the seats in such Committees shall be filled:

Provided that not less than four-fifths of the total number of members of such Committee shall be elected by, and from amongst, the elected members of the Panchayat at the diacritic level and of the Municipalities in the district in proportion to the ratio between the population of the rural areas and of the urban areas in the district;

(c) the functions relating to district planning which may be assigned to such Committees;

(d) the manner in which the Chairpersons of such Committee shall be chosen.

(3) Every District Planning Committee shall, in preparing the draft development plan, -

(a) have regard to -

(i) matters of common interest between the Panchayats and the Municipalities including spatial planning, sharing of water and other physical and natural resources, the integrated development of infrastructure and environmental conservation;

(ii) the extent and type of available resources whether financial or otherwise;

(b) consult such institutions and organisations as the Governor may, by order, specify.

(4) The Chairpersons of every District Planning Committee shall forward the development plan, as recommended by such Committee, to the Government of the State.

243ZE.(1) There shall be constituted in every metropolitan area a Metropolitan Planning Committee to prepare a draft development plan for the Metropolitan area as a whole.

(2) The legislature of a State may, by law, make provision with respect to -

(a) the composition of the Metropolitan Planning Committees;

(b) the manner in which the seats in such Committees shall be filled:

Provided that not less than two-thirds of the members of such Committee shall be elected by, and from amongst the elected members of the municipalities and chairpersons of the Panchayats in the Metropolitan area in proportion to the ratio between the population of the Municipalities and of the Panchayats in that area;

(c) the representation in such Committees of the Government of India and the Government of the State and of such organisation and institutions as may be deemed necessary for carrying out of functions assigned to such Committees;

(d) the functions relating to planning and coordination for the metropolitan area which may be assigned to such Committees;

(e) the manner in which the Chairpersons of such Committees shall be chosen.

(3) Every Metropolitan Planning Committee shall, in preparing the draft development plan -

(a) have regard to -

(i) the plans prepared by the Municipalities and the Panchayats in the Metropolitan area;

(ii) matter of common interest between the Municipalities and the Panchayats, including coordinated spatial planning of the area, sharing of water and other physical and natural resources, the integrated development of infrastructure and environmental conservation;

(iii) the overall objectives and priorities set by the Government of India and the Government of the State;

(iv) the extent and nature of investments likely to be made in Metropolitan area by agencies of the Government of India and of the Government of the State and other available resources whether financial or otherwise;

(b) consult such institutions and organizations as the Governor may, by order, specify.

(4) The Chairperson of every Metropolitan Planning Committee shall forward the development plan, as recommended by such Committee, to the Government of the State.

243ZF. Notwithstanding anything in this Part, any provision of any law relating to Municipalities in force in a State immediately before the commencement of the Constitution (Seventy-fourth Amendment) act, 1992, which is inconsistent with the provisions of this Part, shall continue to be in force until amended or repealed by the competent Legislature or other competent authority or until the expiration of one year from such commencement, whichever is earlier:

Provided that all the Municipalities existing immediately before such commencement shall continue till the expiration of their duration, unless sooner dissolved by a resolution passed to that effect by the Legislative Assembly of that State or, in the case of a State having a Legislative Council, by each House of the Legislature of the State.

243ZG. Notwithstanding anything in this Constitution -

(a) the validity of any law relating to the delimitation of constituencies or the allotment of seats to such constituencies, made or purporting to be made under article 243ZA shall not be called in question in any court;

(b) no election to any Municipality shall be called in question except by an election petition presented to such authority and in such manner as is provided for by or under any law made by the Legislature of a State;

(3). In clause (3) of article 280 of the Constitution, sub clause (c) shall be lettered as sub-clause (d) and before sub-clause (d) as so relettered, the following sub-clause shall be inserted, namely:-

“(c) the measures needed to augment the Consolidated Fund of a State to supplement the resources of the Municipalities in the State on the basis of the recommendations made by the Finance Commission of the State;”.

(4) After the Eleventh Schedule to the Constitution, the following Schedule shall be added, namely:-

“TWELFTH SCHEDULE

(Article 243W)

1. Urban Planning including town planning
2. Regulation of land-use and construction of buildings.
3. Planning for economic and social developments
4. Roads and bridges.
5. Water supply for domestic, industrial and commercial purposes.
6. Public health, sanitation conservancy and solid waste management.
7. Fire services.
8. Urban forestry, protection of the environment and promotion of ecological aspects.
9. Safeguarding the interests of weaker sections of society, including the handicapped and mentally retarded.
10. Slum improvement and upgradation.
11. Urban poverty alleviation.
12. Provision of urban amenities and facilities such as parks, gardens, playgrounds.
13. Promotion of cultural, educational and aesthetic aspects.
14. Burials and burial grounds; cremations, cremation grounds and electric crematoriums.
15. Cattle pounds; prevention of cruelty to animals.
16. Vital statistics including registration of births and deaths.
17. Public amenities including street lighting, parking lots, bus stops and public conveniences.
18. Regulation of slaughter houses and tanneries”.

