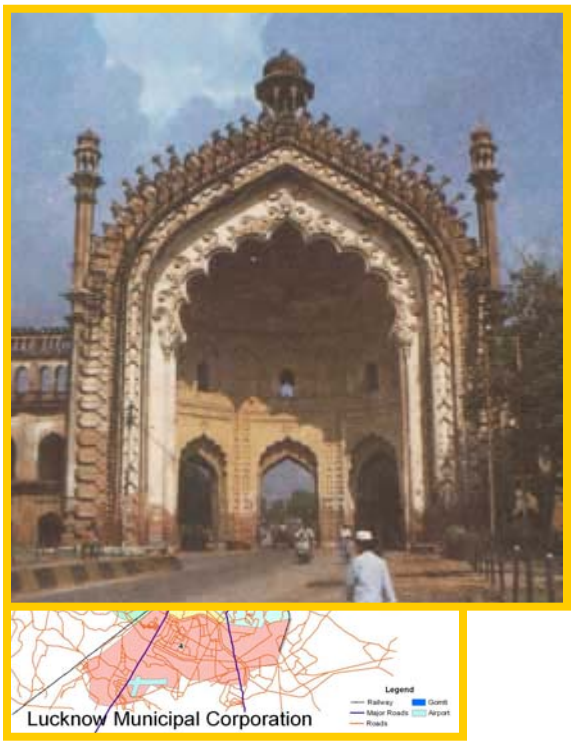
City Development Plan
Lucknow



Submitted

Government of Uttar Pradesh

Feedback Ventures Pvt. Ltd.

FEEDBACK VENTURES
Making Infrastructure Happen

August 14, 2006

EXECUTIVE SUMMARY

The preparation of the CDP for Lucknow has been undertaken in the context of the JNNURM. Although Lucknow formally qualifies for JNNURM funding for being a state capital, it also is a million plus city and has a rich heritage. The CDP offers a city assessment, a vision for the future development of the city and a three pronged strategy: infrastructure and service delivery improvement; basic services to the urban poor and institutional and governance reforms. The process of Lucknow's CDP formulation was through a series of stakeholder consultations, one on one interactions with key departments, selected functionaries and stakeholders and analysis of secondary information.

Economy and Demography

Lucknow is the capital of India's most populous state and is surrounded by a number of small towns. The city has seen a steady increase in population arising from natural growth, the incorporation of peri urban areas in the 1980's and migration. The Master Plan 2001 estimates the population at 4.5 million.

The service sector forms the main economic base of the city. Lucknow is also an important education centre, especially for primary and secondary education (relative to higher education), and houses a number of research and development institutions. The state of infrastructure is one of several constraints that prevents the city from achieving its economic potential.

Physical Characteristics

Lucknow has witnessed a radial growth – greater along the Faizabad Road and the Trans Gomti area and in recent years, the city is witnessing a real estate boom with a large number of private developers entering the market. The latter has not been factored into the Master Plan – the formal basis for Government panning. Estimates of infrastructure requirements and population projections are therefore likely to be conservative.

The position of the City as the only large urban centre amidst a number of small towns in the surrounding districts makes it an attractive destination for job seekers and people in need of education and health facilities. One of the features of the city's growth has been an increase in the number of slums but disagreements about the definition of slums and about data hamper efforts to address service delivery challenges in these areas.

Status of Infrastructure

Infrastructure development has not been commensurate with the growth of the city and there are problems confronting the city in terms of access and coverage in key infrastructure sectors – water supply, sewerage, housing, drainage, and transport. Overall service levels are inadequate and the situation is worse for the urban poor.

a) Water Supply

Aside from water resource issues such as pollution of the River Gomti and the declining quality of groundwater, Lucknow carries a burden of old infrastructure and the absence of metering makes it difficult to estimate costs and leakages. Information about assets in physical and functional terms is also inadequate. Overlapping institutional roles make it difficult to hold the institutions clearly accountable.

b) Sewerage and Sanitation

Lucknow has seen no major investment in sewage infrastructure after the proposals in the 1948 Sewage Master Plan. Taking into consideration the service latrines, latrines discharging into nallas,

existing public toilets and open defecation about 40% of the population do not have access to adequate sanitation. Informal sewers connecting a few households and discharging into nearby open drains are also seen. The existing main network therefore is for the most part not able to handle additional load leading to the sullage being discharged directly into the River Gomti. In many places the sewers have been choked by the disposal of solid waste in them as well as encroachment in sections. This does not allow complete cleaning of the network and aggravates the problem of discharge.

The lack of current data and information on assets severely impacts planning. While in the newly developed and developing areas, networks are being provided by developers, coordination with the state planning process is tenous.

c) Drainage

While in general, the City is well drained, there are local pockets of water logging especially in areas where the carrying capacity of the drains has been reduced either due to encroachment or blockage. Such flooding has been observed in Hazratganj crossing and at Mawaiya Bridge crossing almost each year during rains. In the newly developed areas, while the developer is responsible for the provision of internal surface water drainage, the linking of these drains to the larger local drains and nallahs is neglected, causing waterlogging problems at some places. Maintenance of drains is 'reactive' with the common practice to desilt the drains and dump the sludge near the edge of the drains to dry out before lifting. In practice, sludge either gets blown away or ends up in open drains.

d) Solid Waste Management

The present solid waste management system is not synchronized. There are some pockets where door-to-door collection has been introduced largely on the initiative of the local residents; there is no system of collection, transportation and disposal nullifies efforts at the household level. The numbers of existing waste depots are inadequate for the quantum of waste generated and are also located far from the city, which encourages indiscriminate dumping. Behavioural patterns pose health risks and therefore pose health risks for those working in this sector as well as residents living around waste depots. The indiscriminate dumping results in garbage finding its way back into sewers and contributing to their choking.

e) Transportation

The road network and public transportation system has not kept pace. Additionally, there has been a dramatic rise in vehicles. There is therefore heavy congestion of the existing network, severe parking problems especially in the market areas and along the main thoroughfares. Newly developed outlying areas are not well connected with the other parts of the city. The present system results in huge time delays. The critical areas that need attention are designing an efficient public transport system, enhancing the road network, and enhancing parking systems. The CDP recommends that the city should focus on an efficient bus transport system in the short term. A detailed feasibility study should also be undertaken for a comprehensive multi modal mass rapid transport system such that overall transportation efficiency increases in the long run.

Institutional Arrangements

There are multiple agencies responsible for urban governance and provision and management of infrastructure and services. While, the Lucknow Nagar Nigam (LNN), Lucknow Jal Sansthan (LJS), Lucknow Development Authority (LDA) and UP Jal Nigam (UPJN) are the key urban service providers, other agencies include the Housing Board, Central and State Public Works Departments (CPWD and PWD), Transport Department, Industries Department and the Department of Environment. There is

significant overlap of roles and responsibilities and fragmentation in service provision and management of infrastructure, which makes it difficult to hold institutions accountable and to coordinate.

At the local level, the LNN has been assigned various functional responsibilities but its human and financial resources are inadequate, it remains fiscally dependant on the state and there is a lack of continuity of personnel.

In the water supply and sewerage sphere, there is functional fragmentation between the UPJN and the Lucknow Jal Sansthan. The Jal Sansthan deals with O&M, while the UPJN decides on tariffs with additional responsibility for planning and infrastructure development.

The key challenge in the institutional arrangements is to clarify roles and responsibilities as the basis for the accountability, transparency and greater efficiency required to sustain development and achieve Lucknow's vision for the future.

Financial Status of Key Institutions

Overall the financial status of the key institutions for service delivery is weak with a high dependence on the state government for grants and loans. Revenue generation capacities remain hampered by poor information to support effective user charges, property tax and other potential sources of revenue.

Vision for the Future

Through extensive consultations with a variety of stakeholders, the Vision identified for Lucknow is - *"One of the five most liveable cities in India where every citizen enjoys a high quality of life and access to basic services and amenities, and where local culture, crafts and heritage are preserved and promoted. A city with a dynamic economy driven by service sectors such as knowledge-based education, health, tourism, and information technology that provides opportunities for all and makes it an attractive investment destination".* The CDP offers a city assessment, a vision for the future development of the city and a three pronged strategy: infrastructure and service delivery improvement; basic services to the urban poor and institutional and governance reforms.

City Investment Plan

The City Investment Plan deals with priorities for infrastructure service improvements and basic services for the poor. The investments and phasing of prioritised interventions is as follows:

Sector	Total	Phase 1 2006-12	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Phase 2 2012-31	Institution Responsible
Sub Mission 1: Urban Infrastructure & Governance										
Water supply	1277.54	675.6	52.2	123.5	167	156	99.3	77.1	602	UP Jal Nigam
Sewerage	2058.63	630	123	103	78.3	136	189	0	1429	Lucknow Jal Sansthan
Drainage	1555.01	444.3	108	109.2	98	94	35.1		1111	Lucknow Nagar Nigam
Construction of Roads	0	0	0	0	0	0	0	0	0	
Lohiya Path	69	69	69	0	0	0	0	0	0	PWD
Internal Roads	1474.17	421.2	128	123	110	60.4	0	0	1053	Lucknow Nagar Nigam
Roadbased urban transport	562.7	160.8	161	0	0	0	0	0	401.9	UPSRTC
Parking through PPP	153.36	21.79	15	6.77	0	0	0	0	109.6	Lucknow Nagar

Sector	Total	Phase 1 2006-12	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Phase 2 2012-31	Institution Responsible
										Nigam
Haider Canal Road & Elevated Roadway	796.4	0	0	0	0	0	0	0	796.4	Lucknow Nagar Nigam
Solid Waste Mangement	89.34	46.14	19.5	19.58	7.07	0	0	0	43.2	Lucknow Nagar Nigam
City Beautification	38.88	11.11	4	3	4.11	0	0	0	27.77	Lucknow Nagar Nigam
River Front Development	16.21	16.21	4	8	4.21				0	Lucknow Nagar Nigam
Conservation of Ponds	170	5	5	0	0	0	0	0	170	Lucknow Nagar Nigam
Street Lighting	156.64	56.64	10	11	11	12	12.64		100	Lucknow Nagar Nigam
Conservation of Heritage Sites	160	15.97	3.54	4.29	3.16	1.66	1.66	1.66	144.03	LDA, LNN
Community Halls	3.47	3.47	3.19	0.28	0	0	0	0	0	Lucknow Nagar Nigam
Infrastructure Projects	1352	845	110	275	234	133	53	40	507	Lucknow devp. Authority
Water supply, Sewerage, SWM, RWH	91.1	30.6	7.7	10.2	4.35	4.35	2	2	60.5	Lucknow Cantonment Board
SUB TOTAL	10007.4	3453	823	796.8	721	598	294	121	6555	
Sub Mission 2: Basic Services for Urban Poor										
Basic Services for Urban Poor	1506.5	1051	201	215	190	145	140	160	456	SUDA & DUDA
Technical Assistance	342	342	57	62	52	57	57	57	0	
Grand Total	11855.9	4845	1081	1363	1173	943	590	338	7011	
Critical Areas for Intervention highlighted: Phase 1 Expenditure Rs. 4845.21.21crore of which Rs. 1080.82 crore is in 2006-07										

In addition to the financial outlay, there is a substantial technical assistance/capacity building component that is proposed. This component is fully funded by the JNNURM.

(Rs. in Crore)

Technical Assistance	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Total
Feasibility studies (MRSST, SWM Traffic, Flyovers, etc.)	10	10					**20**
Miscellaneous surveys and development of MIS, e-gov.	15	15	15	15	15	15	**90**
Training and capacity building	10	10	10	15	15	15	**75**
GIS of various utilities and road network	5	10	10	10	10	10	**55**
Restructuring of institutions / constitution of SPVs	5	5	5	5	5	5	**30**
IEC Campaigns	12	12	12	12	12	12	**72**
Total	**57**	**62**	**52**	**57**	**57**	**57**	**342**

The financing strategy for the above is as per the JNNURM guidelines and is as follows

(Rs. in Crore)

Institutions	Investment requirements (Rs.Crore) 2006-12	50% JNNURM / Govt. of India	20% Govt. of Uttar Pradesh	30% Local Body	Investment requirements 2012-31
UP Jal Nigam and Lucknow Jal Sansthan	1305.53	652.76	261.11	391.66	2030.64
Lucknow Nagar Nigam	1041.81	520.91	208.36	312.54	3664.20
Lucknow Development Authority	845.00	423.00	169.00	254.00	507.00
UP State Road Transport Corporation	160.77	80.39	32.15	48.23	401.93
Public Works Department	69.00	34.50	34.50	0.00	0.00
Lucknow Cantonment Board	30.60	30.60	0.00	0.00	60.50

For Sub Mission 2, JNNURM will provide 50% of the funds and 50% will be the responsibility of the State Government and the Local Government. Further, in the State/Local government share, beneficiaries will contribute to the tune of 12% for regular beneficiaries and 10% for SC/STs and physically handicapped. The estimates are as follows:

(Rs. in Crore)

Institutions	Investment Requirements (Rs. Crore 2006-12	50% JNNURM	50% Govt. of Uttar Pradesh, Local Bodies	Investment Requirements 2012-31
SUDA / DUDA	1050.50	525.25	525.25	456.00

The financing options available to the institutions of service delivery are shown below.

(Rs. in Crore)

Options	Lucknow Nagar Nigam	Lucknow Development Authority	Lucknow Cantonment Board	UP State Road Transport Corporation	Public Works Department	UP Jal Nigam & Lucknow Jal Sansthan
Financial Requirement	1041.81	845.00	30.60	160.77	69.00	1305.53
Own Resources	100.00	253.00	0.00	0.00	0.00	0.00
State Govt. Grants	208.36	169.00	0.00	32.15	34.50	261.11
Financing Institutions & Capital Markets	0.00	0.00	0.00	48.23	0.00	0.00
JNNURM	520.91	423.00	15.30	80.39	34.50	652.76
Other Central	0.00	0.00	15.30	0.00	0.00	0.00

Options	Lucknow Nagar Nigam	Lucknow Development Authority	Lucknow Cantonment Board	UP State Road Transport Corporation	Public Works Department	UP Jal Nigam & Lucknow Jal Sansthan
Grants						
Private Sector	34.00	0.00	0.00	0.00	0.00	0.00
Gap	**178.54**	**0.00**	**0.00**	**0.00**	**0.00**	**391.66**

The Way Forward: Institutional and Governance Reforms

The JNNURM requires a far-reaching reform agenda, and the LNN, together with the GoUP and other institutions will continue their discussions and planning till 2006-07 to map out and phase in critical reforms, compliant with JNNURM, but also tailoring these to the specific requirements of the state. The GoUP has taken some legislative steps but consolidation of reforms is a priority for the next few years. The lack of fiscal viability at the local level, and the continued reliance on transfers remain major problems. It is difficult to manage proactively if an institution is so dependent, and it also weakens its accountability to its constituents and consumers. Guided by the JNNURM, a package of reform needs to be phased in the next few years, starting immediately and focuses on:

- Data Improvement and Analysis
- Revenue Enhancement
- Accounting Reforms
- Budget Reforms
- E-Governance
- Enabling environment for development
- Partnership for the future.

Table of Contents

Annexures

1 Introduction

1.1 Background

The City Development Plan (CDP) for Lucknow has been prepared within the overall context of the Jawaharlal Nehru National Urban Renewal Mission (JNNURM), the Government of India's umbrella programme that aims at creating economically productive, efficient, equitable and responsive cities.[1] Feedback Ventures (P) Limited, New Delhi served as Consultants for the drafting of the CDP, and were contracted by the Water and Sanitation Programme (WSP) – South Asia, which was requested by the Government of Uttar Pradesh to assist the formulation of the CDP for Lucknow. The Terms of Reference are included as ***Annex 1***.

The JNNURM

The Government of India launched the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) in 2005-06. The programme is based on the premise that t for cities to work, it is essential to create incentives and support for urban reforms at the state and city level, develop appropriate enabling frameworks, enhance the creditworthiness of municipal governments, and integrate service delivery for the urban poor with the overall city level service delivery system. The programme is also designed to facilitate private sector participation in service delivery & management & in implementing the reform agenda, provides for participation of business, industry, civic groups and communities in local decision-making. The programme comprises two Sub-Missions, viz., Sub-Mission for Urban Infrastructure and Governance, and Sub-Mission for Basic Services to the Urban Poor.

JNNURM requires cities to prepare City Development Plans, as a perspective and a vision for their future development.. CDPs should be formulated through participatory processes that involve key city stakeholders, and should present the current stage of development of the city, set out the directions of change, identify thrust areas, suggest alternative strategies and interventions for bringing about the change. The CDP framework and vision should guide projects to be identified and implemented, and establish a logical and consistent framework for evaluation of investment decisions. Further, it should provide a basis for cities to undertake urban sector reforms at state and city levels that help direct investment into city-based infrastructure.

In line with the JNNURM, the CDP considers current reality and challenges, and outlines priorities around the city's infrastructure needs and reforms required to empower local institutions as per the 74th Constitutional Amendment Act, 1992. Guided by the JNNURM, the reform agenda deals with issues such as legal, institutional and financial systems, accounting processes, universal access to quality urban services, inner city development and security of tenure.

As a State Capital, Lucknow qualifies for support under the Mission. Significantly, however, it also meets two other major JNNURM criteria – it has more than a million residents and has a rich cultural and historical heritage.

The preparation of the CDP is Lucknow's first step towards accessing grant assistance under JNNURM, for urban development activities specified under the two Sub-Missions. As immediate next steps, Lucknow will prepare project proposals and draw up a time-line for implementing the specified mandatory and optional urban sector reforms. The State and City authorities see the CDP as a start – a living document that will continue to be updated and refined in consultation with stakeholders.

1.2 Preparation of CDP for Lucknow

1.2.1 Approach

In line with the JNNURM guidelines, the CDP presents the current status of the City's infrastructure, and sets out a city vision, strategies and programmes to achieve the sector milestones and goals linked to the vision. Its reform agenda aims to enable the city to attract investment into sustainable infrastructure projects, and its investment plan provides an estimate of sector investment requirements. Subject to agreement with the GoI, the plan is envisaged to provide the platform for specific Detailed Projects Reports (DPRs). The Plan identifies potential funding sources and investments for select projects, develops project strategies, and outlines plans for undertaking urban sector reforms at the state and city level. In addition to the JNNURM considerations, the CDP provides a broader development outline and the JNNURM is not intended to be the sole source of funding of city development. Aside from public resources, the reforms and revenue measures planned will aim to improve the planning and management capacity as well as the creditworthiness of the city, and hence it's ability to access private finance and expertise in support of infrastructure and service delivery.

The overall approach for the development of the CDP entailed the following key elements:

- Assessing and analysing secondary information to understand current conditions, trends and issues.
- Ensuring broad-based participation of key stakeholders within government and civil society.
- Identifying a vision for the city and developing specific goals that link city development with poverty reduction and sustainability.
- Ensuring goals and implementation strategies are realistic, take cognisance of likely availability of resources and demonstrate worthwhile results within clear timeframes.

1.2.2 Consultation Process

The CDP was developed through a consultative and participatory process. At every stage efforts have been made to make the consultations inclusive of a wide range of stakeholders. Details of the consultations are presented in ***Annex 2.*** In broad terms it entailed:

- Four Consultations were held jointly with Government, NGOs, and Civil Society. These included discussions with the various departments involved in the CDP process, the NGOs and Civil Society groups that are active in Lucknow. These interactions were deliberately broad based to impress on participants the inter linkages between activities and outcomes.
- Further consultations were held with specific groups of opinion makers, including former elected representatives[1], business leaders and NGOs that were working with the urban poor.
- Consultations were held with the different technical departments of the government, including several individual and joint sessions while the investment plan was being finalized.
- Eight focus group discussions were held with residents in slum areas, involving more than 300 people selected on the advice of experienced development experts and NGOs.
- The process has received extensive press coverage both in the English and vernacular media and the Lucknow Nagar Nigam released a public announcement through the press (June 16, 2006), seeking citizens' participation and specific inputs.

[1] At the time of the process, Lucknow did not have an elected city government due to a judicial probe, but was preparing for elections.

1.2.3 Phases of the CDP Development

The CDP development process was structured in four phases: reconnaissance, visioning, strategy formulation and CDP development. .

Reconnaissance Phase (1 May to 25 May)

A start off meeting was held in Lucknow on 28 April 2006, attended by officials of Lucknow Nagar Nigam (LNN), Urban Development Department (UDD) and several other agencies concerned with urban infrastructure and services in the city. This was followed by a one-day consultation workshop on 15 May 2006 that included the stakeholders listed in ***Annex 3***, with the purpose of mapping out the process, generate 'ownership' and take their concerns and views on board.

Purpose of consultations
- *Initial interactions*
- *Explanation of process*
- *Generate ownership of process*
- *Identification of initial thoughts of stakeholders on areas of concern*

A Rapid City Assessment was undertaken to get an understanding of current levels of service, financing mechanisms and institutional arrangements. This assessment was carried out at two levels: checklist-based interviews and meetings with select functionaries, departments and community focus groups, and desk research of available secondary data and information on urban management and service delivery.

Visioning Phase (26 May to 20 June)

Intersecting with the Reconnaissance phase, this phase included the finalisation of the Rapid City Assessment through structured individual/group consultations (***Annex 4).*** with stakeholders and finalisation of the vision for development of Lucknow.

Consultations for Vision
- *Seeking concurrence on key issues identified in Rapid City Assessment*
- *Identification of Vision for city*
- *Identification of priority sectors for interventions*

A "Visioning Workshop" on 13 June helped formulate a collective Vision for the city and the different sectors. Strategies and priorities for each sector, linked to the mandatory and optional reforms under JNNURM and investment plans.

Strategy Development Phase (21 June to 10 July)

Follow up meetings and interactions post the Visioning Phase enabled further refining of the vision, identifying the roadblocks and understanding ways to overcome them and led to the development of specific sector strategies. The strategy defined project priorities, funding investment requirements, responsibilities, and ways of addressing practical and institutional constraints.

CDP Formulation Phase (11 July to 8 August)

The final phase of the CDP comprised the following steps:

- Finalizing a list of priority action plans and strategies, in consultation with stakeholders.
- Formulating a City Investment Plan (CIP) – a multi-year scheduling of identified and prioritized investments, by sector and phased over a period of six years.
- Identifying financing obstacles and options – Lucknow, as a category B city under JNNURM, is expected to supplement funding from the Central Government with state and other funding, including reforms to position the city for access to capital markets over time. The full

complexity of these issues was beyond the confines of a CDP, but the intention was to provide some pointers to future directions and explore available options in the CDP.

- Identifying and considering the need and scope for different delivery options, such as public sector delivery, utility reform, public-private partnerships and community contracting.