RD

EXTRACT OF ARTICLE 243-I & 243-K FROM CLAUSE 2 OF THE CONSTITUTION (73
AMENDMENT) ACT, 1992 WHICH ARE REFERRED TO IN THE CONSTITUTION
(74TH AMENDMENT) ACT, 1992

243-I. (1) The Governor of a State shall, as soon as may be within one year from the commencement of the Constitution (Seventy-third Amendment) Act, 1992, and thereafter at the expiration of every fifth year, constitute a Finance Commission to review the financial position of the Panchayats and to make recommendations to the Governor as to :-

- (a) the principles which should govern-
- (i) the distribution between the State and the Panchayats of the net proceeds of the taxes, duties, tolls and fees leviable by the State, which may be divided between them under this Part and the allocation between the Panchayats at all levels of their respective shares of such proceeds;
 - (ii) the determination of the taxes, duties, tolls and fees which may be assigned to, or appropriated by, the Panchayats;
 - (iii) the grants-in-aid to the Panchayats from the Consolidated Fund of the State;
- (b) the measures needed to improve the financial position of the Panchayats;
- (c) any other matter referred to the Finance Commission by the Governor in the interests of sound finance of the Panchayats.

(2) The Legislature of a State may, by law, provide for the composition of the Commission, the qualifications which shall be requisite for appointment as members thereof and the manner in which they shall be selected.

(3) The Commission shall determine their procedure and shall have such powers in the performance of their functions as the Legislature of the State may, by law, confer on them.

(4) The Governor shall cause every recommendation made by the Commission under this article together with an explanatory memorandum as to the action taken thereon to be laid before the Legislature of the State.

243K(1) The Superintendence, direction and control of the preparation of electoral rolls for, and the conduct of, all elections to the Panchayats shall be vested in a State Election Commission consisting of a State Election Commissioner to be appointed by the Governor.

(2) Subject to the provisions of any law made by the Legislature of a State, the conditions of service and tenure of office of the State Election Commissioner shall be such as the Governor may by rule determine;

Provided that the State Election Commissioner shall not be removed from his office except in like manner and on the like grounds as judge of High Court and the conditions of service of the State Election Commissioner shall not be varied to his disadvantage after his appointment.

(3) The Governor of a State shall, when so requested by the State Election Commission, make available to the State Election Commission such staff as may be necessary for the discharge of the functions conferred on the State Election Commission by Clause (1).

(4) Subject to the provisions of this Constitution, the Legislature of a State may, by law, make provision with respect to all matters relating to, or in connection with elections to the Panchayats.

Appendix 2-2

Impact of 73rd & 74th Amendments on ULBs in Uttar Pradesh

The two historic and much talked about 73rd and 74th amendments to the Constitution of India, envisaged a total change in the process of self-governance and planning. The objectives of the amendments were loud and clear: a better plan and its better implementation.

Consequent to the enactment of the 73rd Constitution Amendment Act Uttar Pradesh enacted appropriate legislations for setting up strong, viable local bodies. The Uttar Pradesh Local Self Government Laws (Amendment) Act 1994 was passed by the legislature of Uttar Pradesh to incorporate the mandatory provisions of the CAA 1992. The new laws came into force from 31.5.1994.

Various aspects of Self Governance, under the Urban Local Bodies systems have been discussed below in greater detail.

Urban Local Bodies

Following the 74th Constitutional Amendment Act, 1992, the Government of Uttar Pradesh has taken steps to set up the democratic governance in urban local bodies have been accorded Constitutional Status, they have also been made democratic by way of providing representation of weaker sections of society and women. The functional domain of the ULBs has also been enlarged.

Conformity Legislations in State

The Uttar Pradesh Local Self Government Laws (Amendment) Act, 1994 was passed by the legislature of Uttar Pradesh to incorporate the mandatory provisions of the CCA 1992. The new laws came into force from 31.05.1994, Some of the salient changes made in the municipal laws through the Amendment Act, 1994 have been highlighted below.

The U.P. Municipal Corporations Act, 1959 and U.P, Municipalities Act, 1966 have been amended and renamed as U.P. Nagar Nigam Act, 1959 and U.P. Nagar Palika Act 1916, while the United provinces Town Area Act, 1914 has been repealed.

Through these amendments following three categories of Urban Local Bodies have been created in the State:

Nagar Nigams (Municipal Corporations)	12
Nagar Palika Parishads (Municipal Boards)	194
Nagar Panchayats (Town Panchayats)	422
Total:	628

Expanding Functional Domains of ULBs

As provided under XII th Schedule of the Constitution, following 12 functions have been added to the duties of the urban local bodies:

- Providing water supply for domestic, industrial and commercial purpose,
- Establishing maintaining and assisting maternity center and child welfare and birth control clinics and promoting control family welfare and small family norm,
- Regulating tanneries,
 - Construction and maintenance of parking lots, bus stops and public convenience:
 - promoting urban forestry and ecological aspects and protection of the environment.