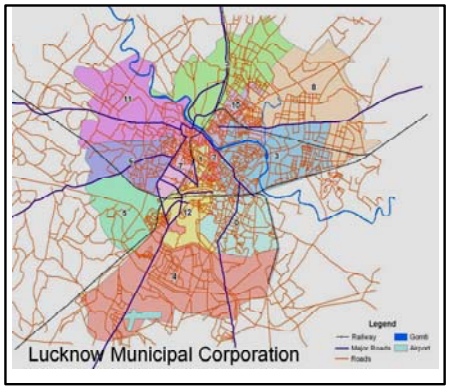
- A series of consultations and meetings to obtain and debate departmental proposals and refine the CIP, including providing material for a meeting of the Ministry of Urban Development with the Chief Minister on CDPs in the state.

- This CDP is a 'working document' for the State Government and will be used and updated as implementation proceeds. Government will consult various stakeholder groups periodically on implementation plans, progress and outcomes.

2 Lucknow City Profile

2.1 Introduction

Lucknow is the capital of India's most populous state, Uttar Pradesh and is situated about 500 km southeast of New Delhi in the heart of the state. The City has a humid subtropical climate with a cool dry winter from December to February and a hot summer from April to June. The temperature extremes vary from about 45 degrees Celsius in the summer to 3 degrees Celsius in the winter. The City receives about 100 cm of annual rainfall mostly from the southwest monsoons between July and September. The city lies at an average altitude of 110 meters above mean sea level and generally slopes to the east. Lateral slopes are towards the River Gomti, which flows from north-west to south-east through the heart of the city, dividing it into the *Trans-Gomti* and *Cis-Gomti* regions.



The more densely populated areas of the city are on the southern bank of the River Gomti and several planned residential colonies have been developed to the north of the River. Lucknow is known for its cultural heritage.

2.2 Demographic and Social Profile

Lucknow Urban Agglomeration (LUA) became a million-plus city in 1981. Besides the areas under jurisdiction of the Lucknow Municipal Corporation, the agglomeration also includes the Lucknow Cantonment. Census 2001 estimated the population of the Lucknow Urban Agglomeration at 22.46 lakhs. This included an estimate of about 60,000 as population of the Lucknow Cantonment and 21.85 lakh population of Lucknow City. The population of the Lucknow Cantonment has remained constant in the last three decades (Table 2.1).

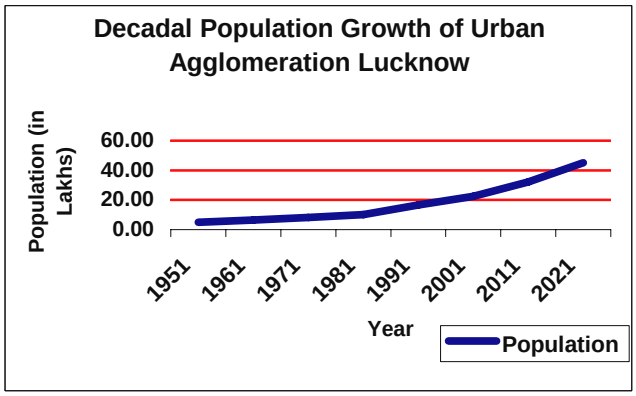
Demographic data for the Lucknow Urban Agglomeration and Lucknow City from Census 2001 and other available documents was analysed to understand the growth patterns. The Master Plan 2021 is the basis of information for the projected population and land use in peripheral areas where considerable private development has been taking place. Growth rates have been arrived at through projecting geometric growth, arithmetic growth and incremental growth rate methods and adding an additional population of 100,000 every five years for additional areas that might get incorporated within the city. This seems a conservative estimate however, given the current pace of real estate development and the intention of government to attract new investment in Lucknow.

Table 2.1: Decadal Growth of Urban Agglomeration & Lucknow Municipal Corporation (1951-2021)

Year	Lucknow Urban Agglomeration			Lucknow Municipal Corporation			Lucknow Cantonment		
	Population	Decadal Growth	Growth rate %	Pop.	Decadal Growth	Growth rate %	Pop.	Decadal Growth	Growth rate %
1981	1007604	193622	23.79	947990	173346	22.38	59614	20276	51.54
1991	1669204	661600	65.66	1619116	671125	70.79	50089	-9525	-15.98
2001	2245509	576305	34.53	2185927	566811	35	59582	9493	18.95
2011*	3226000	980491	43.66	3166000	980073	44.84	60000	418	0.70
2021*	4500000	1274000	39.49	4440000	1274000	40.24	60000	0	0

*Source: Master Plan: 2021; * Projected Population*

Official records show that Lucknow's population grew more than that of other cities in the 1980s – mainly due to the extension of the jurisdiction of the Lucknow Municipal Corporation - from 14,594 hectares in 1981 to 33,750 hectares in 1991. In the 1990s, average growth was comparable to that of cities of similar size, more than Kanpur and Nagpur, but lower than Jaipur and Surat.



The expansion in the 1980s meant the population density decreased from 69 persons per hectare to 49 persons per hectare, but has now increased to 67 persons per hectare due to population growth. The population growth projected varies between 3.51 to 4.37 per cent per year over different 5-year periods until 2021, somewhat higher than for the average growth rate of cities of similar size in the country and the state.

2.2.1 Growth Components

Migration into Lucknow accounts for 36% increase in population over the last decade. Of the 5.76-lakh people added to the LUA during 1991-2001, about 2 lakh were migrants. In comparison, the natural growth was 3.68 lakh.

Table 2.2: Composition of Growth during 1991-2001

Composition	Population Increase	
Natural Increase	368998	64%
In Migration	207307	36%
Total Increase	576305	100%

Source: Census of India 2001 - Migration Tables D-3 Series.

Census 2001 estimates that in the last decade, Lucknow received 2,07,307 migrants, 56.6% of which were from rural areas, and cites the following as reasons:

- As a Capital City, Lucknow offers better social and physical infrastructure and amenities compared to other cities in the state.

- With a population density of 67 persons per hectare, Lucknow is recognised as a low-density - low-rise city with open spaces and greenery. The City is also comparatively cleaner than most other cities in the state.

- The City offers better employment opportunities and education facilities.

- Lucknow's position as a city bordered by smaller towns like Hardoi and Sitapur in the northwest; Bara Banki in the northeast, Rae Bareli in the south-east and Unnao in the south west attracts migrants in search of better employment opportunities and higher order services like education and health. According to the census, 22% of the migrants from rural areas and 27% from urban areas cited 'employment' as the reason for migration. The other reasons for migration include business reasons, education opportunities, marriage etc. Figure 2.1 and 2.2 show the various reasons for migration from rural and urban areas into Lucknow.

Figure 2.1: Reasons for migration from rural areas

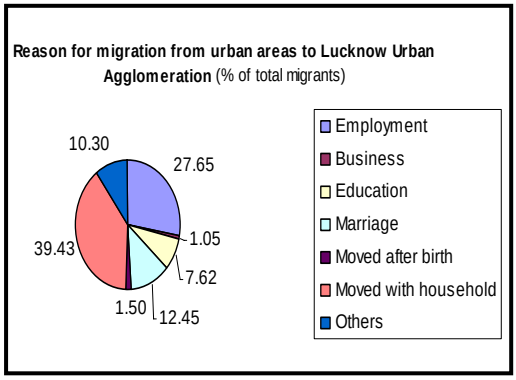
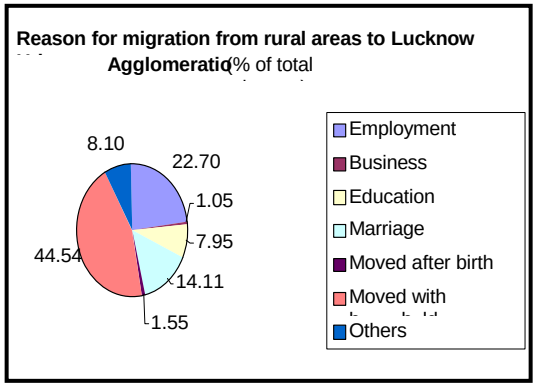


Figure 2.2:Reasons for migration from urban areas



Source: Census 2001- Migration Tables D-3 Series

2.2.2 Gender Ratio

In the Lucknow Municipal Corporation, in 2002, there has been a steady increase in the number of women per 1000 men – from 829 in 1971 to 849 in 1981, 862 in 1991 to 893 in 2001. While this rise is attributable partly to natural growth, discussions with the LDA identify the cause as being the 'security' that the city offers and the good education facilities – factors that have meant that a lot of women and children are staying in Lucknow even when the male members of the family are working elsewhere. An additional factor could be that entire rural families are migrating in search of employment instead of the general practice of only men migrating.

2.2.3 Literacy

Despite comparative economic prosperity and better infrastructure and education facilities, literacy levels in the City vary from those in other cities of similar size. The literacy rate in the Lucknow Municipal Corporation area recorded in 2001 was 67.46% (Table 2.3). However, within the state the City has a relatively high level of literacy – as could be expected in line with general trends about differences between urban and rural areas. There were apparent increases both in the Municipal Corporation area as well as in the Urban Agglomeration. Female literacy levels though lower compared to total literacy levels have also shown an increasing trend in the last three decades (Census 2001).

Table 2.3: Literacy in Lucknow Municipal Corporation, Urban Agglomeration and the State

	Lucknow Municipal Corporation		Lucknow Urban Agglomeration	UP State
Year	Total Literacy (%)	Female Literacy %	Total Literacy (%)	Total Literacy %
1981	56.81	49.10	57.04	45.88
1991	60.35	53.49	60.27	48,68
2001	67.46	62.82	67.60	

Source: Census 2001

2.2.4 Key Demographic Issues

- Although current levels of migration are lower compared to cities of similar size, population growth in Lucknow City growth over the next few years will likely be somewhat higher than elsewhere (around 4 percent). The majority of migrants are coming from the surrounding districts. The upward trend needs to be taken into account in city planning.

- The city's demographic profile has shown an increase in the number of women relative to men, and an increase in female literacy and employment. The social and economic implications may be significant and would need to be taken into consideration in the planning and preparation of projects, as well as arrangements to involve citizens in city governance.

2.3 Economic Base

The major industries in the Lucknow Urban Agglomeration include aeronautics, machine tools, distillery chemicals, furniture and chikan embroidery. Lucknow has traditionally been associated with chikan embroidery work on readymade garments, sarees, etc. with most units being small-scale and household based and located in the old city area.

Lucknow is also a major centre for research and development (R&D) and an education centre. Prominent R&D centres located in the city, include the National Milk Grid of the National Dairy Development Board, Central Drug Research Institute (CDRI), Central Institute of Medical and Aromatic Plants (CIMAP), Industrial Toxicology Research Centre (ITRC), National Botanical Research Centre Institute (NBRI), National Handloom Development Corporation (NHDC) Ltd., Pradeshik Cooperative Dairy Federation Ltd (PCDF), Research Design and Standards Organisation (RDSO), and U P Export Corporation.

The Principal educational institutions in the City include the University of Lucknow, King George Medical College, Indian Institute of Management, Birbal Sahni Institute of Palaeo-Botany, the Board of Technical Education, Institute of Engineering and Technology, Institute of Judicial Training and Research, Sanjay Gandhi Post Graduate Institute of Medical Sciences (SGPGIMS), the Bathkhande University of Indian Music, the Central Veterinary Research Laboratory and the Building and Road Research Station and Indian Institute of Sugarcane Research.

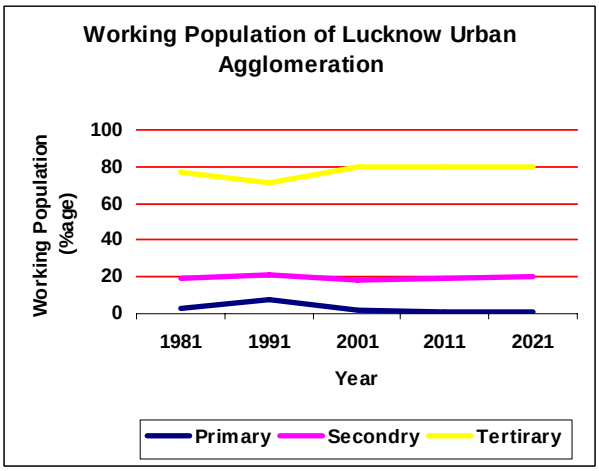
Lucknow, being a tehsil headquarter, a divisional headquarter and the state capital, is a prominent administrative and commercial centre of the state. The proportion of working population of Lucknow has remained more or less constant since 1981, at around 28% as shown in Table 2.4.

Table 2.4: Working and Non-working Population of Lucknow Urban Agglomeration

	1981		1991		2001		2011		2021	
Categories	**Population**	**%**	**Population**	**%**	**Population**	**%**	**Population**	**%**	**Population**	**%**
Working	279,295	27.71	442,450	26.51	617,664	27.51	919410	28.5	1350000	30
Non-Woking	728,705	72.29	1,226,754	73.49	1,627,845	72.49	2,306,590	71.5	3,150,000	70
Population	1,008,000	100	1,669,204	100	2,245,509	100	3,226,000	100	4,500,000	100

Source: Master Plan: 2021

The employed (or 'working') population in the Urban Agglomeration was 27.5 percent in 2001, and the Master Plan 2021 envisages that it will increase to 30.0 percent in 2021.



The tertiary sector has seen a rise in terms of share of workforce – it accounted for about 80 per cent of the work force in 2001 compared to 77 percent in 1981. In the same period, there was a decline in the percentage of primary workers due to the amalgamation of peripheral areas with their agricultural orientation within the city in the 1980s. The Master Plan envisages that while the proportion of tertiary workers in the UA will not change significantly in 2011 and 2021, there will be a decrease in the proportion of primary workers and a relative rise in secondary workers (Table 2.5).

Table 2.5: Working Population by Major Occupational Categories

	1981		1991		2001		2011		2021	
	Persons	**%**	**Persons**	**%**	**Persons**	**%**	**Persons**	**%**	**Persons**	**%**
Primary	8706	3.12	32208	7.28	12783	2.07	9194	1.0	6750	0.5
Secondary	54474	19.50	93632	21.16	111180	18.00	174687	19.0	270000	20.0
Tertiary	216115	77.38	316610	71.56	493701	79.93	735524	80.0	1073250	79.5
Total	**279295**	**100**	**442450**	**100**	**617664**	**100**	**919410**	**100**	**1350000**	**100**

Source: Master Plan 2021

Of the 598579 total number of workers in Lucknow Municipal Corporation, in 2001, main workers comprised 89.82 per cent and marginal workers including those seeking employment was 10.18 percent. The distribution of main workers by education categories, (Table 2.6), shows that 79 percent of the workforce in the City is literate. However, the proportion of workers with technical degrees/diplomas including postgraduate was quite small at about 4%.

Table 2.6: Distribution of Main Workers by Education in Lucknow Municipal Corporation

Education	Number of workers	Percent workers
Illiterate	**111554**	**20.75**
Literate	**426109**	**79.25**
Below matriculation	116642	21.69
Matriculation but below graduate	128625	23.92
Technical diploma holders	3474	0.65
Graduate and above without technical degree	146445	27.24
Technical degree/Post graduate	19983	3.72
Total	**537663**	**100.00**

Source: Master Plan 2021

2.3.1 Key Economic Issues

- Lucknow is the administrative capital of the largest state in India, with a rich cultural heritage and history. The key characteristics that determine its economic base include – the position of the City as an administrative centre, a centre for education and tourism. In recent years there has been a noticeable rise in retail trade and health services. The real estate market is undergoing a growth and the Master Plan 2021 anticipates a slight growth in the services sector over the next 15 years.

- Lucknow is well connected through the rail network to other parts of the state, the country as well as the national capital. While the present levels of connectivity are adequate for current levels of economic development, the city needs to seriously consider better connectivity options by air in order to improve its attractiveness to investors.

- Despite the favourable factors though, the city's infrastructure is not at a standard that seems to comfort potential investors on a large scale. In the absence of a clearly reformed institutional environment, such infrastructure may not be developed, and private investors not comforted by regulatory arrangements. As a result, the present economic base continues to fall short of the city's demands for municipal and service agency revenue, and the broader need tocreate jobs and attract more investment. The city may also benefit from improvements in literacy, as the proportion of workers with technical qualifications is small.

2.4 Physical and Environmental Characteristics

2.4.1 Spatial Patterns

The current land use of the Urban Agglomeration excluding that of the Cantonment is shown in Table 2.8. The Master Plan 2021, which is the source of the information, estimates that Lucknow covered an area of 16,270 hectares in 2004-05. Compared to 1987 when the area was estimated at 9170 hectares, there has been a 77.4% increase in the total area in 2004-05. Trends in land uses has been interesting, especially the fact that residential use has grown dramatically in comparison to all other uses, although there has also been notable growth in commercial, industrial and public service land use.

While population densities in core areas, which include the major part of Cis-Gomti specially the old habitations, are around 600 persons/hectare or more the densities in peripheral Trans-Gomti

area; vary from 400 to 600 persons/hectares. The total Municipal area as per 2001 census is 143 sq.km.

With the radial growth of the city, the Cantonment has gradually been engulfed and is today more centrally located. A Ring Road system has been developed to connect the new development around the Old City and the Cantonment and the Trans-Gomti areas. The Lucknow Development Authority has planned to develop the intervening open spaces to take advantage of the Ring Road. New housing colonies are already under construction in the southeastern and eastern parts of the City. It is interesting to note that the Master Plan 2021 does not take into account the development that is taking place on account of the entry of private developers. Like most cities, Lucknow is witnessing a real estate boom with a large number of private developers coming in – this additional development will necessarily require infrastructure that needs to be taken into account when planning investments in the future.

Table 2.8: Existing Land use - Lucknow city area (in Hectares)

	1987		2004-05		Growth percentage
Land use	**Area**	**%**	**Area**	**%**	
Residential	4,485.98	48.92	8,945.00	54.98	99.40
Commercial	223.77	2.44	360.00	2.21	60.88
Offices	474.69	5.18	560.00	3.44	17.97
Industrial	596.22	6.50	990.00	6.08	66.05
Parks/Playgrounds	346.48	3.78	435.00	2.67	25.55
Public Services	902.02	9.84	1,410.00	8.67	56.32
Traffic	952.00	10.38	1,240.00	7.62	30.25
River/water bodies	193.66	2.11	310.00	1.91	60.07
Open Land	996.14	10.86	2,020.00	12.42	102.78
Total	**9,170.96**	**100.00**	**16,270.00**	**100**	**77.43**

Source: Master Plan 2021

While there is a real estate boom on the one hand, however, there has been a growth in slum conditions on the other. The legal issues and complexities around the definition of slums are discussed in more detail in Chapter 4, but perhaps most significant here is the fact that irrespective of the data source – DUDA, Oxfam - there is consensus that there are large numbers of poor people in the city – more than 60 to 70 % population live below the poverty line. The city continues to attract new migrants, many of who end up in informal settlements that would generally be regarded as slums. These areas are spread across the city, so that any action to deal with the related challenges has to be on a citywide scale. It is not a physical pattern that clearly separates better-off areas from others.

In the absence of adequate measures taken to protect the environment, urban development and expansion has resulted in steady deterioration of the City's environment resulting in adverse impacts on water, air, land-ecology, and public health and has even caused serious damage to heritage properties.

Vehicular emissions are the main cause of air pollution. In recent years there has been a rapid rise in vehicular density resulting in many urban and environmental problems. The concentration of Suspended Particle Matter (SPM) in the industrial and residential pockets of the city is alarming. Its incidence ranges from high to critical. According to the 'Pre-monsoon Assessment of

Environment Status of Lucknow' conducted by the Environment Monitoring Division of the Industrial Toxicology Research Centre (ITRC), Lucknow, air pollution has shown a trend of critical increase when compared to previous years. The Respirable Suspended Particulate Matter (RSPM) in the air was found to be more than the permissible limit of 100-microgram/cubic meter set by National Ambient Air Quality Standards.

The position of critically polluted areas in Lucknow City during 2001 is shown in Table 2.9. Among the four residential areas, Aliganj and Gomtinagar showed higher values of oxides of nitrogen in the air.

Table 2.9: Air Quality and Noise Pollution in selected areas of Lucknow

Location	RSPM	Status of Noise Pollution in decibels	
		Day	Night
Residential Areas			
Permissible		***55***	***45***
Aliganj	216.31	70.5	57.8
Vikasnagar	204.73	69.2	53.8
Indiranagar	195.80	73.5	65.8
Gomtinagar	147.57	65.9	54.6
Commercial Areas			
Permissible		***65***	***55***
Charbagh	224.96	77.9	68.7
Hussainganj	216.37	74.2	66.7
Hazratganj	178.21	73.2	65.8
Chowk	284.72	70.6	63.8
Aminabad	275.27	68.9	60.5
Alambagh	229.53	69.8	68.5
Industrial Areas			
Permissible		***75***	***70***
Amousi	180.29	65.6	63.8
Talkotra	206.71	73.2	58.2

Source: U.P. Pollution Control Board, Lucknow

The level of noise pollution in silence zones such as hospitals, courts, schools and cantonment in Lucknow is 56 percent higher than the prescribed standard of 50 db as shown in the Table 2.10. The noise levels are 30 to 40 times above the prescribed standards even at night.

Table 2.10: Standards of Noise pollution

Zone/Category of Area	Limits in db day time	Limits in db day time
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence Zone	50	40

Source: U.P. Pollution Control Board, Lucknow

Increasing population growth of the city coupled with increasing commercial and industrial activity has resulted in rising water pollution both in the River Gomti as well as of the ground water sources. The pollution levels have been further aggravated by the lack of treatment or disposal facilities for solid and liquid wastes. As per a study conducted under 'Monitoring of Indian Aquatic Resources (MINARS) programme, the average time series yearly in this regard (1997 to 1999) is shown in Table 2.11.

Table 2.11: Water Quality of River Gomti at Lucknow

Sampling Point/Year	1997			1998			1999		
	DO (mg/l)	BOD (mg/l)	Total coll. MPN/100 ml.	DO (mg/l)	BOD (mg/l)	Total coll. MPN/100 ml.	DO (mg/l)	BOD (mg/l)	Total coll. MPN/100 ml.
Gomiti Lucknow	8.48	2.2	3500	7.5	2.5	4500	8.6	2.3	3442
Gomti Lucknow Barrage	2.9	6.6	332000	3.8	6.6	350000	4.2	6.9	445833

Source: U.P. Pollution Control Board, Lucknow

The River Gomti water is fit for drinking after treatment at Dandnamau Ghat, but when it enters Lucknow city at Gaughat, 27 drains carrying domestic sewage discharge directly into it thus deteriorating the water quality. It is estimated that these drains discharge around 32 million litres of sewerage and household wastes each day into the River Gomti. The release of industrial effluents along the course of the river further aggravates the problem and the water is rendered highly unfit for drinking. Although the Jal Sansthan treats the river water before supplying to the City, consumers do not consider this to be safe. Being able to address the pollution of the River Gomti is an area of great concern for the residents of the City.

2.4.2 Declining Ground Water

It is estimated that against a summer demand of 702 MLD of water, the Lucknow Jal Sansthan manages to supply only around 450 MLD. The balance demand is met through the use of hand pumps and tube wells. The indiscriminate boring of tube wells has led to considerable lowering of the ground water table from 0.80 meters to 3.08 meters in just one year (1999-2000).