- Safeguarding the interests of weaker sections of society including the handicapped and mentally retarded,
- Promoting cultural educational and aesthetic aspects
- Constructing and maintaining cattle ponds and preventing cruelty to animals,
- Slum improvement and upgradation,
- Urban poverty alleviation and facilities such as gardens, public parks and play grounds.

Delegation of Rule Making Powers:

Powers regarding the framing and making the bye-laws has been delegated to the local bodies subject to the only condition that the bye-laws will take effect only after they have been confirmed by the State Government and published in the official gazette.

Previously State Government was empowered by the Act to make rules for Nagar Palika Parishads and Nagar Panchayats. These Powers have now been decentralized and delegated to the Divisional Commissioners, who are the Prescribed Authority for this purpose.

Financial Autonomy

Financial powers of Nagar Ayukt in case of Nagar Nigams and President in case of Nagar Palika Parishads and Nagar Panchayats have been increased as under:

Type of ULBs	Authority	Financial Powers	
		Before 74th Amendment	After 74th Amendment
Nagar Nigams	Nagar Ayukt	Upto Rs.10,000	UptoRs. 1,00,000
Nagar Palika Parishads	President	UptoRs. 10,000	UptoRs.50,000
Nagar Panchayats	President	Upto Rs. 3000	Upto Rs. 15,000

Devolution of State Revenues

The First State Finance Commission of U.P. has recommended that 7 percent of net tax receipts of the State Government should be transferred to ULBs. the respective shares of Nagar Nigams, Nagar Palika Parishads and Nagar Panchayats were 3.12%, 3.12% and 0.76%. Inter-se distribution within each category was on the basis of population and area (1991) with respective weight of 80% and 20%. The State Government accepted these recommendations. With this, the flow of funds to ULBs has become regular and its distribution among ULBs has been rationalized and limited to objective criteria. In this context, the Second State Finance Commission of U.P. has recommended that 7.5 percent of net tax receipts of the State Government should be transferred to ULBs. The flow of funds to ULBs has substantially increased in recent years as shown in the table below.

Year	Funds developed (Rs.in crore)
1997-98	415.83
1998-99	504.22
1999-2000	537.89
2000-01	628.92
2001-02	682.31
2002-03	765.74
2003-04	825.00
2004-05	877.00

To improve the financial position of ULBs and compel them to take more internal resources imposition of all taxes enumerated in the Municipal Acts, has been made compulsory since September 1998. Ten percent of devolution share has been linked to the financial performance of ULBs. Previously, the State Government was empowered by the Act, to make rules regarding taxation and other purpose for Nagar Palika Parishad and Nagar Panchayat. These powers have been decentralized and delegated to the Divisional Commissioners, who are the Prescribed Authority for this purpose.

Property Tax constitutes the most important own source of revenue of ULBs. The First Finance Commission made several suggestions to reform the property tax system in the state. which were accepted by the State Government. An area based self-assessment system of property tax has been introduced in 11 Municipal Corporation Towns of the State in the first place to strengthen the financial position of the ULBs.

Inspite of all these measures, the financial position of ULBs in the State continues to be precarious and they are often unable to meet expenditure on salaries and other essential services like power dues. As a result, the quality of urban services remains poor Urgent steps are therefore, called to revamp the financial situation of ULBs. The fiscal domain of these bodies needs to be expanded and they have to be persuaded to take steps to raise revenue from their own resources. Assess of these bodies to institutional sources of funding and capital market has to be improved.

Thus the enactment of 73rd and 74th Constitutional Amendment Bills 1992 has paved the way for the creation of institutional structures for realizing the goals of self governance under the Panchayati Raj and Urban Local Bodies systems. It has accelerated the socio-economic development through democratic decentralization of governance within a participatory framework at the grassroots level.

Appendix 2-3
NCRPB Income & Expenditure Account

(Amount in Rs.)

S.N.	Expenditure	Amount 3/31/2009	Amount 3/31/2008	Amount 3/31/2006	Amount 31-3-2005	Amount 31-3-2004	Amount 31-3-2003
A. PLAN							
I. EXPENDITURES							
	i) Plan Expenses	34,704,287	25,325,701	12,627,001	18,374,746	9,315,602	14,714,249
	ii) Expenses on Market Borrowing	217,773,905	38,508,653	391,262,005	413,930,099	781,153,798	1,040,833,643
	Total	252,478,192	63,834,354	403,889,006	432,304,844	790,469,400	1,055,547,892
II. INCOME							
	Total	1,411,109,968	1,141,030,735	1,136,770,645	1,190,448,073	1,584,468,106	1,796,149,029
	Excess of Income Over Expenditure b/d	1,158,631,776	1,077,196,381	732,881,639	758,143,229	793,998,706	740,601,137
B. NON-PLAN							
I. EXPENDITURES							
	i) Salaries	20,720,220	14,169,020	10,866,049	10,851,062	9,510,786	9,423,064
	ii) Retirement Benefits			268,499	506,958	1,044,321	546,572
	iii) Office Expences	3,902,652	45,822,680	4,944,722	5,482,057	4,247,339	2,976,956
	iv) Other Expenses			2,240,628	2,122,055	3,135,103	2,197,029
	Total	24,622,872	59,991,700	18,319,898	18,962,132	17,937,549	15,143,621
II. INCOME							
	i) Grant-in -Aid	23,500,000	18,741,000	17,729,817	18,335,721	17,262,583	15,000,000
	ii) Revenue from CPF & GPF Deposits	1,331,086	749,523	602,473	620,935	682,545	842,738
	iii) Other Income	8,101	56,427	44,591	108,736	89,750	82,006
	Total	24,839,187	19,546,950	18,376,881	19,065,392	18,034,878	15,924,744
	Excess of Income Over Expenditure b/d	216,315	(40,444,750)	56,983	103,260	97,329	781,123