2.4.3 Key Spatial and Environmental Issues

- Lucknow is still a low-density low-rise city with multi-storeyed construction just starting.
- The City has a low percentage of area dedicated to roads compared to other similar sized cities leading to traffic congestion.
- The City is growing rapidly in all directions but with a higher rate of growth along Faizabad Road in the Trans-Gomti area. The new development areas have inadequate infrastructure.
- Significant numbers of poor people live in the city, settled in slums without access to basic services. These slums are distributed fairly uniformly across the City, and dealing with the challenges they face cannot be done in isolation from a wider city development strategy. The integration of these areas within the larger fabric of the city in a manner that ensures basic services without encouraging further illegal occupation of land and encroachments is a major

challenge. Finding ways to provide security of tenure to the urban poor and/or providing alternate land for relocation are key issues therefore.

- Effective measures need to be taken for abatement of noise and air pollution so that the levels do not exceed the prescribed standards. Making the use of CNG compulsory for all public vehicles would go a long way to reduce air pollution significantly.

Immediate measures are needed to check water pollution. Steps in this direction need to be supplemented by effective public participation.

2.5 Heritage

Lucknow is known for its rich history and culture – manifest not just in its many magnificent monuments but an intrinsic part of its lifestyle. While the city has archaeological remains dating back to 3000 BC, the first documented reference to Lucknow is from the thirteenth century when Emperor Akbar divided the Mughal Empire into twelve provinces and chose Lucknow as the seat of Government for Oudh - the most prosperous province of the empire.

In the late 18th century, the Shia Nawabs of Lucknow built several imposing structures, commercial and trading centres that increased the grandeur and opulence of the city. At the time of the first war of independence in 1857, the city suffered a lot of damages and the old past was replaced with new developments during the British period. After independence the city experienced tremendous growth and the distinct “Lucknow” culture – composite, refined, rich and vibrant is slowly disappearing. While there are many magnificent monuments symbolising the glorious past of the city, the following are the better-known monuments.

Bara Imambara: - Nawab Asifudollah built this historic building in 1786, as a famine relief measure to provide employment to the people of the city. The load of the roof is not supported on beams but through an intricate system of arches or the “Bhul Bhuliya”. The campus has an imposing mosque on one side and on the other side is a “Babli” or water body connected to the River Gomti.

Roomi Gate: - Just adjacent to the Imambara is an imposing gate structure which when seen from the front looks like a gate but in reality is a structure of several storeys. This monument has now become the logo of the city.

Chotta Imambara: - Beyond Roomi Gate about 30 metres away on the road is located another structure that is famous for its chandeliers and other artefacts. With fountains and a small garden it is a beautiful structure that attracts tourists.

Clock Tower and Picture Gallery: - Located close to the Chota Imambara this structure is adjacent to a picture gallery that is famous for large portraits of the Old Nawabs of Oudh. The novelty of the paintings lies in the fact that they all seem to be looking directly at the viewer from every angle.

Kaiserbagh Complex: - This complex depicts the typical architecture of the old Nawabi period and is said to be have been the residence of the ladies of the Nawabi harem. The whole area is now declared as a heritage zone and efforts are being made to restore it to its old beautiful surroundings.

Maqbara Asfudoalah: - This mausoleum is in a beautiful garden that depicts the harmony of Mughal and Hindu architecture.

Residency: - This is the British settlement that was established following the annexation of Oudh and was the site of the 1857 Mutiny. The Archaeological Survey of India maintains the structure.

In addition to the buildings listed above, there are entire stretches of the city that have a glorious historical past. These include the 'Chowk' that has the 'rouzas' – replicas of all the Shia shrines in the world; Hazratganj that is in the heart of every resident of the city and is very badly overrun by the growth of the city; La Martiniere with its history; Chhatarmanzil; Dilkhusha – the list goes on.

Parks: - Lucknow was famous for its parks and most of the localities derive their names from parks. Along the southern embankment of the River Gomti there are a number of parks viz. Lakshman Park, Globe Park, Buddha Park, Neebu Park etc. These parks have small water bodies and fountains. Most of these parks have been landscaped and developed in the later years and are places of tourist attraction.

Lucknow is also known for its characteristic cuisine, music, the nature of its residents and its overall ambience – each of these elements together with the more tangible buildings combine to create the heritage experience that is Lucknow.

2.5.1 Key Issues: Heritage

- The well-known monuments are relatively better maintained although the attention seems skewed in favour of the monument with lesser attention to its surroundings. Most of the heritage sites need maintenance and designated parking places and space for food stalls. These places also require public toilets.

- There is need therefore to widen the definition of 'heritage' from just monuments to entire precincts and strategise at city level in order that visitors are treated to a holistic 'heritage experience'

2.6 Inner City Renewal Challenges

The inner city area was one of the first to be provided infrastructure in the form of water supply and sewerage systems, drainage, street lighting etc. The pressure of population in this zone has increased significantly both as a result of natural increase as well as its attraction of low rents and large numbers of migrant families. There are few remnants of the once effective infrastructure with the majority of the area facing problems of water supply, inadequate sewage disposal, practically non-existent solid waste management, encroachment of drains etc. Interventions are necessary not only from the point of improving the quality of life of residents but also from the perspective of restoring its past heritage.

The old settlements like Chowk, Kashmisi Mohalla, Nakhas, Aminabad, Saadatganj, Asharafabad, Nawabganj, Rakabganj, Ganeshganj, Chaupatia, Raja Bazar, Daliganj, and Balaganj, etc form the 'inner city'. Daliganj and Balaganj fall on the Trans -Gomti side while the others are on the Cis Gomti side. These localities are centuries old, having been established in the Nawabi period. Today they are densely populated with grossly inadequate infrastructure and some of the old buildings in a dilapidated condition. This locality is home to a number of handicraft 'factories' for Zardosi and Chikan work, alongside people from varying socio-economic groups, ranging from wealthy established families to poor people with vulnerable livelihoods.

2.6.1 Key Issues: Inner City

- Grossly inadequate infrastructure for water supply and sewerage
- Poor solid waste management
- Encroachment of drains and blockages leading to water logging
- Urban decay.

2.7 Water Bodies

According to the Land Records of the Lucknow Nagar Nigam, the city has 846 tanks and ponds - the majority of which are unidentifiable due to reclamation. Lucknow has a number of tanks that were constructed by the Nawabs and their chieftains. Some of these were ancient and famous as religious places and were renovated and developed further by them. Quite a few of these water bodies are lost due to reclamation, but a number have survived, including:

- **Suraj Kund: -** Situated close to the River Gomti on its southern bank at a distance of about 100m, this water body has a temple dedicated to the sun god. In the nineteenth century, the Nawab renovated it and reconstructed the Ghats. A large size drain passes close to it on which a flood pumping station has been built. Recently the local Authorities have developed the Suraj Kund and the area around it.

- **Bara Imambara Babli: -** The eastern campus of the Bara Imambara has an ancient Babli that was renovated in the eighteenth century by the Nawabs of Oudh. A palace stands over it, such that some of its stories remain submerged in water. It used to be a summer palace where the Nawab's guests used to stay. The Babli is mostly deserted except for occasional visits by tourists and most people are unaware of its existence.

- **Raja Tikait Rai Ka Talab: -** It is a pucca talab/tank with a separate bathing ghat for women. This was again built by the Nawabs and has the Sitala Mata temple where an annual fair is organized.

- **Hussainabad Ka Talab: -** This talab is located close to the Clock Tower that was constructed by the Third Nawab of Oudh. This talab is connected to the River Gomti and water levels in it change according to the levels in the river. There used to be two ghats at two corners and two bathing rooms and a system of natural heating of water. This system is now damaged.

- **Chandganj Ka Talab: -** This is a rectangular tank with pucca steps around it and is partly damaged. The tank has a temple and an annual fair is held here on Nagpanchmi.

- **Moti Jheel: -** Located on the southeastern part of the city, a part of this water body has been reclaimed through the dumping of garbage. The residents in the area demanded its restoration and a plan was prepared but not implemented. There is a slaughterhouse located close to the water body that needed to be shifted as a prerequisite to the restoration of the water body but it has not been done as yet.

In addition to the water bodies mentioned above, the River Gomti flows for about 10 km. through Lucknow, and provides an important source of water. The river is grossly polluted as almost all drains of the city carrying sewage and sullage discharge into it. Under the National River Conservation Project estimates for preventing pollution of the river has been prepared. At present work on diverting the waste of the drains and constructing an STP is in progress. Attempts have been made to develop water sports on the river for which a Boat club has been built, but the scope for further recreational development is obviously also constrained by the high levels of river pollution.

The city is unique in having several water bodies within its limits and this aspect requires attention to not only help in micro climate control but also to increase the overall appeal of the city.

SUMMARY

Lucknow is the capital of India's most populous state. It attracts people from surrounding districts in search of employment and higher order services. The City has traditionally been a centre of administration, education and tourism.
Urban growth currently is largely on par with other cities of similar size, and is anticipated to be slightly faster in the immediate future. This needs to be considered in city planning.
Although the city has potential positive economic comparators, such as its heritage and educational institutions, lack of infrastructure and business concerns about the regulatory have been limited the economic base, which has meant inadequate employment opportunities and limits on the local government and service agency revenue bases.
The percentage of people engaged in the tertiary sector is higher than the other sectors. Although literacy levels among the workforce are high, qualifications in technical areas is limited.
City has a significant slum population with slums more or less uniformly distributed across the City and marked by low levels of access to basic infrastructure.
The Master Plan 2021 shows a dramatic increase in land for residential use although it does not take into consideration the real estate boom underway by private developers.
New development areas have not kept pace with levels of infrastructure development
Pollution - air, noise and that of the River Gomti are areas of critical concern
Lucknow has a rich heritage that has been compromised by the pressures of urbanisation – mainstreaming heritage with modernisation is a challenge
Inner city areas are characterised by urban decay
There are several water bodies within the city limits that have been encroached, reclaimed and polluted through the discharge of sewage.
The current analysis points to the fact that growth has happened at a much faster pace than manageable.

3 Status of Infrastructure and Services

This section analyses the status of infrastructure and services in terms of water supply, sewerage and sanitation, drains and storm water drains, solid waste management and transport.

3.1 Water Supply

Piped water supply was first commissioned in Lucknow town in 1895 with the construction of one intake works at Gaughat on the River Gomti. Raw water from the Gomti was pumped through a 21-inch cast iron main to the Aishbagh Water Works in the Cis-Gomti area where fill-and-draw type settling tanks and slow sand filters were constructed for treatment. The filtered water was then pumped to the City for distribution through a network of cast iron mains. Subsequently in the first half of the 20th Century the old steam engine device pumps were replaced with electricity driven system.

A major reorganization of the water supply system was taken up around 1960 where the whole town was divided into various zones - four service districts namely (A) City Service District, (B) North Service District, (C) East Service District (D) South Service District. R.C.C. overhead tanks were installed as storage reservoirs and a trunk main to feed these reservoirs was also laid along with the extension and reorganisation of the distribution system. Rapid gravity filtration plants were also added with the latest a 10 million gallons per day capacity plant under the reorganisation scheme. Subsequently it was observed that the trunk main was not able to fill all the overhead tanks because of the various connections on the distribution mains thereby reducing the pressure inside the main.

The next major reorganisation was taken from 1975 onwards under the World Bank funded U. P. Water Supply Project. In the face of difficulties of separating the trunk main from the distribution main connections, Zonal reservoirs were constructed to supply the various overhead tanks within a zone. The expansion of the City warranted the construction of another water works on the River Gomti upstream of Gaughat. The existing raw water intake at Gaughat was augmented by the construction of another 'intake' and installing pumps for raw water pumping. These years also saw an extension of the distribution mains in line with the expansion of the City.

To augment the supply, tube-wells were installed in areas that were at some distance from the Aishbagh water works as well as in those areas where there was a scarcity. The newly developed colonies in the Trans-Gomti area are supplied through tube wells. The tube wells are connected to overhead storage reservoirs and a distribution network. The ground water based system was considered economical and able to meet additional requirements in the lean periods.

3.1.1 Coverage

The water supply network extends over most of the core city and peripheral areas (map overleaf), but does not meet consumer demand. Although more than ninety per cent of the population within municipal limits is covered with piped water supply system, around ten percent is served with hand pumps. Within the areas served with piped water supply, about 30% of the population does not get water as per the design demand as water supply is intermittent throughout the City and available for only a few hours a day. Consumers spend considerable resources on intermediate systems and tube wells to manage or augment the supply. This is costly and mostly beyond the reach of the poor. Household booster pumps – installed directly into the water mains to cope with erratic water supply – further reduce the pressure in downstream areas.

The UP Jal Nigam and the Lucknow Jal Sansthan estimate that around fifty three percent of water produced in Lucknow is lost due to leakages and pilferage. As there is no metering of water supply, estimates of leakages and wastages are impressionistic and – given the age of the infrastructure – probably conservative. The spill over effects is wide – it is impossible to plan and monitor supply properly, or to recover costs on any accurate basis. It also undermines the credibility of tariff setting.

3.1.2 Water Sources

The River Gomti continues to be the main source of water supply to the City though a number of tube-wells have been bored to exploit ground water. However, the available discharge in the River Gomti as per C.W.P.C. at Lucknow during lean period is around 500 mld while in the monsoons, the discharge is around 55,000 mld. For most of the period the discharge on an average is around 1,500 mld only. Considering that several towns like Jaunpur and other habitations also draw water from the River Gomti and it is not feasible to tap all the river water in Lucknow. In fact at times in the dry season, the river water level goes down to such an extent that there is need to request the State Irrigation Department to augment supplies to meet the drinking water needs.

According to a report of the U.P. Jal Nigam in 2005, Lucknow has around 407 tube wells of which 387 are in working condition. These 407 tube wells produce around 190 mld of water. Additionally there are about 100 tube wells that have been installed by various institutions and private colonies to meet their water demand. This situation has resulted in ground water depletion and falling levels and in fact, in some localities it is reported that the fall is more than five metres during the last decade. The state does not have a 'ground water law' that regulates its exploitation and this aggravates the situation. The average depth of tube wells installed is around 350-400 metres, but since the strata is over exploited, the yield from each tube well has decreased from 1000 lpm (litres per minute) to around 600 lpm (**Annex 5)**. The ground water levels are likely to reduce further and attempts to tap the next layer of ground water are already underway. Regulation of ground water exploitation is mandatory to check its exploitation and use.

The demand in the periphery of the City and villages are mostly met through hand pumps. Within the City, hand pumps have been installed in slums to supply drinking water. The Lucknow Jal Sansthan reports that around 6,150 India Mark II hand pumps are installed in those areas inhabited by the economically weaker sections of society. These hand pumps on the whole yield around 15 mld of water. However with the falling ground water table these hand pumps may not be able to sustain their yield. There are very high possibilities of these hand pumps going dry in the years to come especially in the summer months, as the average depth of these pumps is only around 120 metres.

3.1.3 Water Produced

The total quantity of water produced as per the Jal Sansthan records is as below:

Table 3.1: Water Produced in Lucknow

River Water source	200 mld from Aishbagh Water Works 70 mld from 2nd Water Works.	Capacity: 240 mld Capacity: 90 mld
Total produced	270 mld	Capacity: 330 mld
Ground Water	190mld from 407 tube wells 15 mld	from 6150 hand pumps.
Total	**205 mld**	

Source: Lucknow Jal Sansthan

At present a total of 475 mld of water is produced amounting to a supply of 175 lpcd (litres per capita per day) for the present population. The entire volume of water produced does not reach the customers and it is estimated that almost 53% is lost due to leakages and pilferage. Although compared to the norm adopted for per capita water supply viz., 150 lpcd, the supply is quite adequate, considering the leakages, at present only about 80 lpcd of water may be reaching the consumers.

3.1.4 Water Demand

The population projections for the City as per the Lucknow Master Plan 2021 are:

Table 3.2:

Year	2006	2011	2021
Total population (in millions)	2.714	3.166	4.440

Based on per capita supply of 150 litres per day plus 15% as unaccounted for water due to leakage and wastage the corresponding water demand during different years works out as below:

Table 3.3:

Year	2006	2011	2021
Water demand in mld	468	546	766.

3.1.5 Key Issues

At least three sets of issues around water supply need to be considered in planning for the future:

- ***Inadequate service delivery and management of water supply:*** Although Lucknow does not have an intrinsic water resource constraint, water supply is intermittent and restricted to a few hours a day and quality of water inconsistent, imposing high coping costs on consumers and increasing health risks as household distribution systems often involve alkathene pipes that have been laid across drains to save cost. Finally, estimated leakages are high, which affects service delivery negatively and deprives the water agencies of revenue.

- ***Water resource management:*** In the absence of regulation governing the exploitation and use of ground water, extraction has become expensive and unsustainable. Rising contamination of the River Gomti with the discharge of sullage from 27 drains as well as industries has meant that costs of treatment are higher. The total volume of water produced is assessed crudely on the basis of pumping plant capacity and number of hours of pumping in the absence of proper measuring devices. This also means that there is no control on leakage, wastage and theft of water is high. The overhead storage reservoirs have, in most cases exhausted their capacities leading to inadequacy of supply and rising exploitation of ground water.

- ***Data is inadequate***. Because there is no metering, it is impossible to accurately assess consumption, leakage and revenue potential. General data on distribution network plans, details of pipes, material, location of fittings and other infrastructure is too weak to support planning, management, monitoring and maintenance. The system therefore is 'reactive' rather than 'proactive', and unable to ensure efficient supply.

3.2 Sewerage and Sanitation

The sewerage system in Lucknow town was first provided in 1918. Subsequently more and more sewers were laid as the town grew in size. In 1948-49 a Comprehensive Drainage Scheme for Lucknow was prepared to cater to a population of 7 lakhs of which 6 lakhs were expected to reside in the Cis-Gomti side and 1 lakh in the Trans-Gomti side. The plan included construction of branch and trunk sewers, pumping stations, rising mains and a sewage farm for disposal of sewage on land for farming. The works under this scheme were completed in 1955. In 1960-61 during a heavy flood in the River Gomti, considerable damage occurred to the sewerage system. As such in the 1960s and 1970s as part of the Flood Protection Scheme, the construction of a pumping station behind the flood protection embankment rectified the damage caused to the sewerage system. In 1987-88 another Sewerage Master Plan was prepared. However, there have been no major works since the 1948 Master Plan, although a detailed Urban Environmental Services Master Plan Lucknow (1996-2021) was prepared in the 1990s to deal with improving the sewerage and sanitation situation in the City. An aspect not explicitly discussed in this section, but returned to in section 8, is that aside from infrastructure shortfalls, sanitation challenges have been heightened by embedded behavioural practices, such as open defecation that has dramatically increased health risks. Second, the sanitation and hygiene challenge is not merely about building toilets, but about more new hygienic practices such as hand-washing with soap after using toilets and before handling food; hygienic collection, storage and handling of domestic water for drinking, cooking and washing; improved management and treatment of wastewater; and safe disposal of human excreta. Overcoming deeply embedded beliefs and practices that run counter to these behavioral practices demands policy change as well as shifts in public opinion, marketing of better practices (e.g. sanitation) and empowering potential change agents, such as women. This usually takes time, and requires thorough knowledge and understanding of local conditions and values.

3.2.1 Sewerage Network

The existing network of sewerage is broadly described below:

- **Cis-Gomti Trunk Sewer:** This sewer runs along the southern bank of the River Gomti starting from the Chotta Imambara to Cis-Gomti Sewage Pumping Station located at the edge of National Botanical Garden. It is 7 km long and at its head is a 750-mm. diameter circular RCC sewer increasing to 2100 mm. diameter brick sewer at the tail end. The main sewer has several branches – the Sarkata A - diameter 750 mm., Sarkata B - diameter 1050 mm., Pata Nala Sewer- diameter 900 mm., Shahmina Road Sewer - diameter 450 mm. and the Ghasiyari Mandi, Chamberlane, Ashok Marg sewers that join the main trunk sewer near the tail end.

- **Trans-Gomti Trunk Sewer:** This sewer runs along the north bank of the River Gomti and is 3 km long from Daliganj to the Trans-Gomti Sewage Pumping Station. For most of its length, it is of 900-mm. diameter except at the tail end when it discharges into the pumping station where it is 1100 mm in diameter. This sewer carries load that is pumped from Daliganj Pumping Station as well as that flows from the Mukarram Nagar and University Road area.

- **The Eastern Intercepting Sewer:** Starting from Golaganj, this sewer is oval shaped with a size of 600-mm.x900 mm. The sewer discharges into the Cis-Gomti Sewage Pumping Station. Additionally, the 600 mm. Butler Palace sewer also discharges at the Cis-Gomti Sewage Pumping Station.

New colonies have come up in the Trans and Cis Gomti side and while sewer networks have been provided inside the colony, the ultimate disposal is into natural drains, which finally discharge into the River Gomti.

The installed capacity of the various sewage pumping stations are as follows:

Table 3.4:Installed capacity of Sewage Pumping Stations

Name of Pumping Station	Capacity
Cis-Gomti Sewage Pumping Station	250 MLD
Trans Gomti Sewage Pumping Station	40 MLD
Daliganj Intermediate Pumping Station	40 MLD
Mahanagar Intermediate Pumping Station	7 MLD
Paper Mill Sub Pumping Station	3 MLD
Total	**303 MLD**

Source: UP Jal Nigam

The 1200 mm. diameter rising main from the Cis Gomti Pumping Station crosses the river through a road bridge and in the trans side is joined by the 450 mm diameter rising main from the Trans Gomti Pumping Station where after its size increases to 1350 mm. Earlier the sewage from the rising main used to discharge into a 1.25 x 30 m. brick channel leading to a 600-acre sewage farm. This farm has now been reclaimed to construct the Gomti Nagar Colony. In the absence of any disposal arrangements, the sewage is discharged directly into the river aggravating the pollution problem since the sewage is discharged upstream of the Gomti barrage.

3.2.2 Coverage

The sewer network extends across the main city areas on the Cis-Gomti side as well as newly developed colonies on the Cis-Gomti and Trans-Gomti sides. However, according to a survey conducted in 1997, only 45% of household in the core area of the city and 35% households in the peripheral area were connected to the network. There are about 44000 service latrines in the city area. Taking into consideration the service latrines, latrines discharging into nallas, existing public toilets and open defecation about 40% of the population do not have access to adequate sanitation. Informal sewers connecting a few households and discharging into nearby open drains are also seen. For the most part, the existing network is either completely blocked or its capacity severely reduced due to disposal of silt and solid waste – the problem is aggravated by the absence of regular sewer maintenance. This has increased the prevalence of pour flush toilets discharging into a single leach pit and on site disposal of sewage.

The Lucknow Jal Sansthan estimates that 81737 households are connected to the sewer network excluding the newly developed colonies. In these colonies, the sewer network has been provided but no disposal arrangements made since the Lucknow Jal Sansthan has not taken over the system for maintenance. In the core area of city, around 65000 households are connected to the sewer network.

The City has a significant number of septic tanks that together with overflowing leach pits usually discharge into roadside drains. Authentic records on the numbers of septic tanks and leach pit latrines are unavailable and it is estimated that the number of septic tanks in the city could be about one lakh and the number of twin pit pour flush latrines is around 32000.

The City has around 135 operational community sanitation complexes mainly in the slums. It is estimated that the community complexes serve about 4.5 lakhs of people – this roughly amounts to one complex per 3300 people. However, not all people are using the toilet complexes and it is assumed that one latrine seat is sufficient for 30 users per day. Based on this, 120 ten-seater and 24 twenty-seater latrine complexes have been proposed besides the existing ones in the non-sewered areas to increase the present sewerage coverage to 80% of the population.

3.2.3 Existing system of disposal

Prior to its development as Gomti Nagar, the site used to be the sewage farm. In the absence of a disposal facility, at present all sewage is discharged directly into the River Gomti. Assuming the present water supply to be 475 mld and waste water as 75% of it, the total waste water generated is approximately 356 mld of which only 42 mld is treated at the Daulatganj Sewage Treatment Plant with the balance 314 mld being directly discharged into the river without treatment. The cost of O&M of Daulatganj STP is about Rs. 164 lakhs/annum.

Based on the rental value of the household, a sewerage tax at the rate of 3% of annual rental value is charged. In the tariff, it is also provided that sewerage connection charges will be 25% of the water charges. The higher of the two values is levied as sewerage charges and the average current sewer charges per household works out as Rs. 573/- per annum.

The Lucknow Jal Sansthan is responsible for the maintenance of the STPs and the sewer network, while the maintenance of drains is the responsibility of the Lucknow Nagar Nigam. The two agencies function as discrete entities and at times it is observed that in case of blockage in a sewer, the sewer is broken and connected to the nearby nullahs. The problem of poor maintenance of the sewers and drains is further aggravated by the practice of disposal of solid waste into the drain or the sewer manholes.

In the newly developed localities, the Developers are responsible for the maintenance of sewers and drains until the colonies are handed over to the Corporation and it is observed that levels of maintenance are poor. It is common practice for a household to engage a private sweeper to deal with problems of blockage. This compartmentalisation of approach to systems maintenance as well as individual interventions has resulted in intermixing of the sewerage and drainage system aggravating the pollution load and flooding during the monsoons. Since the sewage at the pumping stations is bypassed into the sewer in most cases, their maintenance is totally ignored and the large installations of pumping machinery are deteriorating daily. The Lucknow Jal Sansthan accords low priority towards maintenance of the sewerage system since income from it is very low.

3.2.4 Key Issues

- Lucknow's sewerage and sanitation challenges are considerable. ***Socially, embedded practices*** like open defecation are prevalent, and are reinforced by poor facilities. This poses severe health risks.

- As far as ***infrastructure*** is concerned, ***information is patchy***, for example on pumping stations and sewerage systems. This makes planning for extension and assessment of volumes of sewage presently flowing into the system difficult. The lack of complete information also impacts effective maintenance and corrective actions.

- The ***standard of maintenance***, particularly of electrical and mechanical equipment, is poor. This is due to lack of resources and trained and experienced staff to plan and manage the operations and maintenance. As a result, no major sewage works have been undertaken since the Master Plan of 1948. All additions to the network that have taken place have been at the behest of the private developers in the new settlements – there is little evidence of coordination between developers and the government department in planning although the latter is formally responsible for O&M of sewage infrastructure.

- ***Service and infrastructure deficiencies*** also have an ***impact on water resource and supply***. Although not quantified given the poor information systems, it is widely recognized that a very low proportion of the sewage generated within the City enters the main sewage

system. A large proportion enters the surface drainage system either directly or through spillage from damaged or blocked sewers. Moreover, pollution due to discharge of untreated sewage into the river adversely affects river water use. It also has a negative impact on the appeal of the riverfront and poses health risks.

- Sewerage and sanitation problems continue to worsen. Damaged manholes, sewer damage particularly in the nallahs and the connection of the latter to the sewerage system and the common practice of discharging sullage into the roadside nallahs rather than into sewers have resulted in frequent blockages of sewers. The frequent sewer blockages and on site sanitation systems contaminate shallow aquifers. The existing service latrines are in a state of disrepair resulting in night soil being dumped into solid waste depots or in nallahs and nallis. With the system at breakdown, it becomes very difficult to alter social behaviour patterns that in the first place have disregarded infrastructure systems. As infrastructure and service facilities fail, practices like open defecation continues.

- At present there is only one treatment plant at Daulatganj with a capacity of 42 mld. This is based on FAB technology mostly used in Western Countries for high B.O.D. wastes whereas domestic waste has considerably lower B.O.D. values. The rest of the sewage discharges directly into the river. Under the National River Conservation Programme, the construction of a sewage treatment plant at Kakraha with a capacity 345 mld based on UASB technology with application of effluent on land for irrigation has been sanctioned as part of the Gomti pollution prevention works.

3.3 Drainage

Like most of the old towns located along rivers, storm run off drains into the river. The City varies in altitude from 106.5 to 122 metres above sea level and a large portion of the City is almost flat. The old city settlements mainly to the southwest are at a higher elevation while the remaining city is more or less flat at a lower elevation. The highest flood level in the River Gomti is 113.2 metres recorded in 1960.

3.3.1 Coverage

The main city area has over 20 nallahs (drains) with a combined length of around 70 kms. On the eastern side there is a canal that was built for connecting the River Ganga to Gomti during the rule of the Nawabs. This canal runs from the southeastern side of City towards the northeast, and drains into the river downstream of the newly constructed barrage – this is the Ghaziuddin Haider Canal. This canal now carries most of the storm water run off during the rains and in the dry weather, the sullage and sewage of the area around it. On the Trans-Gomti side there used to be a small rivulet known as Kukrail, which now carries the storm water of this area and discharges into the river upstream of the barrage. At present during the dry weather, most of the sullage of the Trans-Gomti area is carried by it. In addition to the big drains and the Haider Canal and Kukrail, there are small drains and nallahs with a combined length of 200 kms. In the past, there were large ponds that received storm water and helped manage the problem of water logging in the City. However, at present, most of these ponds have been encroached.

3.3.2 Major Drains and their Discharges

There are 25 major drains 13 of which drain the Cis-Gomti area and 12 the Trans-Gomti area. Some of these drains are big and carry sullage discharge of as much as 78 mld during peak hours while the smaller drains carry only 0.5 mld discharge. Most of these drains are made of brick for most of their length except for a few metres at the head. The discharge carried by these drains as recorded in the dry seasons is shown below:

Table 3.5: Drains and their discharge

Cis-Gomti drains (13 Nos.)	Average dry weather flow in mld.
Gaughat drain	1.0
Sarkata	18.0
Pata	18.0
NER Upstream	0.3
NER downstream	0.5
Wazirganj	13.0
Ghasyari Mandi	10.0
China Bazar	2.0
La-Place	1.0
Jopling road	1.0
G.H. Canal	78.0
Jiamau	--
La-Martiniere	0.5
Trans-Gomti side (12 drains)	**Average dry weather flow in mld.**
Mahesh Ganj	--
Rooppur Khadra	0.5
Dyer Meakin	3.0
Daliganj No. 1	8.0
Daliganj No. 2	1.0
Arts College	0.5
Hanuman Setu	0.5
TGPS	1.0
Kedar Nath	2.0
Weshatganj	1.0
Kukrail	20.0
Baba ka purwa	--

Source: Lucknow Nagar Nigam

In the newly developed areas there is a good network of several drains but no storm water drains that follow the topography. These therefore can cause water logging.

3.3.3 Floods

In 1960 Lucknow recorded its highest flood level at 113.2 metres with large parts of the City being inundated. To protect the habitations earthen embankments were constructed all along the bank of the river as well as on Kukrail to a top level of 114.4 metres. In the flood of 1960, the waters back-flowed through these drains into large parts of the City and during the construction of embankments sluice gates on the barrels were installed for discharge of drains during normal weather and stopping back flow during floods. When river water level rises to the drain invert levels, these gates are closed so that no back flow occurs. In case of heavy rain and floods, the pumping stations pump storm water across the embankment into the river so as to prevent water logging in the City. The embankment and the flood pumping station are almost 25 to 30 years old and in this period no serious flooding has occurred. Local water logging does occur in some localities during rains but on the whole, the city is well drained. In some small stretches, the

embankment is not yet complete and may be the cause for flooding in some localities in case of high floods in the river.

3.3.4 Key Issues

- While there are obvious ***infrastructure deficiencies*** that constrain Lucknow's capacity to manage drainage currently, some obvious ***planning and management issues*** need to be addressed. Aside from the general governance issues discussed in chapters 5 and 8, one of the specific issues around drainage concerns regulation in newly developed areas. The common practice is to make the developer responsible for the provision of internal surface water drainage, but little attention is paid to linking these drains to the larger local drains. Nallahs are neglected, which causes severe problems of water logging in some places.

- ***Maintenance of drains is 'reactive'*** with the common practice being to desilt the drains and dump near the edge of the drains to dry out before lifting. In practice, a part of the sludge gets blown away while the remaining finds its way back into the open drains.

- While in general, the City is well drained; there are local pockets of water logging especially in those areas where the carrying capacity of the drains has been reduced. Such flooding has been observed in Hazratganj crossing and at Mawaiya Bridge crossing almost each year during rains. Localities that are subject to annual flooding have repeatedly requested for assistance. In many places the nallahs and embankment have been encroached, restricting the flow in these drains and causing floods. These sites are predominantly housing the low-income groups. The nallahs are at a high risk of blockage arising from the disposal of solid waste and street sweepings. In some stretches of large size drains, encroachment has meant that there is hardly any space left for desilting and as such these stretches remain unclean. Cleaning the whole drain while leaving such stretches of blockage has low overall impact. Proper mechanical desilting equipment is needed for early cleaning and lifting of desilted material especially from inside the culverts and covered parts of the drain.

3.4 Solid Waste Management

A solid waste management system that is efficient, hygienic and environment-friendly is an essential requirement for Lucknow. This system is interlinked to sewerage and drainage system since garbage eventually finds its way into the sewers through manholes and into open drains adversely impacting their functioning.

3.4.1 Prevailing System

Usually the waste from the households is thrown on the streets, and door-to-door collection is limited mainly to new areas. Municipal staff responsible for cleaning the street collects the waste and dumps it at the nearest waste depots. There are few depots, and travel time is fairly long leading to the dumping of garbage in any available open space, into drains or in some spot that over time becomes an unauthorized depot. Some households have begun to contract private collectors to deposit the waste into the nearby depots, but this is not being institutionalized or regulated at any scale, and it is not uncommon to see street cleaners simply burning the waste.

Poor regulation and monitoring poses many health and environmental risks, both at the source of waste and at depots. In areas with service latrines, it is common for human faeces to be dumped along with the household wastes; despite legal provision for incinerating hospital waste, it often finds its way to the dumps; construction waste is dumped indiscriminately; and street cleaners often dispose of commercial and industrial waste near the source before eventually being carting it off to the landfill sites. With such open waste, stray animals littering waste around depots and elsewhere is a common sight.

3.4.2 Waste Generation and Recycling

Lucknow generates about 1300 MT of wastes daily. Formal recycling systems are underdeveloped, but an appreciable quantity of solid waste generated at the household level is sold to the kabariwalla who purchases all recyclables. It is estimated that there are around 2000 kabariwallas in Lucknow who pick up waste from the households and sell to retail traders. In addition to these kabariwallas, there are about 8000 rag-pickers who every day scourge the refuse dumps for recyclable paper, plastic and metal waste. The recycling industry is valued at Rs. 25 crore per annum handling about 200 tonnes per day. The Municipality disposes about 1000 tonnes of waste per day. Around 60 to 80 per cent of waste comprises vegetable matter and rag pickers collect small proportions of manufactured waste.

3.4.3 Disposal Arrangements

The Lucknow Nagar Nigam has prime responsibility for solid waste management. Within the LNN, responsibility for primary collection of waste up to depots is under one department while secondary collection, i.e. from depots to disposal site, is with another department thus posing problems of coordination. There are about 3800 safai karmacharis working in the Nagar Nigam i.e. almost 1.8 sweepers per 1000 population as against the Health Department norms of 2.8 per 1000 population. Collection practices vary from sweeping some streets twice a day to no street sweeping. In localities established by private developers, the responsibility for street sweeping rests with them. Some of the developers have engaged safai karmacharis. The Nagar Nigam will be eventually responsible for this once the colony is handed over. In the peripheral areas and surrounding villages, there are no arrangements for street sweeping.

A variety of vehicles are used to transport the waste from the depots to the disposal sites. These include three-wheelers, trolleys, tractor-trailers, tipper trucks served by mechanical loaders, dumper placers, and compaction rear end loaders. The Municipality has a solid waste transport fleet of 75 vehicles of which on an average only half are in usable condition at any time since the average age of the fleet is around 15 years. The fleet collects an estimated 850 to 1050 tonnes of waste per day from approximately 500 depots with the frequency of collection varying from daily to once in a month depending upon the quantity of waste collected at a depot.

The density of waste in Lucknow varies from 500 to 700 kg per cum. and as such suitable pay loads in the collection vehicles is achieved without compaction although the Lucknow Nagar Nigam does have some of this equipment. In some areas households practice segregation and the Municipality collects the organic mater separately for use at the disposal plant for generating gas. Some NGOs have popularised vermicomposting in some of the wards and charge households a nominal amount per month for services.

2000 cleaners who charge individual households for the service clean the 44000 service latrines in the city. The Nagar Nigam has employs 6000 safai karamcharis on various terms of contract. The key issue here is one of efficiency of the existing staff and systems rather than on increasing numbers.

3.4.4 Key Issues

In considering solid waste management issues for future planning, it is useful to clearly identify three related problem areas:

- ***Existing infrastructure clearly is inadequate***, Lucknow has fewer depots than required and they are located at some distance from the primary collection points. This situation allows for the disposal of wastes in the open, thereby adding to the pollution load. The infrastructure shortcomings are compounded by inadequate maintenance of vehicles and equipment.

- ***Practices of solid waste management are inefficient and pose significant risks***: Intermixing of wastes in the depots is common – human faeces, hospital waste and household wastes expose rag pickers, safai karmacharis and service latrine cleaners to health risks, and ultimately risks spreading further. The waste depots are not sanitary and are a breeding ground for mosquitoes, cockroaches, flies and rats. Some of these are not paved and during rains large pools of leachates gather and seep into the ground water. While rag pickers play an important role in segregation, this has not necessarily supported environmental improvement as many litter the areas around a bin. While on the one hand there is need to promote the activity of garbage collection and segregation, there is also need to organise it in a more systematic manner

- ***Significant institutional inefficiencies exist***. The LNN is inadequately staffed in terms of safai karamcharis and do not have a sufficient number of vehicles to cater to the needs of the entire City. Additionally, inadequate coordination within the LNN of primary collection and secondary transport, as well as poor relations between the labour force and management results have made the task even more challenging. Moreover, regulatory rules and arrangements are either unclear or non-existent, or not rigorously applied. The activities of ragpickers and other informal agents in the solid waste environment, poses much potential for the authorities to engage small and bigger private sector or community providers for different aspects of the solid waste management cycle. Together with assigning clear accountability, improved performance management and consistent leadership that prioritizes these issues within the LNN, room does exist for innovative partnerships to at least begin to deal with one of the significant challenges as the city prepares for the future.

3.5 Traffic and Transportation

Lucknow has grown all around in a radius of 25 km. taking the General Post Office in Hazratganj as the centre. The main office and commercial complexes are located in the central part of the town thereby making daily commutes a necessity. Considering the existing condition of the arterial roads from the north to south and from the east to west there is not much scope to augment the existing public transport system which includes public buses, three wheeler tempos and private vehicles. The growth of Lucknow in recent years has resulted in vastly increased demand for transport and a dramatic rise in the number of vehicles. Transport infrastructure, however, has not grown correspondingly and is therefore highly inadequate. With the number of registered vehicles rising by about 40,000 vehicles per year in the past decade, the roads and parking spaces in the City have become extremely congested, especially during peak hours.

The U.P. Transport Corporation operates a fleet of ninety-eight buses on ten different routes and estimates that the total passenger load on these buses is around 47000 daily.

Table 3.6: Registration of Vehicles in Lucknow

Type of Vehicles	1994	1998	2005	Annual growth rate (1994-2005)
Two Wheelers	212774	285511	601745	16.62
Car Jeep Vans	27608	42855	97878	23.14
Bus	1126	1349	3553	19.59
Truck/HCV	4219	5264	7742	7.59
Tractor and LCVs	10077	11017	19985	8.94
Three Wheelers, taxis, and others	6487	8579	9567	4.32
Total	**262291**	**354579**	**749395**	**16.88**

Source: RITES Report and UP State Transport Department

The city extends from Indira Nagar and Gomti Nagar on the east to Rajaji Puram on the west and the main traffic generating areas are Lucknow Railway Station, Charbagh Bus Stand, Vidhan Sabha, Secretariat, and the commercial areas in the central parts of the city. With the expansion of the city, traffic has been increasing in and around the peripheral areas. The main artery of Lucknow City, Station Road-Vidhan Sabha Marg, remains extremely congested throughout the day. The traffic situation in main commercial areas that include some heritage zones like Hazrat Ganj has become unmanageable. There are long waiting periods at all the traffic signals in the central parts of the city. All roads in commercial areas are encroached by small vendors. The parking spaces are very limited, and as a result, vehicles are parked all along the roads. This further reduces the available carriage width of the roads and causes traffic congestion.

The State Road Transport Corporation manages the public bus transportation in the city with a fleet of 104 buses. In the absence of a proper public transport system, many inefficient modes of transport have emerged in the city. Cycle rickshaws are commonly used for short distance commuting. Other public modes of intra-city transport include three-wheeled scooters (capacity to seat 6-7 passengers) and four-wheeled jeeps (capacity to seat 10-12 passengers). The current bus network caters mainly to the developed colonies and passes through the centre of the town. In addition there are around 4000 three wheelers. There is a proposal to make these three wheelers run on CNG in the coming years. For short distances cycle rickshaws are the preferred mode of transport and there are about 10,000 of them operating in the city.

3.5.1 Transport Demand Forecast

The UP Transport Corporation has prepared a plan for enhancement of the public transport system on the basis of the population projection in the Master Plan 2021. It is estimated that 30% of the estimated 45 lakh population will need public transport daily i.e. 13.50 lakhs, which will commute every day. According to the norms followed in the state, for every 30,000 commuters 100 buses with one depot and six terminuses are required. Based on this the total requirement of buses works out to 4500 with 45 depots and 270 terminus stations with 900 bus stops (average 20 stops per route). Given the number of buses and the constraints of the road network, it seems likely that it will not be possible to meet the needs of commuters through the current fleet of public buses or private taxis and three wheelers.

The plan also mentions an LRTS with the following four routes suggested:

(1) Sarojini Nagar in the south to Chinhat in the northeast across Gomti.

(2) Sarojini Nagar in the south to Jankipuram in the northwest across Gomti.

(3) Post Graduate Medical Institute in the east to Chowk in the west end.

(4) Post Graduate Medical Institute in the east to north of Rajajipuram in the west.

Additionally significant numbers of people commute to Lucknow on a regular basis from the surrounding towns of Rae Bareili, Kanpur, Unnao, Hardoi and Barabanki. The current circular rail network through E.M.U.s is sufficient to meet present requirements. But since most of these commuters need to travel to the centre of the city on work, the pressure on the road network remains and there is need to consider alternate means of transport.

A number of bridges have been constructed to connect the Cis-Gomti and Trans-Gomti areas but connectivity needs to increase further. The city may well need to consider an integrated ‘multi modal transport system’ to increase inter and intra city connectivity.

3.5.2 Key Issues

- The first set of transportation ***issues*** concern ***infrastructure and service facilities***. Rapid development of the peripheral areas of the city has increased demand for new connections to the central parts of the city, and decisions are required about the modes of transport to deal with this challenge. City and state decision-makers support the concept of an integrated multi modal transport system. A recent study proposed a Light Rail System, but issues of affordability, financing sources and volume need to be clarified further before a firm direction is set. Meanwhile though, the public bus transport in the city is limited to a small part of the city and has poor frequency, and investment in this service, as well as widening of roads, for example to create bus lanes, may need to be considered. The conditions and width of roads require attention in any event, and the state and city authorities, as well as other stakeholders all stress the need for immediate steps needed to widen the roads, remove the encroachments, and construct subways, flyovers and parking places. The issue of parking facilities near commercial and institutional areas in central parts of the city concerns most business and working people, and have also been cited as an issue that needs to be addressed in relation to the upgrading of heritage sites. It is seen as an opportunity for private sector involvement, as a well-managed parking system is considered as a viable revenue generating activity.

- Inevitably, transportation interventions on such a scale require careful ***attention to management***, especially as the existing system has not coped well with expanding and maintaining the networks. Thus typically is an area that is open to private sector involvement, but partnerships are often complex legal and financial arrangements, and need to be monitored and regulated effectively. To achieve this would require the authorities to be well organized, with clear roles and responsibilities, and supported by the necessary capacity to negotiate arrangements and then monitor them. It will require a good deal of coordination across levels of government, in terms of both physical and financial planning as well as implementation. Road works and other transportation investment also mostly affect residents and businesses while in progress, and due consultative mechanisms and processes, and compensations arrangements where relevant, would require detailed attention.

SUMMARY

There is insufficient information on the status of most services, and no effective metering and other systems of quantification. This makes it difficult to plan for the future.
Water supply is mainly based on surface sources from the River Gomti. Ground water exploitation is rising due to the absence of any regulation and to meet the demand since supply overall is intermittent.
It is estimated that about 53% of the water available for supply is lost due to leakage and pilferage – this is an impressionistic estimate in the absence of metering.
27 nallahs discharge about 314 mld sewage directly into the river only 42 mld sewage is treated.
Sewers and drains are blocked due to encroachment; disposal of wastes thus reducing their efficiencies.
The number of waste depots is less than the number required and situated at some distance from the collection points – encouraging open dumping and growth of unauthorised collection sites.
Final disposal is through dumping in landfill sites.
Within the LNN, separate departments have responsibility along the waste collection and disposal chain – lack of coordination also dilutes the chain of responsibility and accountability.
Bins receive mixed wastes – human faeces from service latrines, household wastes and hospital wastes.
Composting and door-to-door collection initiated in limited area through NGO interventions.
With the expansion of the city, there has been a rise in private vehicles although the road infrastructure has not grown at the same pace as the city.
There is need to con sider an integrated multi modal transport system to improve inter and intra city connectivity.

4 Basic Services for the Urban Poor

4.1 Introduction

Definitions of 'slums' and corresponding estimates of numbers and population vary greatly in Lucknow, which hampers planning and execution of investments. Regardless, it is commonly agreed that Lucknow's population includes large numbers of poor people, many of who live in slums.