Source: NCRPB Annual Reports & Annual Accounts

I. MUNICIPAL FINANCIAL PERFORMANCE – HAPUR NAGARPALIKA

A. Overview

1. Financial sustainability of infrastructure investments is determined based on Hapur Nagarpalika ability to sustain investments (through debt servicing, equity contribution and operation and maintenance) from the municipal fund. Most sub-projects undertaken in ULBs (in the State and across Hapur) are financially unviable if they are to take recourse to project revenue. Municipal taxes and non-taxes generally supplement the shortfall in debt repayment and O&M. Financial sustainability analysis for Hapur Nagarpalika is therefore based on the municipal fund's ability to pay for sub-project costs. Reforms initiatives are subsequently based on resource mobilization and expenditure management initiatives required for CDP sustainability.
2. The current section on Financial Sustainability reviews Hapur Nagarpalika's fiscal status (Revenue/Current Account and Capital Account) and assesses the HN's ability to finance and sustain the proposed infrastructure investments.
3. Financial sustainability addresses the required as well as appropriate taxation and tariff reforms. Hapur Nagarpalika Revenue Account and sub-project cash flows take cognizance of policy directives undertaken by Hapur Nagarpalika in addressing infrastructure investment and sustenance needs – the focus is on property taxation, water, sewer/drainage and conservancy charges. While the Nagarpalika continues to draw a substantial proportion of its income from government grant, in lieu of Octroi, in the long-term, the strategy of HN shall be to capitalize on the benefits accruing from property taxes. Urban infrastructure investments as part of the city development plan (CDP) should recognize the fact that property taxes pay for capital investments and user charges pay for system operation and maintenance – given the aforesaid approach, the financial sustainability analysis focuses on reviewing net cash flows arising out of taxation and tariff reforms.

B. Structure of Municipal Finances in ULB

4. The review of finances involves a time-series analysis of the income and expenditure of the Hapur Nagarpalika (HN) to ascertain the trends and the major sources and uses of funds. In addition to this, certain key financial indicators relating to property tax, water tax, per capita income, per capita expenditure and debt servicing; have been considered to assess the financial performance of the HN. The booking of transactions in HN is carried out under major and minor heads. The HN perform a series of obligatory and discretionary functions according to the powers vested through the Uttar Pradesh Municipal Corporations Act, 1959 and Uttar Pradesh Local Self Government Laws (Amendment) Act, 1994. . Under this Act, the HN is empowered to levy taxes and rates. The Act, allows the HN to levy property tax, duty on transfers of immovable property in the shape of an additional stamp duty, and tax on advertisements. To improve the financial position of ULBs and compel them to take more internal resources imposition of all taxes enumerated in the Municipal Acts, has been made compulsory since September 1998.

5. Property Tax constitutes the most important own source of revenue of ULBs. The First Finance Commission made several suggestions to reform the property tax system in the state. which were accepted by the State Government. An area based self-assessment system of property tax has been introduced in 11 Municipal Corporation Towns of the State in the first place to strengthen the financial position of the ULBs.
6. Most of the ULBs including HN in UP State are following the single entry manual accounting system, which is highly inefficient in terms transparency of information like current liabilities and assets and lack of financial management information. Also, manual accounting system proved time-consuming. Instead, the double entry computerized accounting system will be quick, efficient and systematic. Various items in the balance sheet could now be bifurcated into various components and information for different period was made available. This facilitated fast and efficient strategic decisions.
7. While urban local bodies are service organizations, efficient management of municipal finances is imperative to service the urban populace. Key sources of revenue consist of taxes, charges, and state transfers; and key items of expenditure are staff salaries, establishment charges, and operation and maintenance of infrastructure.
8. The Municipal Accounts code of Government of Uttar Pradesh prescribes the organization of the municipal fund into three broad categories of General Account, Capital Account and Debt and Suspense (or Extraordinary) Account. Based on the availability, revenue account data collected from the annual accounts of HN were compiled and analyzed. For the purpose of municipal fiscal assessment, financial data pertaining to the last four years (2006-07 to 2009-10) were compiled in an abstract format (**Table 1**).

Table 1: Details of Revenue & Expenditure - Hapur Nagarpalika (2006-07 to 2009-10) Amount in Rs.