4.2 Issues in the Technical Approach to Slums

All available estimates are united in their conclusion that the status of services and infrastructure in the slums is grave. Yet, the existing municipal and planning laws together with the status of land occupied by the poor do not allow integration of these areas in the city's planning process, and the critical challenges around tenure remain unresolved. The ability of the relevant institutions to respond to the challenges – independently and jointly – has so far been affected negatively by the questions around data and definition. This is an area where the CDP may as a coherent platform begin to help set a new framework to deal with a complex set of issues.

The complexity starts with the definition of slums. The UP Slum Areas (Improvement and Clearance) Act, 1962, considers an area a slum if the majority of buildings in the area are dilapidated, are over-crowded, have faulty arrangement of buildings or streets, narrow streets, lack ventilation, light or sanitation facilities, and are detrimental to safety, health or morals of the inhabitants in that area, or otherwise in any respect unfit for human habitation. It mentions factors such as repairs, stability, extent of dampness, availability of natural light and air, water supply; arrangement of drainage and sanitation facilities as considerations.

Based on the definition, estimates of slum population vary, so much so that the Census 2001 originally did not report any slums and then later revised its findings. DUDA follows the definition as stated in the UP Slum Areas (Improvement & Clearance) Act 1962, SUDA/UNCHS do not follow this definition but define poverty in terms of vulnerability as does Oxfam. Table 4.1 below shows the range of estimates of slum population on the basis of definition.

Table 4.1: Slum population of Lucknow (1981-2001)

(Unit: Lakhs)

	1971		1981		1991		2001	
	Total Population	Slum Population	Total Population	Slum Population	Total Population	Slum Population	Total Population	Slum Population
Census		2.33	9.47	2.85	16.19	6.97	21.85	1.79
Master Plan 2021		2.33	9.47	2.85	16.19	6.97	21.85	1.79
DUDA (2005)							21.85	6.70
Oxfam (2005)							21.85	10.18
SUDA, UNCHS (2000)							21.85	11.00

. ** Source – Various as cited in table*

DUDA's estimation of slum population is a conservative increase over the Census estimation. However, a survey report released by Oxfam Trust (India) in 2005 indicates that there are 787 poor settlements in the city that can be categorized as slums - authorized and unauthorized (map overleaf). This classification is on the basis of tenure. An authorised slum is one where there is security of tenure with the cluster being either an outcome of a government resettlement programme or being located on private/own land. Unauthorised settlements are those that have emerged on available vacant plots, mainly railway land or on encroached areas. Slum clusters on the riverbanks or on drains are classified as unauthorised. Approximately 11 lakh people are living in slums with few basic civic amenities.

The most recent information on slums available in Lucknow is from the Oxfam survey of 2005 and the CDP has mainly used this information, partly on the advice of SUDA. Other sources of information have been cited mainly to point out the range in the available data that will impact the earmarking of resources for this group.

The UP Slum Act adopts a more physical definition based on various aspects of income poverty and therefore access to ability to afford infrastructure. In contrast, the Oxfam survey bases its definition on a Ford Foundation supported study done by UNCHS in Lucknow between 2002-2004. This study followed the international norm of defining poverty on the basis of vulnerability and stressed that poverty has multiple dimensions and people moved in and out of poverty. In many ways therefore, the Oxfam survey provides a more realistic assessment of numbers of slum dwellers.

Table 4.2: Availability of services in slums

Name of the facility	Nos
Hand Pump	1628
Mechanical Tube well	101
Pipe Line	92.60
Stand Post	593
Electric Poles	3404
Street Lights	2160
Kharanja	130.32
Road	150.80
KC/U drain	357.22
SW drain	50.85
Sewer line	142.28
Bio Digester	22
Community Toilet	106
Community Centres	112

Source: Oxfam Survey 2005

Given that there is no agreement on the number of slums and therefore the total slum population, it is difficult to analyse the existing situation comprehensively. However an attempt has been made here to give some facts according to the data provided by Oxfam. The choice of the data source was partly prompted by SUDA who feel that the DUDA survey was conservative. Table 4.3 shows selected indicators of slum conditions in Lucknow as per the DUDA survey. These tables serve to highlight the varying conclusions arrived at through different data sources.

Table 4.3 Selected indicators of slum conditions in Lucknow

Characteristic	Percentage of people/families
Water Supply Facilities	
Individual tap	48.68%
Community tap	38.84%
Others	6.06%
Sanitation	
Individual toilet facility	50.12%
Community toilet facility	20.98%
Others	28.30%
Housing	
Pucca houses	38.55%
Semi pucca	36.20
Kutcha	13.35%
Jhopadi	9.76%
Others	1.05%
Monthly Household Income in Rupees	
0-500	10.38%
501-1000	31.11%
1001-2000	36.63%
2001-4000	14.90%
Above 4000	5.79%
Employment	
Employed	9.78%
Unemployed	7.97%
Self employed	81.91%

Source: DUDA Survey 2005

- ***Standard of living and household budgets***

  - Average monthly household income is Rs. 518
  - 30% of the household income is spent on health and most of the families require loans to meet these requirements.

- ***Amenities & Housing***

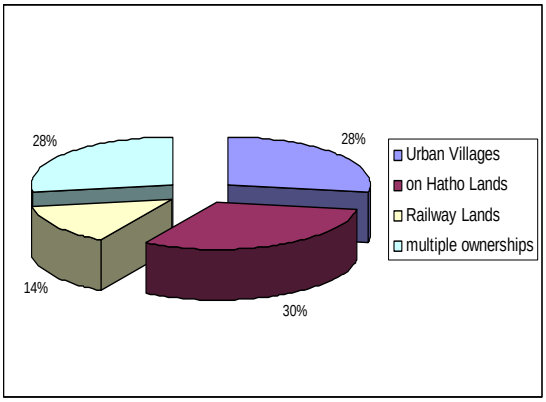
  - 85% of the houses are pucca in authorised slums whereas only 40% are pucca in unauthorised slums.
  - The real significance of the numbers of infrastructure lies in what they indicate in terms of access as is shown in Tables 4.2 and 4.3 above.

  - Only 37% of the people in unauthorised slums have access to toilet facilities and only 35% of the people in unauthorised slums have access to piped water supply.
  - 50% of households in authorised slums have water connections whereas this is only 35% in unauthorised slums.

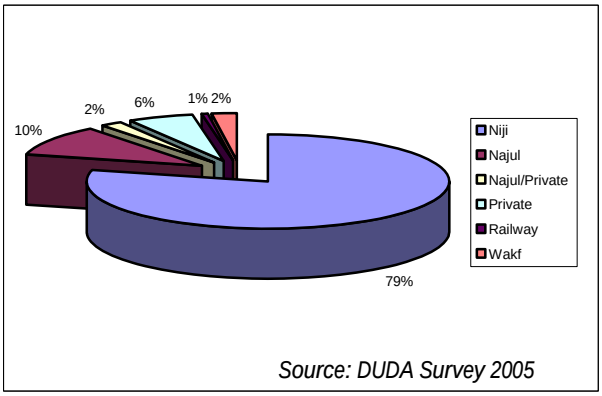
- ***Land Tenure Status:*** There are two versions of this data available at the City level
  - As per the Oxfam survey there are 4 categories in which the land tenure status of slums can be categorised. Of the 787 slum clusters identified in the survey, the sub categorisation on the basis of land tenure is as follows:
    - 225 clusters are urban villages where there is security of tenure
    - 250 clusters are on hatho lands (lands which were given to the dwellers by the erstwhile nawabs against nominal rents). These are mostly seen in the Old City and Hazratganj areas
    - About 115 clusters are on railway land
    - About 195 clusters are on lands with multiple ownerships where residents are paying 'someone' a monthly rent to be allowed to stay
  - DUDA identifies 5 categories of land tenure status for slums. Of the total 530 slums, 79% are located on Niji Lands or 'own land'. These are lands that had originally been handed out by the Nawabs and are today part of the Trust of the royal families.

The difficulty of determining the target population for slum improvement programmes is highlighted in the pie charts below. According to the Oxfam survey a total of 58% of slums were located on land with secure tenure – urban villages and hatho lands – while according to the DUDA survey, 79% of slums were located on 'niji' or owned land. Since tenure is critical in determining the nature of slum improvement interventions, the concurrence on data source will be critical in calculating corresponding financial allocations.

Tenure status of Slums: Oxfam Survey



Tenure status of Slums: DUDA Survey



Source: DUDA Survey 2005

4.3 Reflections on Consultations with slum Dwellers

As part of the CDP process, a series of consultations were held with the slum population in Lucknow. A total of 320 people were met from a random sample of slums although care was taken to ensure that all categories of slums according to tenure were covered in the exercise. While the process of selection of people for the consultations was not fully scientific, it provides a fair cross sectional perspective. Any actions to address services in slum areas would need to involve further consultations as part of the planning and implementation of interventions.

4.3.1 Key Issues

The key issues that were identified through these consultations have been discussed below under specific sub heads as identified by the stakeholders.

a) Water Supply

- Water supply in the majority of slums is unreliable, unsafe and very limited. It was estimated that as many as 500 people are dependent on one water point. Even where Jal Nigam hand-pumps exist, more than 50 - 60 % of them have either dried up or are in a state of disuse due to lack of maintenance.

- In places, the community has contributed to install shallow hand pumps to overcome the water shortages but the quality of water from these pumps is very poor and largely untested.

- People said that they often walked 200m - 1 Km to reach the drinking water source. This is a severe contravention of the GoI norm that states that water should be available at a 50 m distance. People therefore spent as much as 30 minutes - 4 hours to collect water and the scarcity of supply resulted in frequent water fights.

- Slum dwellers also said that in many cases, private individuals were exploiting them by selling water at high rates from private tube-wells.

- There is very high wastage of water due to the state of disrepair of taps. Additionally, many of the hand-pumps do not have concrete platforms around them so dirty water seeps downward, creating unsafe conditions.

- Grievance redress mechanisms for complaints are there but they are rarely exercised and whenever they are, the response of local staff is very poor.

- Most of the slums are dependent on their own resources for maintenance and repairs using private ‘mistris’ on a ‘call-down’ basis.

- The people said that they would be willing to contribute up to 10% of the capital costs for new facilities and free labour.

- People with private water sources do not allow the community to access them and indiscriminate unauthorized and illegal tapping of the existing water supply network is rampant. In some of the better-off slums (authorized ones and urban villages) where residents have their own house connection, each household is paying Rs. 600 a year as ‘water tax’. They find it affordable and are satisfied with the service.

b) Sanitation and Sewerage

- Over 90% of the slum inhabitants’ practises open defecation. The lack of space and resources like water and finances, and sometimes unwillingness to change habits, have resulted in poor demand for individual toilets. However, in the better-off and ‘pucca’ slums, the women especially, expressed a need for toilets as the space available for open defecation is shrinking and the practice was also very inconvenient.

- Community toilets have generally proved a failure, due to preference of community members for open defecation and unwillingness to pay user charges.

- Many slum residents use the riverfront for defecation thus contributing to the pollution of the water source.

- People realise the hidden costs of health due to poor hygiene and sanitation habits, but feel helpless because of lack of resources and/or space to build either proper living spaces or sanitation facilities. Slum residents felt that there is need to provide sanitary facilities as part of in-situ and ex-situ development as is there need for promotion of hygiene and sanitation through advocacy and IEC activities.

- The majority of slum localities lack sewerage lines and those that exist are not adequate to cater to these localities. There was a demand to either charge a flat rate for sewerage connections or a maximum of Rs. 200 as a one-time charge. The other option that could be exercised was to charge according to the property size and if the housing development is new (in- or ex-situ) these water and sewerage charges should be included in the instalments. Where sewerage is not possible, slum dwellers were willing to go in for latrines with pits/ septic tanks depending on the in-situ development plan formulated in collaboration with the community.

c) Drainage (Waste and Storm Water)

- The drainage network in unauthorised slums is poor and those that exist are kutcha.

- The drainage network in the authorized slums is relatively better developed but suffered from poor maintenance leading to drains being blocked by solid waste and plastic packets etc. The LNN sweepers who come to clean the drains leave the cleared sullage piled on the side of the drain. The piles of sullage further reduce the limited space for movement in the slum.

- The slums are characterised by open drains that are used by children for open defecation, adding to the pollution.

- Significant sections of drains in the Old City area have been encroached upon. This does not allow cleaning thus contributing to and aggravating the problem of blockages.

- Some slums are located near the outlet of storm water drains flowing into the River Gomti. When the river is in spate, these settlements get flooded.

- Slum-dwellers are willing to contribute in the form of labour for laying a covered drainage system. However, the narrow lanes of the slums will prove to be a challenge for laying of pipes for drainage.

d) Solid Waste Management:

- At present none of the slums have an organised solid waste management system with the garbage being dumped either in the drains or on available open space.

- In cases where there are municipal bins located near slums, people try and dump their garbage in them. These bins are then cleared by the LNN.

- The prolonged dumping of garbage in some areas like along the Haider Canal has resulted in these areas becoming elevated. This causes flooding in the surrounding areas – typically in slum locations.

- The slum dwellers are willing to pay at least Rs. 20-30 per month for door-to-door collection of garbage. This was the case across all categories of slums. People in the authorised slums are willing to pay slightly more.

- Discussions with rag pickers highlighted their willingness to enter into public-private partnership arrangements with NGOs for solid waste management. Rag pickers say that they would be willing to collect garbage from households, undertake segregation and dump the garbage into the nearest municipal bin. Collection from these bins and transfer to the disposal site should be the responsibility of larger contractors.

e) Land and Tenure Rights/ Housing

- Slum dwellers are reluctant to invest in improving their general living conditions because of uncertainty of tenure.

- Local 'goondas' (goons) are controlling many of the slums and demanding that residents either pay them directly or pay their touts a regular sum for the right to reside in the area. Slum dwellers feel that since they are already paying some form of 'rent' or 'house-tax', their tenure should be legalised and government should charge the rent. This is a problem in slums that are located on land that is classified as being under 'multiple ownership'.

- Slum dwellers in authorised and unauthorised settlements cited their needs in the following priority:

    - Right to land being either made 'free hold' or being transferred on a 99-year lease. In case the latter was not possible, lease rights should be granted at least for 15 years

    - There was willingness to accept redistribution of land according to the size of family (if possible) or else, all should be allotted plots of equal size;

    - In-situ development of slums with EWS housing, preferably planned according to occupation of inhabitants i.e. kabari wallahs or rag pickers needing a place to store the kabari and the thelas used for transportation; rickshaw pullers/street vendors need a place to park their vehicles near their dwellings; dhobis need washing platforms etc.

- In the case of relocation with EWS housing preferably planned according to occupation of inhabitants should be based on the following criteria suggested by the slum dwellers: new housing should not be more than 5 kms from their workplace without access to a highly subsidised and regular public transport system; new housing sites should have all the necessary infrastructure in working condition prior to occupation.

f) Willingness-to-pay:

- Slum dwellers expressed their willingness to contribute up to Rs.l00 per month for l basic services i.e. water supply, sewerage and solid waste management.

- There was willingness to pay between Rs. 300 - 500 per month as housing instalment including O & M as people see this as a means of a way of improving their quality of life. This was expressed by all those who participated in the consultations irrespective of their tenure rights – the willingness stemmed out of a desire to improve overall quality of life. However, specific amounts differed according to income and tenure and the figure stated here is the average across all groups.

g) Public/ Community Participation:

- Several slums already have committees and unions that are active in taking up issues of 'rights', 'livelihoods' and basic amenities. There was willingness to formalise these groups and their participation under the Community Participation Law.

4.4 Schemes for Slum Improvement

Given the complexity of the social, economic and physical environment in which a growing number of urban poor work live and work, the formulation of anti-poverty measures and the design of slum improvement programmes is difficult. In order to arrive at a plan for assistance to this group of people, it is important to understand the impact of anti-poverty initiatives that have been undertaken to date.
Urban development agencies with the mandate to address the city's housing and basic service needs came into existence during the 1960's and 1970's, together with legislation like the Uttar Pradesh Slum Areas (Improvement and Clearance) Act 1962, Uttar Pradesh Planning and Development Act 1973 and the Urban Land (Ceiling and Regulation) Act 1976. These acts have had little impact on curbing the growth of slums in Lucknow.

National and state government policies and programmes that target the urban poor typically target infrastructure Improvement of poor settlements
Improvement in primary health and welfare services
Employment generation for the poor

The focus here is more on programmes addressing physical improvements in slums (rather than economic interventions), as these have greater bearing on the urban poor' access to basic services.

The status of projects undertaken by the District Urban Development Authority in Lucknow is as under:

- Swarn Jayanti Sheheri Rojgar Yojna – being implemented through the empowered women's groups at the community level known as the Community Development Committee (CDC's).

- Under the Housing Improvement Scheme – DUDA has constructed and allotted a total of 485 houses for the slum dwellers. 108 houses have been constructed in Mishribagh, 157 (in-situ) in Barafkhana and 220 in Tafhrohi area.

- Under the National Slum Development Programme 200 houses have been constructed and re-allocated in Amerai Village area.

- Valmiki Ambedkar Awas Yojna – houses have been constructed and distributed in various slum localities in the city

    - 1002 houses constructed in Narpatkheda and many others reallocated in 15 other localities
    - 317 houses constructed in hardasi kheda, 30 are under construction
    - Ali Nagar Sunehra – 632 houses constructed, 712 under construction
    - Vrindavan and Telibagh – 805 houses constructed
    - Hardoi – 663 houses constructed, 37 houses under construction

The consultations served to provide a feel for what the people want. This was a critical input for the formulation of the interventions and investments for the urban poor.

4.4.1 Key Issues

- There are several sources of information regarding the number of slums in the City and the population living in the slums – each of the sources differ in their conclusions but all agree that Lucknow does have a significant slum population that is distributed in almost even clusters across the wards.

- The slum clusters are located on land that is under various categories of owners – 74% of the slums are located on 'own land' where there is security of tenure, about 115 clusters are located on railway lands and the remaining slums are located on land that belongs to 'someone' and requires that dwellers pay a monthly rent.

- All slums are characterised by poor access to basic services and consultations with slum dwellers has revealed that there is willingness to pay for services either as capital cost contribution or in terms of labour for housing, water supply, drainage and solid waste management.

SUMMARY

Lucknow has a significant slum population although, estimates of total numbers vary across sources.
Slums are more or less evenly distributed across the City and are marked by low levels of access to basic infrastructure
74% of the slums are located on 'own land' where there is security of tenure, about 115 clusters are located on railway lands and the remaining slums are located on land that belongs to 'someone' and requires that dwellers pay a monthly rent

5 Institutional Arrangements

5.1 Introduction

The CDP process provided an opportunity for Lucknow's city leadership and stakeholders – including the state government – to reflect on the gap between the current situation in the city and the vision they have for its future. There was, inevitably, a wide range of views, but there also was a considerable synergy in the belief that Lucknow has much potential, and that a positive future is possible in all concerned to do the right things. The challenge is to define "the right things", and to find the incentives that would encourage all concerned to contribute to the achievement of the future.

The discussions and the analysis in Chapters 3 and 4 highlighted the importance of investments, concerted efforts to ensure access to reliable services for all, attracting adequate finance, and of institutional arrangements to make this possible. The fact is that no amount of investment, new infrastructure or additional finance could bring a miracle – ultimately the institutions charged with responsibilities have to be able to execute those responsibilities, draw on the resources available, and make sound decisions. Moreover, at the local level institutions could provide powerful instruments to let the voice of ordinary citizens be heard, and to respond most directly to the requirements of consumers of services.

A critical aspect of the path to a prosperous future is therefore institutional development. The 74th Constitutional Amendment set the platform for significant institutional responsibility at local level, but implementing its requirements has been a slow process. The JNNURM makes an important contribution to the policy to reshape India's cities by pointing out the linkages between institutions and infrastructure, and the need for more concerted application of the 74th Amendment. It leaves much room however for cities and states to map out those links in practice, and the CDP provides a first platform for all concerned with Lucknow's future to think what this means for their own city. The issues are complex and important, and the CDP cannot possibly provide all the answers. Moreover, it makes sense to deal with some of the key issues only once an elected council is in place again – currently anticipated to be the case after elections in September. The CDP can nonetheless begin to help shape the parameters for meaningful institutional reform though, which is what this section is about. It highlights first key features of the institutional environment, as the basis for mapping the major issues to be addressed.

5.2 City Governance and Municipal Services: An Overview

Like in most Indian cities, the institutional landscape in Lucknow includes a number of institutions, besides the Lucknow Nagar Nigam (LNN), that are responsible for the governance of the city and for providing urban infrastructure and services to its citizens. Aside from the local level institutions, various departments and agencies from the State Government play important roles. Table 5.1 provides a perspective on the key institutions, including the LNN, the Lucknow Development Authority, Lucknow Jal Sansthan, UP Jal Nigam, State Urban Development Authority, District Urban Development Authority, State and Central Public Works Departments, UP Awas Vikas Parishad (Housing Board).

Table 5.1: Urban Governance and Service Delivery Institutions

Institution	Key Functions
City Level	
Lucknow Nagar Nigam (LNN)	Local level governance; Primary Collection of Solid Waste; Maintenance of Storm Water Drains; Maintenance of municipal roads; Allotment of Trade Licenses under the Prevention of Food Adulteration Act; O&M of internal sewers and community toilets; Street lighting
Lucknow Jal Sansthan (LJS)	O&M of water supply and sewerage assets; Collection of water tariff
Lucknow Development Authority (LDA)	Preparation of Master Plans for land use; 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.
State Level	
UP Jal Nigam (UPJN)	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
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 programmes
UP Awas Vikas Parishad (UPAVP)	Nodal agency for housing in the state. 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
UP State Transport Corporation (UPSTC)	Provides intra-city and state wide public transport; maintenance of buses, bus stands
Public Works Department (PWD)	Construction of main roads and transport infrastructure including construction and maintenance of Government houses and Institutions
State Tourism Department (STC)	Promotion of tourism
Archaeological Survey of India (ASI)	Maintenance of heritage areas and monuments
UP Pollution Control Board (UPPCB)	Pollution control and monitoring especially river water quality and regulating industries
Town and Country Planning Department (TCPD)	Preparation of Town Plans including infrastructure for the state (rural and urban)
Office of Commissioner Lucknow Division	Coordination of activities of various institutions

With the multiple agencies responsible for service delivery, there is a significant level of fragmentation of governance within the city that is manifest through the overlap of roles and responsibilities and therefore wastage of resources – financial and human. For example while the UP Jal Nigam is responsible for capital investments in water and sewerage sectors and additionally manages the sewerage treatment plant in the city, the Lucknow Jal Sansthan is responsible for operations and maintenance. Similarly the LNN is responsible for the development and maintenance of roads that are less than 80 feet wide in non-LDA areas. The PWD constructs roads that are more than 80 feet wide. Along with the LDA, the UP Housing Board is responsible for developing housing stock in the city. This fragmentation of responsibilities and roles often leads to problems of management and coordination.

Table 5.2: Roles and responsibilities across urban service delivery functions

Infrastructure/Services	Planning and Design	Construction	Operations and Maintenance
Water Supply	UPJN, LDA, UPAVP, Private Developers	UPJN, LJS, LDA, UPAVP, Private Developers	LJS, UPAVP, Private Developers
Sewerage	UPJN, UPAVP, Private Developers	UPJN, LJS, UPAVP, Private Developers	UPJN, LJS, UPAVP, Private Developers
Drainage and storm water drains	LNN, LDA, UPAVP, Private Developers	UPJN, LNN, LJS, UPPWD, UPAVP	LNN, LDA, UPAVP
Solid Waste Collection/Disposal	LNN, LDA, UPAVP	LNN, LDA, UPAVP	LNN, LDA, UPAVP
Street lighting	LNN, LDA, UPAVP	LNN, LDA, UPAVP	LNN, LDA, UPAVP
Housing/services in slums	UPAVP, SUDA, DUDA	UPAVP, DUDA	LNN, UPAVP
Municipal roads/flyovers	LNN, UPPWD	UPPWD	LNN
Bus/truck terminals	UP State Transport Corporation	UP State Transport Corporation	UP State Transport Corporation
Conservation of Heritage areas	LDA, LNN, ASI, Tourism Department		LDA, LNN, ASI, Tourism Department

5.2.1 Lucknow Nagar Nigam (LNN)

The Lucknow Nagar Nigam (LNN) was formed in 1959 following the enactment of the UP Municipal Corporation Adhiniyam (Act). A 'Nagar Pramukh' (Mayor) heads the LNN and is directly elected by the people. The state government notifies the number of 'Sabhasads' or Corporators and this is between 60 to 110.There are 5 to 10 nominated members and ex-officio members like the MLAs or Rajya Sabha members.

Following the enactment of the Constitution 74th Amendment Act, 1992, the State Municipal Act was amended to include all the 18 functions listed in the 12th Schedule of the Constitution within the purview of the Nigam. Implementation has however not been smooth and in a number of areas the LNN's lack of capacity to meet the requirements of the 74th Amendment has been evident. For example:

- The powers that the LNN had with regard to the issue of building permissions have been suspended under the State Act following the 74th Amendment and have been vested in the Lucknow Development Authority.
- Fiscal dependence on higher tiers of government is high. The amounts transferred have varied considerably over the years, and flows have not been consistent. This makes planning and budgeting difficult (see Chapter 6). Poor local-level information, in turn, makes it difficult to raise revenue effectively even in areas where LNN has the statutory powers. Efficiently raising property tax for example when demographic data is weak is not possible. None of the LNN potential revenue sources – whether they are taxes, charges, loans or grants provide clear and consistent revenue streams that enables LNN to act effectively as a local government as intended by the 74th Amendment.
- Under section 147 of the Municipal Corporation Act 1959, the responsibility of keeping the accounts and their examination is with the Chief Examiner Accounts City, the Accountant General UP and Local Fund Examination Department UP. Section 153 of the Act, states that the accounting system be maintained as Single Entry system. This is at odds with the JNNURM reform requirement for double entry accounting, and an issue that would have to be placed on the LNN's reform agenda.
- Fiscal discretion at city level is constrained. Presently, the Municipal Commissioner can approve estimates of work up to Rs. 2 lakhs, the Mayor up to Rs. 4 lakhs, the Executive Council up to Rs. 8 lakhs, and the House of Municipal Corporation up to Rs. 16 lakhs.
- More recently, the political governance in LNN has become a source of major controversy when elections were delayed due to a judicial probe into issues relating to reservation of the seat of the Mayor and Deputy Mayor. The matter has now been resolved and elections are scheduled for September 2006.
- Leadership continuity has been an issue. On the one hand, unlike the practice of a shorter term (one or two years) of Mayor in most municipal Corporations in the country, the Mayor of Lucknow Corporation is elected directly for a term of five years, which certainly brings in continuity in the office. However, it has been observed that there is no fixed term for the Commissioner of the LNN and incumbents are frequently transferred. In the period 13 May 2005 to 19 June 2006, the LNN has seen 8 Commissioners, which clearly compromises continuity and strategic leadership at this level.
- In terms of some of the important provisions of the 74th Amendment, the Metropolitan Planning Committee (MPC) and Ward Committees are yet to be constituted although a notification for the constitution of the MPC has been issued. There are about 67 resident welfare associations that are functioning as ward committees by default. These Associations are very active and vocal in their dealings with the LNN.

Table 5.3: LNN in a nutshell

Strengths	Opportunities
• Constitutional recognition as local government • Closest to the citizens • Elected representatives provide peoples' voice in planning and decision-making • High accountability as people elect the Councillors and the Mayor	• Potential for increasing revenue base from property tax and new innovative taxes such as profession tax • Assets could be used for leveraging capital investment • Increasing role in urban governance and functional responsibilities • Significant scope for partnership with private sector
Weaknesses	**Threats**
• Present functional responsibility very limited • Weak revenue base – barely adequate for meeting establishment costs • Partial coverage of tax base • Not much scope for non-tax revenue as functions that can generate revenue from user charges not assigned	• Deteriorating levels of services – rising population • Large number of poorly performing employees • Increasing number of slums • Low capacity of planning and management

5.3 Water Supply and Sewerage

5.3.1 UP Jal Nigam and Lucknow Jal Sansthan

The UP Jal Nigam – a state level organization – and the Lucknow Jal Sansthan – at the city level – are responsible for water supply and sewerage. Prior to 1975, the Local Self Government Engineering Department (LSGED) of the State Government was responsible for planning, design and implementation of all public health engineering works. This Department worked with the respective Municipal bodies through their Water Works Departments that were vested with the responsibility for operations and maintenance of water supply works. In 1975, the state government passed the U.P. Water Supply and Sewerage Act while seeking a World Bank loan. Under the Act the LSGED was converted into the U.P. Jal Nigam and five Jal Sansthans were created in the five corporations of the state to replace the water works departments of the civic bodies. These two organisations were made responsible for the respective functions of LSGED and Water Works Departments and were constituted as autonomous organisations functioning in their respective areas as Local Authorities.

The UPJN is a State Government Organisation responsible for the management of water supply, sewerage and sewage treatment facilities. The main fixed assets of UPJN are the water works including hand pumps. The sewage treatment works created under Ganga Action Plan are operated and maintained by UPJN. As per the UP Water Supply and Sewerage Act, 1975 the key functions of UPJN are –

- Preparation, execution, financing and promotion of schemes of water supply and sewerage and sewage disposal.
- To render necessary services with regard to water supply and sewerage to state government bodies and ULB's and on request to private institutions.
- To prepare State Plans for water supply, sewerage and drainage.

- To review and advise on tariff, taxes and charges on water supply.
- To access material requirements and arrange for their procurement.
- To establish state standards for water supply and sewerage services.
- To review annually the technical, financial, economic and other aspects of water supply and sewerage system of Jal Sansthan and ULB.
- To operate, run and maintain any waterworks and sewerage system on request by the state government.
- To access requirements of manpower and training in relation to water supply and sewerage services in the state.
- To carry out applied research for efficient discharge of functions of the Nigam or Jal Sansthan.

The Board of Directors at UPJN comprises the Chairman (UPJN), Managing Director (UPJN), Finance Director (UPJN) as the permanent members. The nominated members on the board include the State Principal Secretary for Urban Development, State Principal Secretary for Planning, State Principal Secretary for Finance, State Principal Secretary for Rural Development, Director (Health and Medical) and Director (Local bodies). Other invitees are the Principal Secretary Public Enterprises Bureau and Secretary Water Supply. The organisation structure of UPJN is included in ***Annex 6***.

All finances for water supply and sewerage works were supposed to be delivered to U.P. Jal Nigam that provided loans to Jal Sansthans under separate agreements with them. The UPJN also had responsibility for passing the annual budgets of Jal Sansthans and for deciding on the water tariffs that were in turn ratified by the State Government. The General Manager of the Jal Sansthan used to be appointed on the recommendations of U.P. Jal Nigam by the State Government, but this was changed so that currently the State Government appoints the General Manager in the Jal Sansthan without recommendations of U.P. Jal Nigam. The idea of constituting the Jal Nigam was to generate finances for works while the Jal Sansthans were supposed to generate funds for meeting operation and maintenance costs and for the repayment of loans taken for creating new capital works.

However, the objectives behind the creation of these two institutional entities have not been met fully. The U.P. Jal Nigam depends mainly on State finances while the Lucknow Jal Sansthan is not able to generate adequate funds to create a surplus over and above the operation and maintenance costs. It effectively depends on State fiscal transfers. Despite the official intention that these two agencies should operate as autonomous entities, they continue to function as before 1975 – the U.P. Jal Nigam as a State Government Department and the Jal Sansthan as the Water Works Department. This continues to leave the process of tariff setting uncertain and confusing, which in turn makes it difficult to make the water agencies financially viable.

Additionally, the Lucknow Development Authority and the UP Housing Board that have developed several housing colonies have also planned, designed and executed various infrastructure works in the residential areas developed by them. These agencies are responsible for the maintenance of the infrastructure (including water supply and sewerage) for the initial years till the entire on site works are completed. Thereafter, the sites are handed over to the LNN and the various institutions are responsible for service provision from that point onwards. This arrangement also holds true for sites developed by private builders. The tenuous links between the various service provision entities at the planning stage makes it difficult to prepare duly for service provision in new areas – both in terms of manpower as well as capacity of the existing networks to take on additional load.

As a result of institutional fragmentation no agency has an inventory of all assets. Another problem is that in most of the newly developed areas, the water supply is mainly ground water based while the sewerage is confined only up to the main pumping station since no sewage treatment works have been executed. Thus in the absence of any comprehensive planning and execution, the capital works are decided upon randomly and not as part of a systematic program of investment and maintenance. The lack of comprehensive planning with no single agency responsible for it has resulted in most functions being 'reactive'.

Table 5.4: Water institutions in a nutshell

Strengths	Opportunities
• Both UPJN and LJS are specialized agencies and therefore have high technical capacity • Established institutional set-up • Trained manpower	• Building public private partnerships in structuring water supply projects • Public private partnerships in billing and collection of charges • Improving management
Weaknesses	**Threats**
• The weak incentives for cost recovery makes the bodies less accountable to consumers • Almost nil cost recovery for capital costs and inadequate cost recovery of O&M through user charges • No power to decide user charges • Lack of coordination with LNN and other institutions at city and state level • Inadequate resources for capital investment	• Ambiguous roles and contradictions mean UPJN and LJS become less accountable by the day • Lack of coordination threatens sustainability of operations • Depleting ground water • Rising pollution of available sources of water particularly Gomti • High proportion of water wasted due to leakages • Loss due to pilferage • Deteriorating supply network

5.4 Housing and Land Development

5.4.1 Lucknow Development Authority (LDA)

The UP Urban Planning and Development Act 1975 led to the formation of Lucknow Development Authority (LDA). The LDA is responsible for planned development of the city and surrounding notified areas. More specifically, LDA's main functions are:

- Preparation of Master Plan and Zonal Development Plans for the city;
- Regulation of building construction;
- Maintenance and improvement façade of certain buildings and abutting arterial roads;
- Acquisition, development and allotment of land;
- Construction of Housing (units/residential colonies) in conjunction with UPAVP to meet the housing demand of the growing population;
- Provision of infrastructure facilities (water-supply, sewerage, drainage, roads, bus stands etc.) as per the population needs in areas developed by it.

LDA has been actively involved in the development of a number of residential colonies in Lucknow's periphery. The LDA is governed by a board of officials headed by the Commissioner, Lucknow Division, who is the Chairman of the Authority, followed by a Vice-Chairman. Other members on the board include the - Secretary (Urban Development Department), Secretary

(Finance Department), District Magistrate, Municipal Commissioner (MCA), Chief Town and Country Planner (TCPD), Managing Director (UPJN), 4 municipal councillors and 2 to 3 nominated members. The organisational structure of the LDA is given in Annex 6.

5.5 UP Awas Vikas Parishad (UPAVP)

The UP Awas Vikas Parishad (UPAVP) is the nodal agency for housing in the state. It was established in April 1966 to work towards housing solutions. Besides housing projects it has diversified its activities to planning, designing, construction and development of almost all types of urban development projects through out the state. In addition, UPAVP plans and executes projects for the development of health and education. It is also handling new district head quarters projects with the execution of large number of schemes. UPAVP has constructed multi-storied office buildings and commercial towers for its own and public use. Providing public facilities is also a priority function of UPAVP. It develops market areas and convenient shopping. UPAVP also develops housing for the shelter-less. It has constructed 8480 dwelling units under "Aashraya Yojna" at different places.

The UPAVP is formally autonomous and raises its own resources by taking loans from the state government, Housing and Urban Development Corporation (HUDCO) and other financial institutions. With an estimated budgetary turnover of about Rs. 5950 millions for year 2005-06, UPAVP has a very strong finance base. UPAVP has notified 109 cities for its activities in the state. It has acquired 13500 acres of land in 78 cities where housing schemes are being developed and Lucknow is one such city.

UPAVP has specialists working in different fields viz. Architecture, Town Planning, Construction Technology, Infrastructure Design, Execution and Maintenance, Estate and Financial Management etc. The Board has Engineering and Architecture and planning wings.

There are specific rules and regulations for all activities undertaken by the UPAVP Board. All rules and regulations of the Board are made public through Gazette notifications. To look into the difficulties of the allottees and landowners etc. a public redress system known as "Parishad Bandhu" is operating since 1997. There is a face-to-face hearing and spot decision making. Institutionally, however, the UPAVP is ultimately accountable to the State Government and not to the local level.

Table 5.5: UPAVP in a nutshell

Strengths	Opportunities
• Both LDA and UPAVP have technical capability for planning • Power to acquire land • Development grants from state	• Mandate for planned development of the city • Scope for closer cooperation with other agencies
Weaknesses	**Threats**
• Planning process of LDA is slow and lacks citizens' involvement • Bias towards physical planning and less attention to socio-economic aspects • Focus on land development, distribution, and housing activities • No systematic approach to private sector engagement	• Unauthorized and haphazard housing development particularly on periphery of city • Private developers do not provide adequate infrastructure • Increasing number of poor in the city • Unauthorised occupation of land assets by vested interest and urban poor

5.6 Public Works Department (PWD)

The State PWD is primarily responsible for construction and maintenance of roads, state government institutions and state government housing in the city. Central Public Works Department is responsible for the construction and maintenance of only central government buildings and institutions.

The PWD operates under the State PWD Minister and State-level Secretary and Principal Secretary. A Superintending Engineer (SE) heads the PWD at the district level with some SE's heading multiple districts. An Executive Engineer heads every three to four election constituencies. The PWD has total administrative and technical staff strength of around 250 up to the Junior Engineer level and around 3000 workers and sub-staff in the entire state.

The PWD is responsible for the maintenance of the main city roads with the LNN responsible for the internal roads. There are no criteria for categorising the roads to be maintained by PWD or LNN. The District Magistrate assigns the responsibility to either of the departments based on the primacy of the road stretch.

5.6.1 Key Issues

- The absence of criteria for classification of roads to be maintained by the LNN and the PWD is not an enabling framework for efficient functioning by either agency.

- As a corollary to the above, neither agency is able to plan its work in advance leading to a reactive mode of functioning. This inability to plan effectively is part of wider problem of state and city agencies not planning and coordinating on a systematic basis.

5.7 Basic Services for the Urban Poor

5.7.1 State Urban Development Authority (SUDA)

The State Urban Development Authority (SUDA) is the apex, policy making and monitoring agency for the development of slum areas in the state. SUDA provides overall guidance to the District Urban Development Authority (DUDA) for implementation of community development programmes related to housing, water and sanitation for urban poor in Lucknow, construction of drains and small bore sewers in slums, up-gradation of streets and roads, and coordination with Community Development Societies (CDSs) for awareness building and community participation. SUDA also executes various government schemes for urban renewal like the Balmiki Ambedkar Awas Yojana, Integrated Urban Slum Sewerage Plan, National Slum Development Programme, and Golden Jubilee Urban Employment Scheme etc.

The State Secretary for Urban Employment and Poverty Alleviation is appointed as Chairman SUDA and is responsible for the acceptance and approval of all the schemes being implemented by SUDA. Other members in SUDA are Secretaries for Health, Education, Urban Development, Housing, Youth-development and Social Development. SUDA operates through a series of community structures like Community Development Societies (CDSs)(1350 in the State); neighbourhood committees (NHCs) (10009 in the state); and neighbourhood groups (100963 in state). Significantly though, the LNN has no official place in this consultation system.

All programmes implemented by SUDA are executed through the involvement of beneficiaries.

5.7.2 District Urban Development Authority (DUDA)

The District Urban Development Authority (DUDA) has been constituted to ensure effective execution of the SUDA undertakings in all the districts of the state. DUDA members include the District Magistrate as Chairman DUDA, Municipal Commissioner as Vice Chairman DUDA and other district level officers. It is primarily responsible for works relating to community development in the respective districts of the state, which includes development of slum communities, construction of community toilets, assistance in construction of household latrines, creation of awareness etc. DUDA also works for the provision of sewers, tube-wells etc in slum localities. The assets thus created are finally handed over to the Jal Sansthan for maintenance. DUDA has also taken up a series of activities for infrastructure improvement in slums. It had initiated a five-year programme in 2002 targeting "Slum Free Lucknow" by 2007. This programme proposes to utilize funds from the Valmiki Ambedkar Awas Yojana, Integrated Urban Slum Sewerage Plan and National Slum Development Programme for improving basic services and housing and related infrastructure in the city slums. DUDA elicits the assistance of Community Development Societies (CDSs) for community participation in the various initiatives undertaken by it.

Table 5.6: SUDA and DUDA in a nutshell

Strengths	Opportunities
• Specialised agencies working closely with the urban poor • Good networking with NGOs • Involvement of community groups in the functioning	• Partnership with private developers for land sharing • Willingness of the urban poor to contribute • Involvement of communities in the O&M of services and collection of user charges
Weaknesses	**Threats**
• Inadequate resources for provision of basic services to the poor and in-situ upgrading • Non-availability of land for relocation of slums • Accountable to the State Government, not local government	• Ever increasing number of slums • Unauthorised occupation of land by poor with the involvement of vested interests

5.7.3 Key Issues

- The foremost feature of the institutional environment is the multiplicity of agencies involved in urban governance, regulation and provision of infrastructure and services. The Lucknow Nagar Nigam (LNN), Lucknow Jal Sansthan (LJS), Lucknow Development Authority (LDA) and UP Jal Nigam (UPJN) are designated as the key urban service providers, but several other agencies are also involved – including the Housing Board, Central and State Public Works Departments (CPWD and PWD), Transport Department, Industries Department and the Department of Environment. This fragmentation makes it difficult to hold agencies clearly responsible, and it necessitates special effort to coordinate investmemt, development and planning.

- The main institution at the third tier of the government, the LNN, is weak. It has been assigned several formal powers, but in practice it has little autonomy. The State Government appoints the Municipal Commissioner, and the LNN is fiscally dependent on the state. One of the major consequences of the lack of local powers has been the lack of continuity in the leadership of LNN as Corporation Commissioners are frequently transferred. This makes long-term management difficult and the LNN is thus devoid of one of the critical elements of

sustainable leadership. It is recognised by the administrators and policy makers in the state that the provisions of the 74th Amendment Act need to be concretized and fiscal dependence on the State reduced.

- LNN's capacity to effectively perform the functions envisaged in the 12th Schedule of the Constitution is limited. A thorough organizational review is advised as the basis for immediate steps that would significantly build the capacity of the corporation, and that would consider the LNN"s powers relative to those of other agencies. A restructured institutional framework could provide a new more dynamic context within which to conduct training of officials and supporting staff, building information and management systems as outlined in the JNNURM list of mandatory reforms, and address specific issues of service delivery and governance. It is advisable to undertake such a review once an elected body is in place again, as it does require a matching of political and technical considerations to make local government duly accountable.

- The LDA, like all other city development authorities in the country, has tended to focus on government real estate management, rather than citywide development planning. If a comprehensive development strategy is to be achieved, it will be necessary to undertake planning on a wider scale, and to explore institutional options that would help locate the planning function within the ambit of the governance arrangements for the city. No planning or development agencies can achieve this unless they are linked into the local system of governance.

- In the current institutional framework, the roles of policy maker and service provider are fused in many respects, and the prominent role of state agencies like the UP Jal Nigam dilutes the accountability of local bodies. These institutional ambiguities and overlaps were cited at several of the CDP consultations, and the need for more streamlined and coordinated arrangements stressed. In part this may require merging some of the existing bodies, but the more significant issue is to clarify the roles and responsibilities more clearly. This is the core basis for accountable service delivery.

SUMMARY

There are many agencies and institutions responsible for service delivery in urban areas. Functional overlaps, and fusion of policy, regulatory and operational roles are common, which makes it difficult to hold institutions and individuals accountable.
Local level institutions have limited autonomy given that they are heavily dependent on the state for financial support, and many management decisions are taken at state level – including the appointment of senior officials.
In the current situation, the Lucknow Nagar Nigam is too weak to perform its key role in carrying forward the JNNURM,. Substantial capacity building and strengthening will be a prerequisite in empowering the institution with the necessary skills to take the city into the future.
There is limited/no coordination between various agencies especially at the planning stage.
RWA's and slum based groups' function as 'ward committees' by default, which leaves a need for a more systematic effort to create instruments for citizen involvement in urban governance processes.

6 Fiscal Assessment of Key Institutions

6.1 Introduction

The analysis in Chapter 5 outlines realities and challenges in the functioning and relationships of the institutions involved in service delivery in Lucknow. Overlapping and unclear roles, lack of coordination, inadequate links to residents and other users of urban services and lack of institutional capacity all hamper responsive and accountable service delivery. In addition, the financial capacity of these institutions is a fundamental consideration in planning for the city's future. This chapter provides a broad overview of financial issues pertinent to key bodies.

6.2 Financial Analysis: Lucknow Nagar Nigam (LNN)

The LNN has responsibility for the provision of basic needs and maintenance of core services in the city: maintenance of streetlights; provision (maintenance) of drainage and sewer facilities, solid waste management, maintenance of parks, gardens and play grounds; sanitation and maintenance of city roads. In addition, it also provides for primary education and medical needs, markets, cremation grounds, slaughterhouses, and regulating advertisements. The LNN generates resources through taxation, and rental income from municipal properties, as well as fees defined in the *Uttar Pradesh Nagar Nigam Adhiniyam*, (UP Municipal Corporations Act). These sources constitute LNN's own revenue. It receives however the bulk of its funding in the form of intergovernmental transfers from the centre and the state (which are constitutional obligations of these higher level of governments).

The financial analysis of LNN was done on the basis of income and expenditure data provided by the LNN, through budget documents and accounts for various years. On the income side, under the revenue account, the resources are generated through levying of various taxes/duties and rental income from municipal properties. The capital and suspense accounts deal with the transfers (grants and contribution) from higher levels of government. The expenditure of LNN is also divided into three major similar headings: revenue expenditure, capital expenditure and suspense account expenditure.