Sl. No.	Revenue Head	FY 2006-2007	FY 2007-2008	FY 008-2009	FY 2009-2010
I	REVENUE				
A	Group (A) Tax Income	4,647,695	3,850,341	27,874,132	59,225,000
B	Group (B) Revenue Tax	4,780,538	5,886,174	23,340,984	12,330,000
C	Group (C) Govt. / by planning				
	i. Loan sanctioned for development	6,729,103	11,016,798	6,718,532	10,500,000
	ii. State	80,390,000	144,253,000	113,271,504	205,000,000
D	Group(D) Income by Tax Allocation				
	i. Revolving fund			14,245,000	25,000,000
	Total Revenue (A+B+C+D)	96,547,336	165,006,313	185,450,152	312,055,000
II	EXPENDITURE				
A	Group (A) Except Government	55,517,410	66,812,899	110,048,270	155,545,000
B	Group (B) Administration	21,654,165	22,933,613	25,662,535	68,750,000
C	Group(C) Salary/allowance for	34,874,470	40,162,950	38,685,080	87,300,000

	sweeper				
	Total Expenditure (A+B+C)	112,046,045	129,909,462	174,395,885	311,595,000
	Excess / Deficit	(15,498,709)	35,096,851	11,054,267	460,000

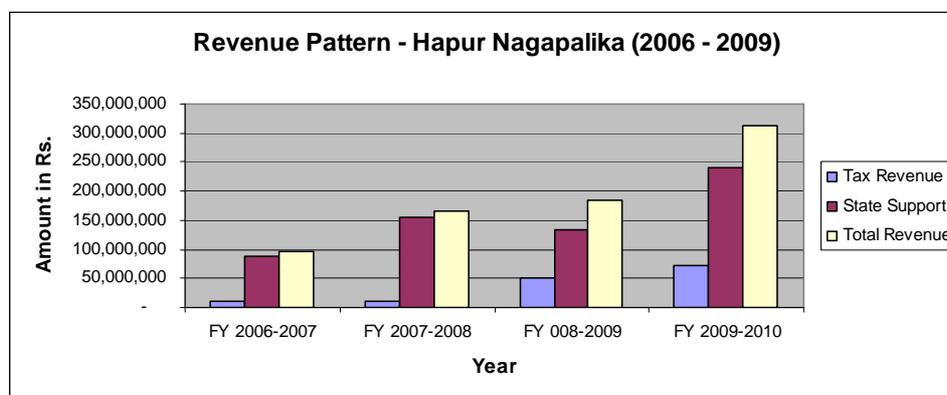
Source: Hapur Municipal Council

C. Revenue Account

9. The Revenue Account comprises of recurring items of income and expenditure, which are essentially financial transactions related to Hapur Nagarpalika's daily operations. Accruals to the municipal fund are applied to carry out designated municipal functions and services. Revenue Account comprises: (i) Revenue Income, comprising taxes, non-taxes, assigned revenues, and grants and contributions; and (ii) Revenue Expenditure, comprising establishment, operation and maintenance (on urban basic services) and debt servicing.

1. Revenue Income

10. Revenue income found increased at a compounded annual growth rate (CAGR) of 48 percent during the assessment period. Further analysis of Revenue Income components Hapur indicate that own tax revenue found increased at 134 percent CAGR. Non-tax revenue and state support are other major revenue with about 37 percent CAGR growth. Major sources of own revenue comprise property tax, other taxes, water charges, revenue grants and other miscellaneous fees and charges. Property Tax formed as a major



component of own tax revenues contributing about 98 percent of the total own tax revenues in FY06-07 and FY 07-08. Subsequently, the property transfer tax had become the largest revenue source and thus the share of property tax is reduced to around 15 percent. While property tax should be an important component of internally generated resources, Hapur Nagarpalika has still potential to exploit. With increasing trend, Revenue grant is one of the major revenue sources for HN (37 percent). Amongst the non-tax revenues, water charges contributed only 0.8 percent of total revenue income and have found with more fluctuating growth trend.

11. *Revenue Expenditure.* Revenue expenditure has been found to be with steady increase from FY 2006-07 during the review period. Expenditure on general establishment

and administration accounted for 22 percent of the total revenue expenditure in FY09. Of the total revenue expenditure, expenditure on operation and maintenance of municipal services constituted 50 percent. Operation and maintenance expenditure had accounted about 50 percent of the total expenditure and witnessed a increase at a CAGR of 41% provides a trend of revenue expenditure items

D. Water Supply and Distribution Account

12. Assessment of the Water supply Account provides an indication of Hapur Naga Nigam's efforts to recover costs of providing access to safe drinking water.

Table 1 provides a trend of income on water supply and distribution. While there is no separate account for financial management of water (WS) services, the current analysis is a step in determining the cost recovery options for a sustainable service. Additionally, the assessment also provides insight into options of ring-fencing the water supply service to determine institutional options of operating the water supply services as a profit centre.

- Income. Water charges including the connection charges and water tax collected along with property tax constitute almost 100 percent of total water income and 2 to 4 percent of HN's revenue income. Low tariffs and even lower collection performance has contributed to this poor income status in the WS Account.
- Expenditure. O&M expenditure is the major expenditure item for water & sanitation account and Water supply Account constitute 7 to 11 percent HN's revenue expenditure.