6.2.1 Financial Trends in LNN Finances

Income- Expenditure pattern:

The income under revenue head has increased from Rs 76 crore in 2000-01 to Rs 107 crore in 2004-05, whereas the capital income declined from Rs 17 crore to Rs 14 crore for the same period. On the expenditure side, the revenue expenditure has gone up from Rs 70 crore to Rs 90 crore from 2000-01 to 2004-05, while a marginal increase observed in case of capital expenditure, from Rs 20 crore to Rs 26 crore only.

Status of Surplus/Deficit

In the revenue account, the LNN has generated surplus for all the years except 2002-03, when it had a deficit of Rs 2.5 crore. The surplus generated ranged between Rs 5 crore (2000-01) to Rs 16 crore (2004-05). On the other hand, in the capital account, the LNN has incurred deficits in all the years except 2002-03. It was less than Rs one crore in 2002-03, whereas the highest deficit of Rs 14 crore was observed in 2003-04. In sum, LNN has generated surplus in all the years ranging from Rs 2 crore to Rs 8 crore from 2000-01 to 2003-04 but declining to Rs 4 crore in

2004-05. The details of income and expenditure is shown in Table 6.1 and graphically presented in Figures 6.1 and 6.2.

Table 6.1: Income -Expenditure Pattern of LNN

(Rs Lakh)

Income Head	2000-01	2001-02	2002-03	2003-04	2004-05
Revenue Income	7564.07	8123.27	9407.9	10637.18	10655.02
Capital Income	1699.20	2213.34	7814.03	1124.18	1438.58
Total Income	9263.27	10336.61	17221.93	11761.36	12093.6
Revenue Expenditure	7044.91	6996.54	9658.03	8347.68	9021.8
Capital Expenditure	2045.54	2268.8	4900.56	2560.17	2637.22
Total Expenditure	9090.45	9265.34	14558.59	10907.85	11659.02
Status of Surplus/Deficit					
Revenue Surplus / Deficit	519.16	1126.73	-250.13	2289.5	1633.22
Capital Surplus / Deficit	-346.34	-55.46	2913.47	-1435.99	-1198.64
Total Surplus / Deficit	172.82	1071.27	2663.34	853.51	434.58

Source: LNN

Figure 6 1: Trends in Income and Expenditure of LNN

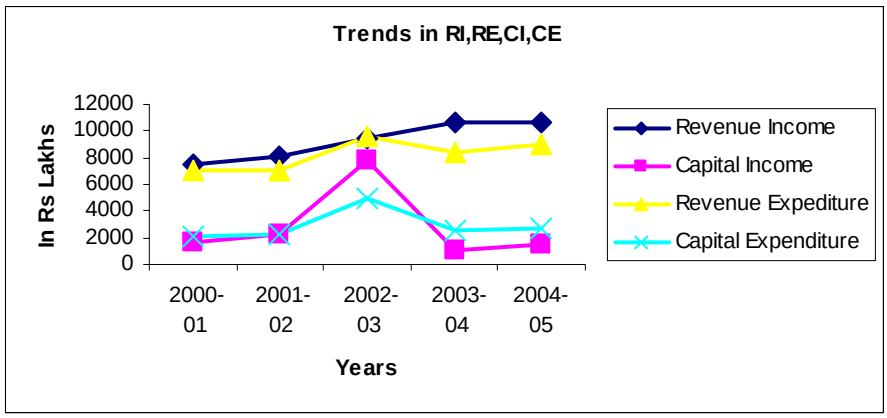
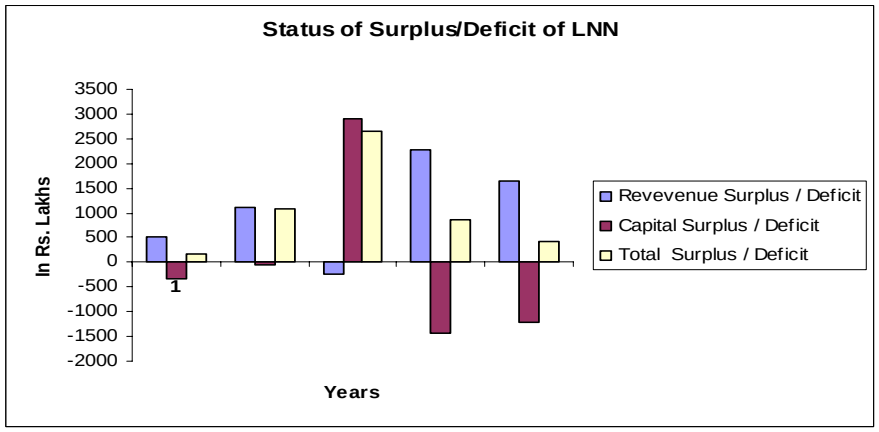


Figure 6.2: Surplus/Deficit of LNN



6.2.2 The Composition of Revenue Income

The main sources of revenue income for the LNN include income from tax sources, non-tax revenue and transfers (grants and contributions) from higher levels of government. The important taxes levied by the LNN are property tax, advertisement tax, and entertainment tax. The income from property rentals, charges, fees and fines constitute the major non-tax sources. Transfers from the Central Finance Commission and the State Finance Commission contribute substantially to grants and contributions. The details of composition of revenue receipts are presented in Table 6.2 and Figure 6.3 below.

Own Revenue:

The figures in Table 6.2 clearly demonstrate the high level of fiscal dependence of the LNN, with well over 50% - and in some years over 60% of income coming from transfers. Own revenue remains too small to ensure that the city can respond to demands from its residents on its own account. Nonetheless, there have been some marginal improvements in the own revenue position recently. Of this, local taxes remain the major contributor and it has increased as share of own revenue from 22% to 36 % in the period 2000-01 to 2003-04 partly as an outcome of the change in the tax assessment method. The contribution from non-tax sources increased marginally from 6% to 8% for the same period.

Grants and Contribution:

In the revenue income, the major share comes from transfers from the State Finance Commission (SFC). However, its share has declined from 66% to 54% in the period 2000-01 to 2004-05. The figures in table 6.3 indicate variances over years, and discussions at local level indicate issues around the timing of payments and variances between budgeted and actual transfers. Clearly, transfers will remain a part of the system, as the LNN is largely dependant on fiscal transfers. To assist planning and accurate budgeting however, a more predictable flow of funds is essential.

Other Sources:

The share of income from other sources such as road cutting charges, transfer of colonies and education grants accounted for less than 10% of the total revenue income.

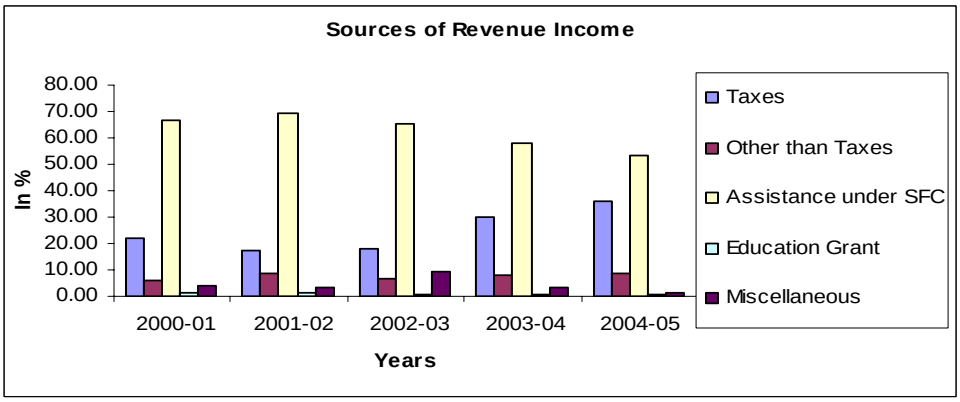
Table 6.2: Composition of Revenue Income of LNN

(Rs lakh)

Years	2000-01	2001-02	2002-03	2003-04	2004-05
Taxes	1674.5	1418.95	1708.81	3180.92	3851.42
(% to total)	**22.14**	**17.47**	**18.16**	**29.90**	**36.15**
Other than Taxes	475.26	717.34	624.84	861.83	893.07
(% to total)	**6.28**	**8.83**	**6.64**	**8.10**	**8.38**
Road Cutting	202.01	211.2	212.42	129.75	83.5
(% to total)	**2.67**	**2.60**	**2.26**	**1.22**	**0.78**
Transfer of Colonies	106.92	72.42	651.82	194.81	62.71
(% to total)	**1.41**	**0.89**	**6.93**	**1.83**	**0.59**
Assistance under SFC	5024.09	5617.05	6164.13	6190.03	5712.52
(% to total)	**66.42**	**69.15**	**65.52**	**58.19**	**53.61**
Education Grant	81.29	86.31	45.88	79.84	51.8
(% to total)	**1.07**	**1.06**	**0.49**	**0.75**	**0.49**
Total	**7564.07**	**8123.27**	**9407.9**	**10637.18**	**10655.02**

Source: LNN

Figure 6.3: Sources of Revenue Income of LNN



Capital Income:

The composition of capital income is shown in Table 6.3 and Figure 6.4 below. About 40% of the income is attributed to the revolving fund although its share in total income has fluctuated over the period. It increased from 47% in 2000-01 to 61% in next year, but drastically declined to 17% and 24% in the next two years and shot up to fifty percent in 2004-05. Similarly, the share from other capital income heads has also shown an erratic behaviour in the period under consideration.

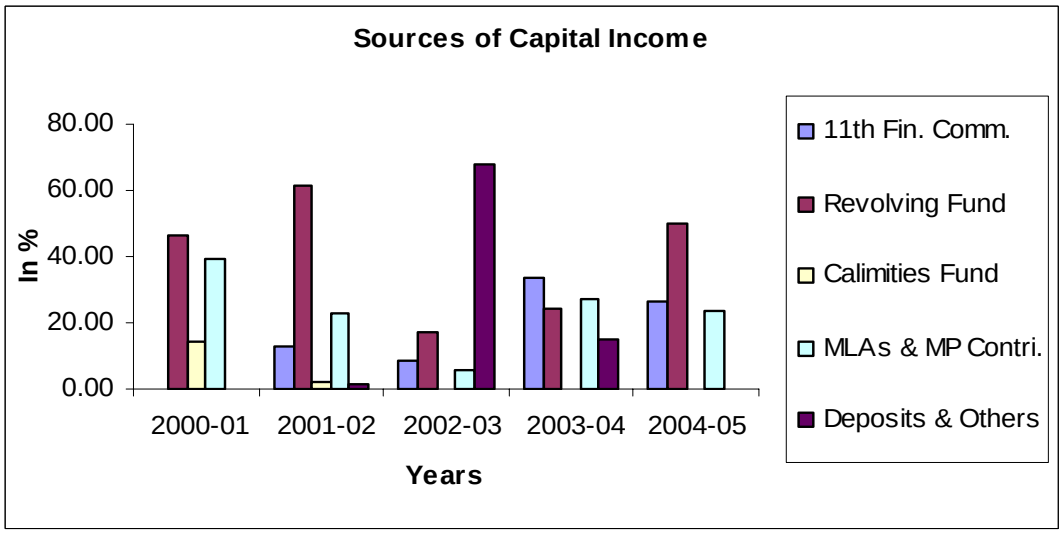
Table 6.3: Composition of Capital Income of LNN

(Rs lakh)

Years	2000-01	2001-02	2002-03	2003-04	2004-05
11th Finance Commission	0.00	282.23	661.76	379.26	379.26
(% to total)	**0.00**	**12.75**	**8.47**	**33.74**	**26.36**
Revolving Fund	794.59	1354.39	1364	270	716.55
(% to total)	**46.76**	**61.19**	**17.46**	**24.02**	**49.81**
Calamities Fund	238.41	41.21	0.00	0.00	0.00
(% to total)	**14.03**	**1.86**	**0.00**	**0.00**	**0.00**
MLAs LAD Scheme	318.87	376.1	418.16	254.55	288.59
(% to total)	**18.77**	**16.99**	**5.35**	**22.64**	**20.06**
MPs LAD Scheme	347.33	126.07	54.93	49.09	54.18
(% to total)	**20.44**	**5.70**	**0.70**	**4.37**	**3.77**
Deposits / Others	0.00	33.34	5315.18	171.28	0.00
(% to total)	**0.00**	**1.51**	**68.02**	**15.24**	**0.00**
Total	**1699.2**	**2213.34**	**7814.03**	**1124.18**	**1438.58**

Source: LNN

Figure 6.4: Capital Income-Composition of LNN



6.2.3 Expenditure Component

Similar to income, expenditure is also accounted for under three heads. These are (1) Revenue Expenditure; (2) Capital Expenditure; and (3) Suspense (other) account expenditure.

(1) Revenue Expenditure

Under the municipal laws, the LNN has to provide various services related to education, medical and public health O & M of street lighting, water supply and sewerage, parks and gardens, public works, and roads. A substantial proportion of its earnings are spent on provision and maintenance of these services. At the same time, LNN has to deploy a substantial workforce

both for service provision as well as revenue collection. Table 6.4 below and Figure 6.5 below show the details of the revenue expenditure.

Establishment costs (which includes general administrative expenses and salaries and wages of employees) accounted for 61% of the revenue expenditure in 2004-05 against 73% in 2000-01, registering a decline. Public works accounts for the next highest item of revenue expenditure, but remains at only about one-third of the latter. Its share of overall expenditure has increased marginally from 20% (2000-01) to 23% (2004-05). Solid waste management is another important item of revenue expenditure whose importance has increased following the Supreme Court Order in 2000. The LNN was spending about 5% on solid waste management in 2000-01, which rose to 8% in 2004-05. The expenditure on maintenance of streetlight has regularly increased in the last five years. It has increased to 8% in 2004-05 against 2% in 2000-01. Health services account for the lowest share of expenditure with less than one percent being spent on it in the last five years.

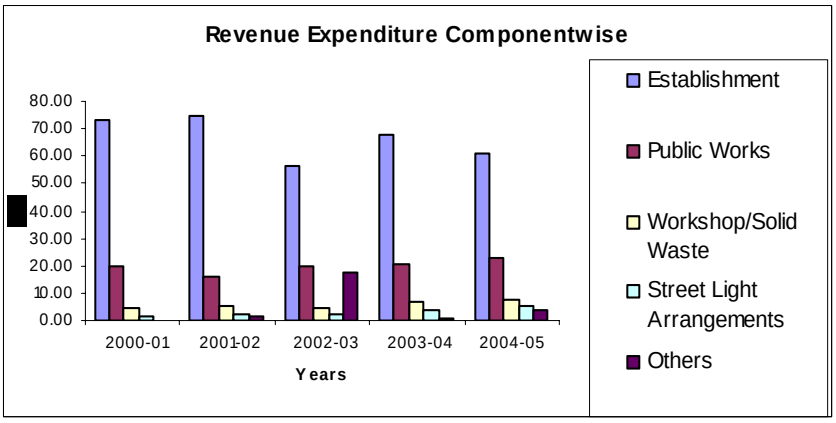
Table 6. 4: Pattern of Revenue Expenditure of LNN

(Rs Lakh)

Years	**2000-01**	**2001-02**	**2002-03**	**2003-04**	**2004-05**
Establishment	5168.65	5231.91	5449.92	5644.95	5520.47
(% to total)	**73.37**	**74.78**	**56.43**	**67.62**	**61.19**
Public Works	1379.66	1128.51	1896.93	1727.78	2047.97
(% to total)	**19.58**	**16.13**	**19.64**	**20.70**	**22.70**
Health	8.77	101.2	78.44	53.00	80.47
(% to total)	**0.12**	**1.45**	**0.81**	**0.63**	**0.89**
Workshop/Solid Waste	337.01	384.37	427.97	567.23	681.90
(% to total)	**4.78**	**5.49**	**4.43**	**6.80**	**7.56**
Street Lights	133.22	139.55	224.01	340.40	450.70
(% to total)	**1.89**	**1.99**	**2.32**	**4.08**	**5.00**
Others	17.60	11.00	1580.76	14.32	240.29
(% to total)	**0.25**	**0.16**	**16.37**	**0.17**	**2.66**
Total	**7044.91**	**6996.54**	**9658.03**	**8347.68**	**9021.8**

Source: LNN

Figure 6.5: Composition of Revenue Expenditure of LNN



(2) Capital Expenditure

Infrastructure and development works comprise the major capital expenditure heads. The share of expenditure on this head varied from as low as 7% in 2002-03 to a high of 33% in 2000-01. The expenditure incurred on development works under MLA/MP LDAs has declined over the years dropping to less than 10% in 2004-05 against 36% in 2000-01. Capital expenditure on development works under the Central Finance Commission has registered an increasing trend with its share in the total rising from 11 % to 20 % in the last five years. The share of revolving fund accounted for a high 46% in 2003-04 with the lowest 8% accounted in the previous year for the period under review.

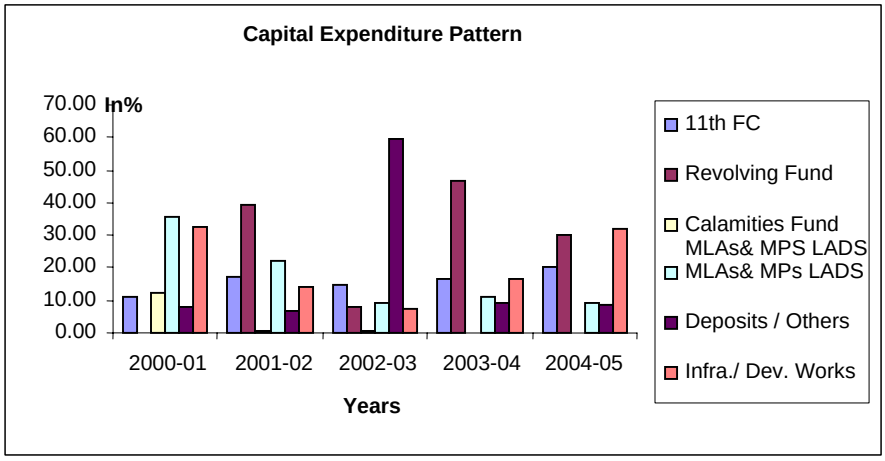
Table 6.5: Pattern of Capital Expenditure of LNN

(Rs Lakh)

Years	2000-01	2001-02	2002-03	2003-04	2004-05
11th Finance Commission	225.33	395.47	726.36	421.01	537.31
(% to total)	**11.02**	**17.43**	**14.82**	**16.44**	**20.37**
Revolving Fund	0.00	897.72	395.43	1188.59	793.22
(% to total)	**0.00**	**39.57**	**8.07**	**46.43**	**30.08**
Calamities Fund	256.47	8.79	36.79	0.01	0.00
(% to total)	**12.54**	**0.39**	**0.75**	**0.00**	**0.00**
MLAs& MPs LAD Scheme	734.77	494.91	459.05	282.65	245.23
(% to total)	**35.92**	**21.81**	**9.37**	**11.04**	**9.30**
Deposits / Others	160.53	150.61	2917.81	237.59	227.38
(% to total)	**7.85**	**6.64**	**59.54**	**9.28**	**8.62**
Infrastructure/ Dev. of Works	668.44	321.3	365.12	430.32	834.08
(% to total)	**32.68**	**14.16**	**7.45**	**16.81**	**31.63**
Total	**2045.54**	**2268.8**	**4900.56**	**2560.17**	**2637.22**

Source: LNN

Figure 6.6: Capital Expenditure Composition of LNN



6.2.4 Key Issues

- Officially, the LNN has generated revenue surplus to the tune of Rs 16 crore and total surplus of Rs 4 crore in the period under review. In reality however, it is evident – even in the current format of accounts – that it remains highly dependent on fiscal transfers, even though the share of transfers to the overall revenue has declined somewhat.
- Revenue from tax sources has increased recently, along with other local non-tax sources. The analysis highlights several constraints, however, starting with inadequate data about properties, taxpayers and other sources for revenue. The problems permeate all local revenue sources, and point towards a need for a systematic revenue review and revenue enhancement plan.
- The share of establishment expenditure as part of the overall revenue expenditure budget has declined, but remains substantial at 60%. This means that investment and capital development remains below par, while the day-to-day operational costs of the LNN consume the bulk of its expenditure.
- For more developmental activities, expenditure on development works would need to increase. To achieve the required developmental effect, however, would require these to be located in a policy framework that links expenditures to the goals of government at state and local level, taking into account JNNURM guidelines. Many aspects of such a policy framework are not up to date and require the attention of the relevant levels of government, not the least the LNN itself. Its institutional weaknesses as discussed in chapter 5 constrain its current capacity to respond to this challenge effectively, however.
- A process point is relevant: there is little evidence of citizens actually being in a position to influence the financial plans and budgets. The high level of fiscal dependence on transfers weakens the incentives for LNN to address this problem, but it is one of the critical areas of reform that require attention as the city prepares itself to be governed in the letter and spirit of the 74th Amendment.

6.3 Uttar Pradesh Jal Nigam

The UP Jal Nigam and the Lucknow Jal Sansthan are responsible for the provision of water supply and sewerage. Since the Uttar Pradesh Jal Nigam is a state level organization it will be difficult to analyse its financial status for the city of Lucknow separately. The UP Jal Nigam as such does not generate any revenue of its own. The operation and maintenance (O&M) of water

supply and sewerage systems is the responsibility of the Lucknow Jal Sansthan and it collects water tax, sewer tax, water charges and sewer charges. Therefore, it would be more meaningful to analyse the financial position of the Lucknow Jal Sansthan rather than the UP Jal Nigam.

6.4 Lucknow Jal Sansthan (LJS)

6.4.1 Financial Analysis of LJS

The LJS generates revenue through taxes and charges. The major revenue sources are: (a) Water tax; (b) Sewer tax; (c) Water charge and (d) Sewer charge.

Tax and charges on all the above are calculated separately with the higher of the two being charged from the consumer.

6.4.2 Water and Sewer Tax

The Water Tax and Sewer Tax are charged based on Annual Rental Value/Annual Rateable Value of the properties, as assessed by the Lucknow Nagar Nigam. The current maximum rate of tax is 12.5% for water and 4% for sewer. The water tax rate has been reduced from 14% to 12.5% with effect from 1-4-2003.

6.4.3 Income- Expenditure Trend and Resource Gap

The revenue income of LJS has near doubled in the period 2000-01 to 2004-05. It has increased from Rs 30 crore to Rs 54 crore. On the hand, capital income rose to Rs 5 crore in 2004-05 against the Rs 2 crore (2000-01). Similar to revenue income, the expenditure on revenue account has also increased substantially from Rs 32 crore to Rs 52 crore during the period under consideration. The expenditure on capital works has increased marginally from Rs 1 crore to Rs 2 crore.

6.4.4 Resource Gap

On revenue account, the LJS has incurred deficits of Rs 1.7 crore and Rs 1.8 crore in the first two years of the period under review. Thereafter it has generated surpluses for the remaining three years. In 2004-05, it has generated a surplus amounting to Rs 2 crore.

The LJS has generated a surplus on capital account for all the years under review – rising from Rs 1 crore to Rs 3 crore in the period under review. Overall, it has incurred deficits in the first two years. For the remaining three years it has generated surpluses of Rs 2 crore, Rs 3 crore and Rs 5 crore for the years 2002-03, 2003-04 and 2004-05 respectively. The details are shown in Table 6.6 and figure 6.7.