Table 1: Water and Sanitation Account - Hapur Nagapalika (Amount in Rs.)

Details	FY 2006-2007	FY 2007-2008	FY 008-2009	FY 2009-2010
Water Charges	1,220,645	1,433,356	1,883,411	2,500,000
Water Tax along with Property Tax	2,610,585	2,149,375	2,510,115	5,000,000
Total Revenue	3,831,230	3,582,731	4,393,526	7,500,000
Water well				
a) Repairing/Maintenance expense	3,953,988	2,455,742	3,160,144	2,500,000
b) New work expense	3,295,691	4,746,375	11,027,173	1,000,000
c) Salaries	3,820,292	4,393,336	4,447,980	17,900,000
Total Expenditure	11,069,971	11,595,453	18,635,297	21,400,000
Excess / Deficit	(7,238,741)	(8,012,722)	(14,241,771)	(13,900,000)
Source: Hapur Nagarpalika				

E. Fiscal Status of HN

1. Key Financial Indicators

13. A set of key financial indicators have been derived using the financial data procured from the HN for the assessment period. These indicators are used to assess the municipal performance with regards resource mobilization, fund utilization, financial performance and collection efficiencies.
14. *Resource Mobilization indicators.* These indicators summarize the performance of the HN with regards sources of funds. HN derives about 10 percent to 27 per cent of its revenue income from own sources, which is a not good sign but there is scope for improvements.
15. *Fund Application indicators.* These indicators are a measure to ascertain the utilization from the municipal fund. Nearly 50 per cent of the revenue expenditure is spent on establishment heads, leaving only 50 per cent for O&M of municipal assets and services that include 11 percent for water supply account. Establishment expenditure including sweepers salary accounts for about 600 per cent in FY2006 of the total own-tax revenue generated by the HN and this had reduced to 218 percent.
16. *Overall Financial Performance indicators.* These indicators are a measure to assess the overall financial performance of the municipality with regards operational performance and effective growth in revenue income and expenditure. The average operating ratio during the assessment period was less than unity and it was observed more than unity only for one year during the assessment period (FY 2006-07). The *indicators* of growth in per capita income and expenditure item heads indicate the effective growth, giving a performance measure relative to the growing population. Annual growth in per capita revenue income found to be consistently with increasing trend where as the per capita revenue expenditure during the assessment period, found to be with increasing trend but with a slightly slow pace (**Table 6**).

Table 6: Details of Per capita Revenue Income and Expenditure - Hapur Nagarpalika

Sl. No.	Details	FY 2006-2007	FY 2007-2008	FY 008-2009	FY 2009-2010
1	Population	246,942	254,597	262,489	270,627
2	Revenue Income (Rs. Lakhs)	965	1,650	1,855	3,121
3	Revenue Expenditure (Rs. Lakhs)	1,120	1,299	1,744	3,116
4	Revenue Account Surplus (Rs. Lakh)	(155)	351	111	5
5	Per Capita Revenue Income (Rs.)	391.0	648.1	706.5	1,153.1
6	Per Capita Revenue Expenditure (Rs.)	453.7	510.3	664.4	1,151.4

2. Key Issues

17. Financial management and fiscal status of Hapur Nagarpalika is summarized below:

- (i) Maintenance and Reporting of Accounts. A common accounting and financial reporting code, updated annually, with interim up-dations when required, supported with a user manual and organized training of municipal accounts staff will substantially streamline financial accounting and reporting.
- (ii) Revenue Realization. Taxes and charges are major own sources of revenue income. Being more dynamic in nature and within the control of the HN, these revenue incomes have potential to contribute more to the municipal fund. Key issues regarding revenue realization comprise (i) coverage of properties under property tax, (ii) poor collection of water charges; (iii) unclear status on extent of outstanding taxes and charges collectable; and (iv) extent of gap between the cost of service provided and user charges levied.
- (iii) Fund Application. Key issues regarding application from the municipal fund comprise (i) most of the revenue expenditure is accounted for by establishment item heads, (ii) an efficient system of costing to enable the actual cost of services provided in a scientific manner thus enabling logical mechanism for tariff structuring and (iii) the absence of information with regard to actual assets and liabilities of HN at a particular point of time render it difficult to ascertain the actual fiscal position.
- (iv) Operating Ratio. Hapur Nagarpalika has mostly maintained an operating ratio (OR) less than unity during the assessment year, except for one year with more than unity. A key reason for the mixed performance is tax revenue collection and expenditure management. However, Hapur Nagarpalika has untapped revenue potentials from property tax and water charges. While the OR indicates efficiency in revenue management, inability to capitalize on property tax and user charge revenues indicates over dependency on revenue grants and a level of complacency regarding other revenue income sources.

Box 1: Municipal Finance Sector Goal

Key Issues

- Maintenance and Reporting of Accounts
- Revenue Realization
- Fund Application
- Operating Ratio

Future Strategies

- A common accounting and financial reporting code, updated annually, with interim updates when required, supported with a user manual
- Widening the coverage of taxes and charges with better collection efficiency
- Sustainable and efficient tariff structure
- Upto-date information with regard to actual assets and liabilities
- Increase the revenue base and control over the revenue expenditure so as to have operating ratio with less than unity continuously.

Prospective Interventions:

- double entry computerized accounting system with adequate training to municipal officials
- Development of GIS based property and other service details through MIS and achievement of 85 percent collection efficiency for both property tax and water charges
- Sector based accounting system for service deliveries and sustainable tariff system that ensure full O&M recovery and part capital cost recovery
- Detailed MIS on assets and liabilities for better fiscal control
- Increase the revenue base through own sources and better control over establishment expenditure

Annexure 2-5

Financial Feasibility Analysis - Sewerage Component, Hapur Town

all values in Rs. Million

Year	Capital Cost	O & M Cost	Total O & M	Taxes, User Charges & Revenue from STP water for Irrigation	Net Revenue
2009-10	-	-	-	0.00	0.00
2010-11	125.70	-	-	0.00	-125.70
2011-12	628.50	-	-	0.00	-628.50
2012-13	502.80	-	-	0.00	-502.80
2013-14	-	15.46	15.46	129.13	113.68
2014-15	-	15.46	15.46	70.22	54.77
2015-16	-	15.46	15.46	71.73	56.28
2016-17	-	15.46	15.46	73.27	57.82
2017-18	-	15.46	15.46	91.72	76.26
2018-19	-	15.46	15.46	93.74	78.28
2019-20	-	15.46	15.46	95.81	80.36
2020-21	-	15.46	15.46	97.93	82.48
2021-22	-	15.46	15.46	100.11	84.65
2022-23	-	15.46	15.46	126.06	110.61
2023-24	240.00	15.46	15.46	128.91	-126.55
2024-25	-	11.86	11.86	131.82	119.97
2025-26	-	11.86	11.86	134.81	122.96
2026-27	-	11.86	11.86	137.87	126.01
2027-28	-	11.86	11.86	174.40	162.54
2028-29	-	11.86	11.86	178.40	166.55
2029-30	-	11.86	11.86	182.51	170.65
2030-31	-	11.86	11.86	186.71	174.86
2031-32	-	11.86	11.86	191.01	179.16
2032-33	-	11.86	11.86	242.42	230.57
Total	1,497.00	276.70	276.70	2,638.60	864.89
NPV@ 4.2%	1,227.28	160.75	160.75	1,387.76	(0.27)
FIRR (%)					4.2%

Source: Consultant

Sensitivity Analysis - 10% increase in Capital Cost

Financial Feasibility Analysis - Sewerage Component, Hapur Town

all values in Rs. Million

Year	Capital Cost	O & M Cost	Total O & M	User Charges	Net Revenue
2009-10	-	-	-	0.00	0.00
2010-11	138.27	-	-	0.00	-138.27
2011-12	691.35	-	-	0.00	-691.35
2012-13	553.08	-	-	0.00	-553.08
2013-14	-	15.46	15.46	129.13	113.68
2014-15	-	15.46	15.46	70.22	54.77
2015-16	-	15.46	15.46	71.73	56.28
2016-17	-	15.46	15.46	73.27	57.82
2017-18	-	15.46	15.46	91.72	76.26
2018-19	-	15.46	15.46	93.74	78.28
2019-20	-	15.46	15.46	95.81	80.36
2020-21	-	15.46	15.46	97.93	82.48
2021-22	-	15.46	15.46	100.11	84.65
2022-23	-	15.46	15.46	126.06	110.61
2023-24	264.00	15.46	15.46	128.91	-150.55
2024-25	-	11.86	11.86	131.82	119.97
2025-26	-	11.86	11.86	134.81	122.96
2026-27	-	11.86	11.86	137.87	126.01
2027-28	-	11.86	11.86	174.40	162.54
2028-29	-	11.86	11.86	178.40	166.55
2029-30	-	11.86	11.86	182.51	170.65
2030-31	-	11.86	11.86	186.71	174.86
2031-32	-	11.86	11.86	191.01	179.16
2032-33	-	11.86	11.86	242.42	230.57
Total	1,646.71	276.70	276.70	2,638.60	715.19
NPV@12%	1,122.29	78.24	78.24	581.63	(618.90)
FIRR (%)					3.3%

Source: Consultant

Sensitivity Analysis - 10% increase in O&M Cost

Financial Feasibility Analysis - Sewerage Component, Hapur Town*all values in Rs. Million*

Year	Capital Cost	O & M Cost	Total O & M	User Charges	Net Revenue
2009-10	-	-	-	0.00	0.00
2010-11	125.70	-	-	0.00	-125.70
2011-12	628.50	-	-	0.00	-628.50
2012-13	502.80	-	-	0.00	-502.80
2013-14	-	17.00	17.00	129.13	112.13
2014-15	-	17.00	17.00	70.22	53.22
2015-16	-	17.00	17.00	71.73	54.73
2016-17	-	17.00	17.00	73.27	56.27
2017-18	-	17.00	17.00	91.72	74.72
2018-19	-	17.00	17.00	93.74	76.74
2019-20	-	17.00	17.00	95.81	78.81
2020-21	-	17.00	17.00	97.93	80.93
2021-22	-	17.00	17.00	100.11	83.11
2022-23	-	17.00	17.00	126.06	109.06
2023-24	240.00	17.00	17.00	128.91	-128.09
2024-25	-	13.04	13.04	131.82	118.78
2025-26	-	13.04	13.04	134.81	121.77
2026-27	-	13.04	13.04	137.87	124.83
2027-28	-	13.04	13.04	174.40	161.36
2028-29	-	13.04	13.04	178.40	165.36
2029-30	-	13.04	13.04	182.51	169.47
2030-31	-	13.04	13.04	186.71	173.67
2031-32	-	13.04	13.04	191.01	177.97
2032-33	-	13.04	13.04	242.42	229.38
Total	1,497.00	304.37	304.37	2,638.60	837.22
NPV@12%	1,020.26	86.07	86.07	581.63	(524.70)
FIRR (%)					4.1%

Source: Consultant

Sensitivity Analysis - 10% decrease in project revenue

Financial Feasibility Analysis - Sewerage Component, Hapur Town

all values in Rs. Million

Year	Capital Cost	O & M Cost	Total O & M	User Charges	Net Revenue
2009-10	-	-	-	0.00	0.00
2010-11	125.70	-	-	0.00	-125.70
2011-12	628.50	-	-	0.00	-628.50
2012-13	502.80	-	-	0.00	-502.80
2013-14	-	15.46	15.46	116.22	100.76
2014-15	-	15.46	15.46	63.20	47.75
2015-16	-	15.46	15.46	64.56	49.10
2016-17	-	15.46	15.46	65.95	50.49
2017-18	-	15.46	15.46	82.55	67.09
2018-19	-	15.46	15.46	84.37	68.91
2019-20	-	15.46	15.46	86.23	70.78
2020-21	-	15.46	15.46	88.14	72.69
2021-22	-	15.46	15.46	90.10	74.64
2022-23	-	15.46	15.46	113.46	98.00
2023-24	240.00	15.46	15.46	116.02	-139.44
2024-25	-	11.86	11.86	118.64	106.79
2025-26	-	11.86	11.86	121.33	109.47
2026-27	-	11.86	11.86	124.08	112.23
2027-28	-	11.86	11.86	156.96	145.10
2028-29	-	11.86	11.86	160.56	148.71
2029-30	-	11.86	11.86	164.26	152.40
2030-31	-	11.86	11.86	168.04	156.18
2031-32	-	11.86	11.86	171.91	160.06
2032-33	-	11.86	11.86	218.18	206.33
Total	1,497.00	276.70	276.70	2,374.74	601.03
NPV@12%	1,020.26	78.24	78.24	523.47	(575.04)
FIRR (%)					3.1%

Source: Consultant

Sensitivity Analysis - Project revenue delay by one year

Financial Feasibility Analysis - Sewerage Component, Hapur Town*all values in Rs. Million*

Year	Capital Cost	O & M Cost	Total O & M	User Charges	Net Revenue
2009-10	-	-	-	0.00	0.00
2010-11	125.70	-	-	0.00	-125.70
2011-12	628.50	-	-	0.00	-628.50
2012-13	502.80	-	-	0.00	-502.80
2013-14	-	15.46	15.46	0.00	-15.46
2014-15	-	15.46	15.46	129.13	113.68
2015-16	-	15.46	15.46	70.22	54.77
2016-17	-	15.46	15.46	71.73	56.28
2017-18	-	15.46	15.46	73.27	57.82
2018-19	-	15.46	15.46	91.72	76.26
2019-20	-	15.46	15.46	93.74	78.28
2020-21	-	15.46	15.46	95.81	80.36
2021-22	-	15.46	15.46	97.93	82.48
2022-23	-	15.46	15.46	100.11	84.65
2023-24	240.00	15.46	15.46	126.06	-129.39
2024-25	-	11.86	11.86	128.91	117.05
2025-26	-	11.86	11.86	131.82	119.97
2026-27	-	11.86	11.86	134.81	122.96
2027-28	-	11.86	11.86	137.87	126.01
2028-29	-	11.86	11.86	174.40	162.54
2029-30	-	11.86	11.86	178.40	166.55
2030-31	-	11.86	11.86	182.51	170.65
2031-32	-	11.86	11.86	186.71	174.86
2032-33	-	11.86	11.86	191.01	179.16
Total	1,497.00	276.70	276.70	2,396.18	622.47
NPV@12%	1,020.26	78.24	78.24	503.34	(595.16)
FIRR (%)					3.1%

Source: Consultant

www.WilburSmith.com

WilburSmith
A S S O C I A T E S

#8, Second Floor, 80 Feet Road,
RT Nagar Bangalore Karnataka - 560 032. India
w +91.80. 3918.7500 f +91.80. 2363.4097