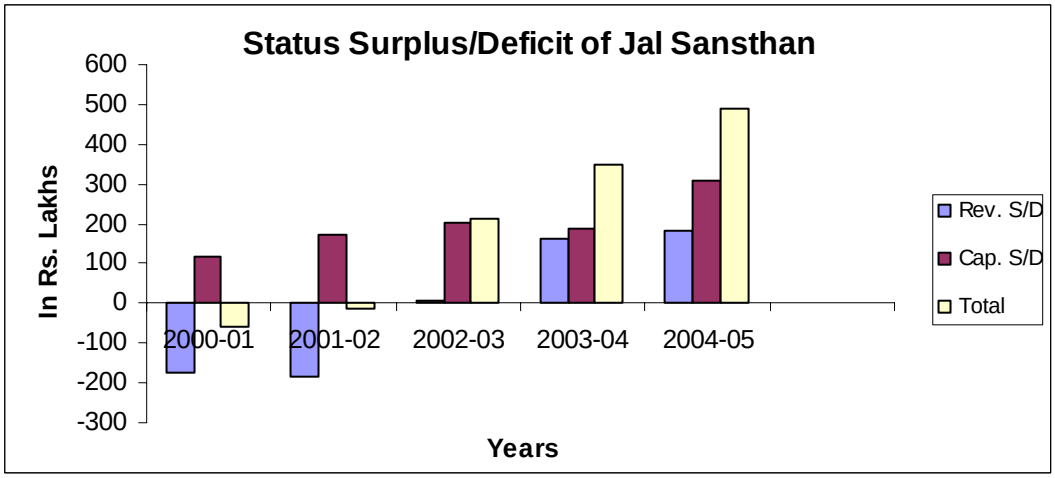
Table 6.6: Financial Position of Lucknow Jal Sansthan

(Rs Lakh)

	2000-01	2001-02	2002-03	2003-04	2004-05
Revenue Income	2989.42	2427.18	4530.97	4672.01	5361.6
Capital Income	228.78	312.29	471.03	440.74	515.83
Total Income	3218.2	2739.47	5002	5112.75	5877.43
Revenue Expenditure	3163.56	2610.27	4524.23	4509.87	5180.03
Capital Expenditure	111.14	141.93	266.16	254.14	208.80
Total Expenditure	3274.7	2752.2	4790.39	4764.01	5388.83
Revenue Surplus / Deficit	**-174.14**	**-183.09**	**6.74**	**162.14**	**181.57**
Capital Surplus / Deficit	**117.64**	**170.36**	**204.87**	**186.6**	**307.03**
Total Surplus / Deficit	**-56.5**	**-12.73**	**211.61**	**348.74**	**488.6**

Source: LJS

Figure 6.7: Resource Gap of LJS



6.4.5 Revenue Income

Income sources of the LJS can be broadly categorised as tax and non-tax. The tax component comprises water and sewer charges, whereas the non-tax component includes fees, rents and grants for normal maintenance of services. The share of tax in the total revenue income remained higher than 90% (2000-01). Its share gradually declined and reached a low of 49% of the total revenue income. Thereafter it has again increased and in the financial year 2005-06 it was at 52% of the total revenue income. On the other hand, the share of non-tax revenue remained very low (8%) but increased to 51% in 2002-03. In the last two years, it has remained at about 47%.

6.4.6 Tax Revenue – Composition

Service charges and water tariff comprise the major earnings. Its share in total income from revenue account has increased from 71% (2000-01) to 75% in 2004-05. Water rates and service charges comprise the next important category with the contribution from these two sources varying in the range of 13% (2003-04) to 19% (2001-02). The revenue from sewer charges has shown a declining trend over the period. Its share has dropped to 10% in 2004-05 against 14% in

the beginning of the period. The details of the revenue composition are presented in Table 6.7 and Figure 6.8 below.

Table 6.7: Composition of Revenue Income of LJS

(Rs. Lakhs)

Year	2000-01	2001-02	2002-03	2003-04	2004-05
Tax Revenue					
Service Charges & Water tariff	1948.32	1441.29	1638.98	1827.51	2107.58
(% to tax rev)	70.60	69.53	73.48	74.09	75.42
Water rates	421.66	384.92	329.78	331.48	407.77
(% to tax rev)	15.28	18.57	14.79	13.44	14.59
Sewer Charges	389.53	246.58	261.71	307.65	279.26
(% to tax rev)	14.12	11.90	11.73	12.47	9.99
Total	2759.51	2072.79	2230.47	2466.64	2794.61
(Tax % o Total Rev.)	**92.31**	**85.40**	**49.23**	**52.80**	**52.12**
Non-Tax Revenue					
Meter rent	3.91	3.35	3.21	2.89	1.87
(% to non-tax rev)	1.70	0.95	0.14	0.13	0.07
Water Point Fees	0	0	0	0	0
(% to non-tax rev)	0.00	0.00	0.00	0.00	0.00
Sale of water sullage	0	0	0	0	0
(% to non-tax rev)	0.00	0.00	0.00	0.00	0.00
Development fees	103.59	82.66	83.96	134.26	105.44
(% to non-tax rev)	45.06	23.32	3.65	6.09	4.11
Service Charges	37.68	13.54	0	0	21.4
(% to non-tax rev)	16.39	3.82	0.00	0.00	0.83
Other Receipts	84.46	148.01	365.83	162.81	311.84
(% to non-tax rev)	36.74	41.76	15.90	7.38	12.15
Normal maintenance	0.27	0	0	0	0
(% to non-tax rev)	0.12	0.00	0.00	0.00	0.00
Contribution for electricity charges	0	106.83	1847.5	1905.41	2126.44
(% to non-tax rev)	0.00	30.14	80.31	86.40	82.84
Total	229.91	354.39	2300.5	2205.37	2566.99
(Non-Tax % o Total Rev.)	**7.69**	**14.60**	**50.77**	**47.20**	**47.88**
TOTAL (Tax +Non Tax)	**2989.42**	**2427.18**	**4530.97**	**4672.01**	**5361.6**

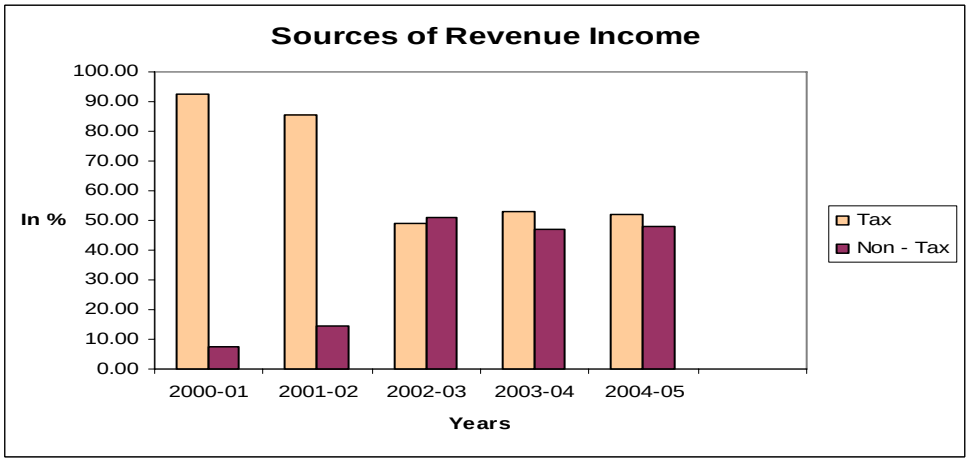
Source: LJS

6.4.7 Non-Tax Sources

The major sources of non-tax revenue are earnings from development fees and service charges, but their share in total non-tax income has reduced in the last five years. The share of development fee has reduced to 4% in 2004-05 against a high of 45% at the start of the period

under consideration. Similarly, contributions from service charges declined from 16% in 2000-01 to less than one percent at the end of period (2004-05). The reducing sources of income result in high dependence on the state for grants and this situation is not amenable to building autonomous and financially sustainable institutions. The contribution from electricity charges cannot be considered as income however, its share was 30% in 2001-02, increasing to more than 80% in the last three years.

Figure 6.8: Revenue income of LJS



6.4.8 Capital Income

There are no observable patterns in the trend of capital income – it is mainly a reflection of the pattern of investments in infrastructure. This situation is a reflection of the fact that there does not seem to be any planned O&M undertaken by the LJS and it functions in a 'reactive' mode. The percent contribution by refund in total capital income accounted for more than half. Its share in the total capital income varied from 56% and 61% for the year 2004-05 and 2005-06 respectively. The Lucknow Water Supply Scheme comprised a large share in the capital income. In 2000-01, it contributed 88% but in the later period started declining drastically and reached a low of 4% of the total capital income in year 2005-06. The revolving fund also contributed significantly to capital income for three years, when its share stood at 56%, 49% and 79% respectively in the year 2001-02, 2002-03 and 2003-04. (See Table 6.8 and Figure 6.9 for details).

Table 6.8: Composition of Capital Income of LJS

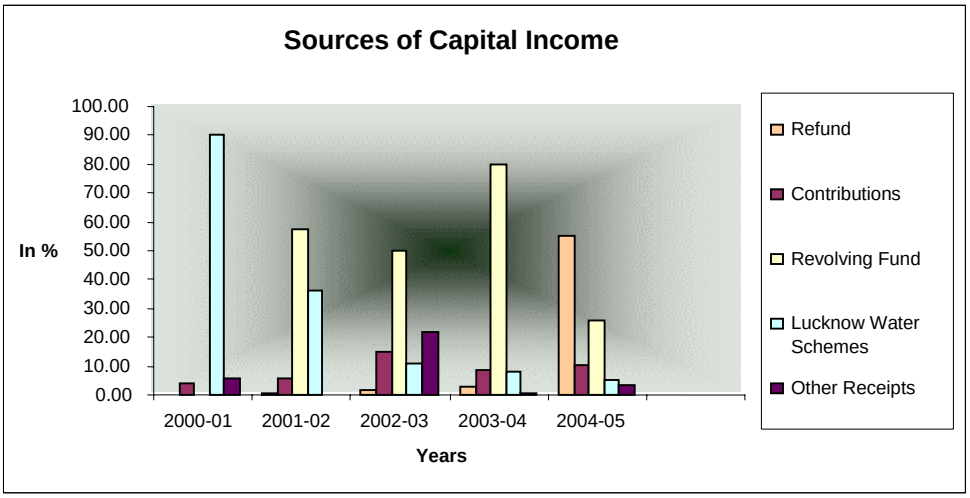
(Rs. Lakh)

Year	2000-01	2001-02	2002-03	2003-04	2004-05
Refund of Advance	5.56	4.59	3.61	3.35	2.56
(% to total)	2.43	1.47	0.77	0.76	0.50
Advance for Deposit works	0	2.21	8.25	13.62	284.49
(% to total)	0.00	0.71	1.75	3.09	55.15
Contributions under special schemes	3.51	0	2.26	2.26	2.26
(% to total)	1.53	0.00	0.48	0.51	0.44
Dalmandi Sewer Lines	0	0	0.97	0.97	0.97
(% to total)	0.00	0.00	0.21	0.22	0.19
Contributions	5.05	0	50	36	51.3

Year	2000-01	2001-02	2002-03	2003-04	2004-05
(% to total)	2.21	0.00	10.62	8.17	9.95
Loan Revolving Fund	0	177	234.6	349.33	132.96
(% to total)	0.00	56.68	49.81	79.26	25.78
Lucknow Water fulfilment scheme	201.38	111.08	51.56	34.69	25.47
(% to total)	88.02	35.57	10.95	7.87	4.94
Contributions from DUDA	0	17.41	17.7	0	0.07
(% to total)	0.00	5.57	3.76	0.00	0.01
Others Receipts	0	0	0	0	0
(% to total)	0.00	0.00	0.00	0.00	0.00
Centage on Deposit works	11.28	0	0.58	0.52	0
(% to total)	4.93	0.00	0.12	0.12	0.00
Various receipts	1	0	101.5	0	0.75
(% to total)	0.44	0.00	21.55	0.00	0.15
Licensing of illegal connection	1	0	0	0	15
(% to total)	0.44	0.00	0.00	0.00	2.91
Total	**228.78**	**312.29**	**471.03**	**440.74**	**515.83**

Source: LJS

Figure 6.9:Ssources of Capital Income of LJS



6.5 Expenditure Pattern

6.5.1 Revenue Expenditure

The major heads of expenditure on the revenue account are salaries, operations and maintenance, interest payments and others. The share of expenditure towards salaries was the highest in the first two years but in the later period operations and maintenance (electricity and energy) has accounted for the highest expenditure. The share of expenditure on both these

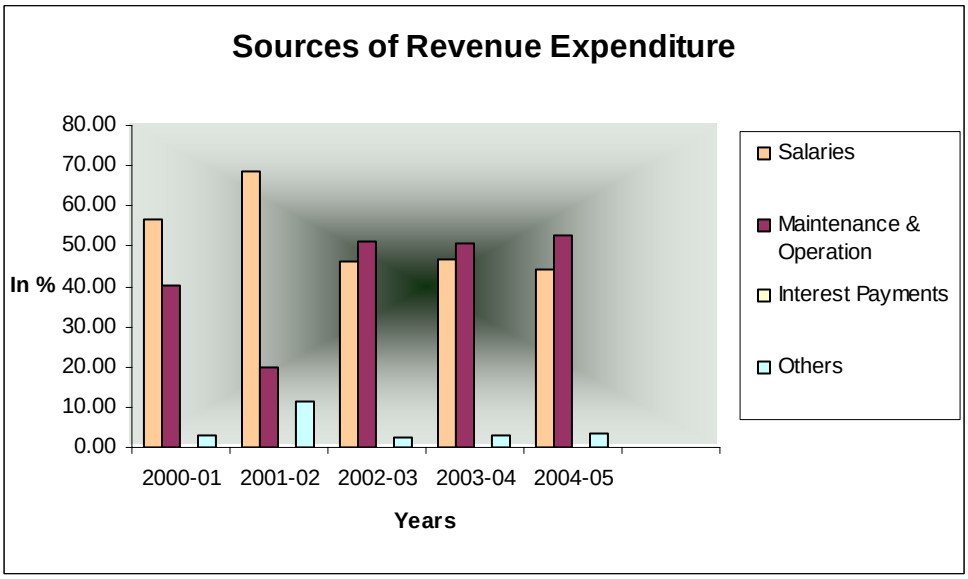
jointly accounted for more than 85% in the period under consideration. The Table 6.9 and Figure 6.10 show the revenue expenditure.

Table 6.9: Pattern of Revenue Expenditure of LJS

(Rs. Lakh)

	2000-01	2001-02	2002-03	2003-04	2004-05
Salaries	1796.28	1789.67	2101.86	2095.67	2289.44
(% to total)	56.78	68.56	46.46	46.47	44.20
Electricity & Energy	1033.56	288.71	2029.38	1905.41	2308.32
(% to total)	32.67	11.06	44.86	42.25	44.56
Supply & chemicals for treatment	143.8	145.22	181.83	243.49	274.36
(% to total)	4.55	5.56	4.02	5.40	5.30
Charges for raw water	0	0	0	0	0
(% to total)	0.00	0.00	0.00	0.00	0.00
Repairs	92.69	88.52	100.59	135.65	139.95
(% to total)	2.93	3.39	2.22	3.01	2.70
Other	96.96	298.15	110.57	129.65	167.96
(% to total)	3.06	11.42	2.44	2.87	3.24
Interest payments	0	0	0	0	0
(% to total)	0.00	0.00	0.00	0.00	0.00
Normal maintenance	0.27	0	0	0	0
(% to total)	0.01	0.00	0.00	0.00	0.00
Total	**3163.56**	**2610.27**	**4524.23**	**4509.87**	**5180.03**

Figure 6.10: Break up of Revenue Expenditure of LJS



6.5.2 Capital Expenditure By Source

The expenditure on capital account has been mainly for purchasing tools, machinery, vehicles and other equipment. A large part of the expenditure was incurred on specific schemes like the "Lucknow water supply and cleanliness scheme". The component "others" includes the repayment of loans on the capital account. In 2000-01 a significant proportion of expenditure on the capital account was incurred on the Lucknow water supply and cleanliness scheme - 81% of the total capital expenditure. Over the years, its share declined and was just 1.26% in 2005-06. The revolving fund accounted for 85% of the total capital expenditure during 2003-04. Its share in the total capital expenditure stood at 10% in the financial year 2005-06. The share of the "others" component was low in the initial years, but then in the financial year 2005-06 its share increased to 75% of the total capital expenditure. (See Table 6.10 for more details).

Table 6.10: Pattern of Capital Expenditure of LJS

(Rs. Lakh)

Year	2000-01	2001-02	2002-03	2003-04	2004-05
Purchase of Water Tankers	0.36	2.21	2.28	2.81	2.05
(% to total)	0.32	1.56	0.86	1.11	0.98
Purchase of machinery & tools	2.47	1.68	0.58	2.72	4.22
(% to total)	2.22	1.18	0.22	1.07	2.02
Furniture	0.76	18.00	0.84	2.92	0.52
(% to total)	0.68	12.68	0.32	1.15	0.25
Building Construction	0.00	0.00	0.14	0.00	1.37
(% to total)	0.00	0.00	0.05	0.00	0.66
Hand pump & stand post ins.	0.00	0.00	0.00	0.00	5.67
(% to total)	0.00	0.00	0.00	0.00	2.72
Extension of sewer network	2.72	1.12	3.06	4.48	3.22
(% to total)	2.45	0.79	1.15	1.76	1.54
Purchase of vehicles	2.20	0.56	0.43	0.69	0.74
(% to total)	1.98	0.39	0.16	0.27	0.35
Purchase of new pump sets	6.6	0.42	0.42	1.36	13.98
(% to total)	5.94	0.30	0.16	0.54	6.70
Others	2.45	1.54	1.43	1.06	19.9
(% to total)	2.20	1.09	0.54	0.42	9.53
Other Expenditures					
Deposit Works	1.25	0.33	3.06	3.5	32.01
(% to total)	1.12	0.23	1.15	1.38	15.33
Disinfecting sewer lines of zone one	4.23	0	0	0	0
(% to total)	3.81	0	0	0	0
Grants	0	0	14	9.7	26.06
(% to total)	0	0	5.26	3.82	12.48

Loan Revolving Fund	0	47.4	195.27	216.37	85.72
(% to total)	0	33.40	73.37	85.14	41.05
Lucknow water fulfilment and cleanliness scheme	90.3	59.52	27.45	9.22	7.62
(% to total)	81.25	41.94	10.31	3.63	3.65
Contributions from DUDA	0	9.71	17.63		0
(% to total)	0	6.841	6.624	0	0
Total	**111.14**	**141.93**	**266.16**	**254.14**	**208.8**

Source: LJS

6.6 Lucknow Development Authority (LDA)

The LDA is an important organization playing the crucial role in the overall development of city and its expansion. The LDA is also the only institution following an accrual accounting system and is the most 'cash rich' institution at city level.

6.6.1 Fiscal Assessment of LDA

Income-Expenditure and Resource Gap

The receipts under revenue account have increased and doubled in the last five years - from Rs 12 crore to Rs 26 crore from 2001-02 to 2005-06. The capital account ahs also followed a similar pattern with the income under this head doubling and reaching Rs 655 crore in 2005-06 against Rs 221 crore at the start of the period under consideration (2001-02). On expenditure side, the LDA has incurred revenue expenditure to the tune of Rs 76 crore (2001-02) against the figure of Rs 39 crore. The expenditure on capital account has also doubled during the period under consideration. It has increased from Rs 182 crore in 2001-02 to Rs 498 crore in 2005-06. The detailed analysis of income-expenditure is shown in Table 6.11.

6.6.2 Resource Gap

Under the revenue account, LDA has incurred deficits in all the five years – rising from Rs 27 crore to a little less than Rs 50 crore. On the other hand the scenario in the capital account changed. LDA has generated a surplus in the entire period under consideration – from Rs 40 crore in 2001-02, it rose to Rs 157 crore by 2005-06. The overall surplus was of the order of Rs 12 crore to Rs 107 crore during the year 2001-02 to 2005-06.

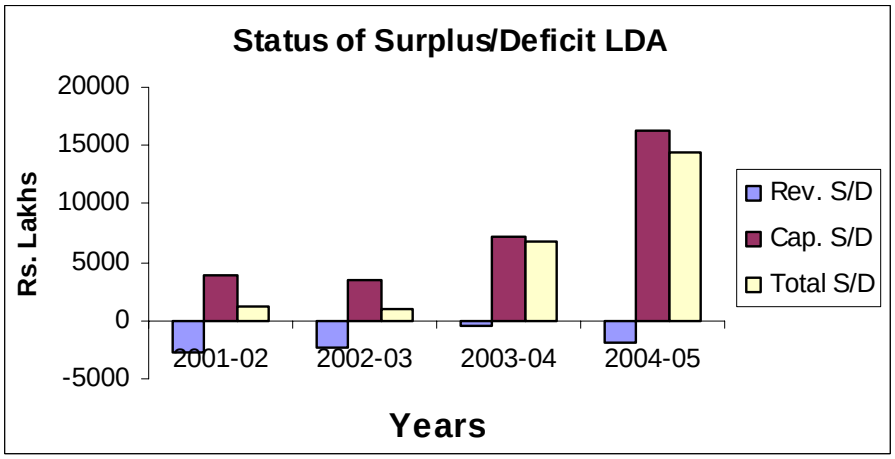
Table 6.11: Income -Expenditure Trend of Lucknow Development Authority (LDA)

(Rs lakh)

	2001-02	2002-03	2003-04	2004-05	2005-06
Revenue Income	1155.75	1346.94	3257.14	2519.42	2567.28
Capital Income	22141.71	38793.43	35084.63	41302.32	65483.23
Total Income	23297.46	40140.37	38341.77	43821.74	68050.51
Revenue Expenditure	3900.96	3720.81	3683.95	4436.70	7600.43
Capital Expenditure	18171.66	35384.54	27859.49	25031.02	49759.21
Total Expenditure	22072.62	39105.35	31543.44	29467.72	57359.64
Revenue Surplus / Deficit	**-2745.21**	**-2373.87**	**-426.81**	**-1917.28**	**-5033.15**
Capital Surplus / Deficit	**3970.05**	**3408.89**	**7225.14**	**16271.3**	**15724.02**
Total Surplus / Deficit	**1224.84**	**1035.02**	**6798.33**	**14354.02**	**10690.87**

Source: LDA

Figure 6.11: Resource Gap of LDA



6.6.3 Revenue Account

The composition of revenue income is presented in Table 6.12 and Figure 6.12. The LDA derives its revenue income broadly from five sources - (1) rents and user charges, (2) stamp duty, (3) interest on investments, (4) income from buildings, and (5) sale of forms and registration to contractors and others. The average share of revenue income from rent and sewer charges has remained around 23%. Stamp duty, on an average contributed about 33% to the total revenue income during four years. The share of income from interest on investments has remained at an average of 25%.

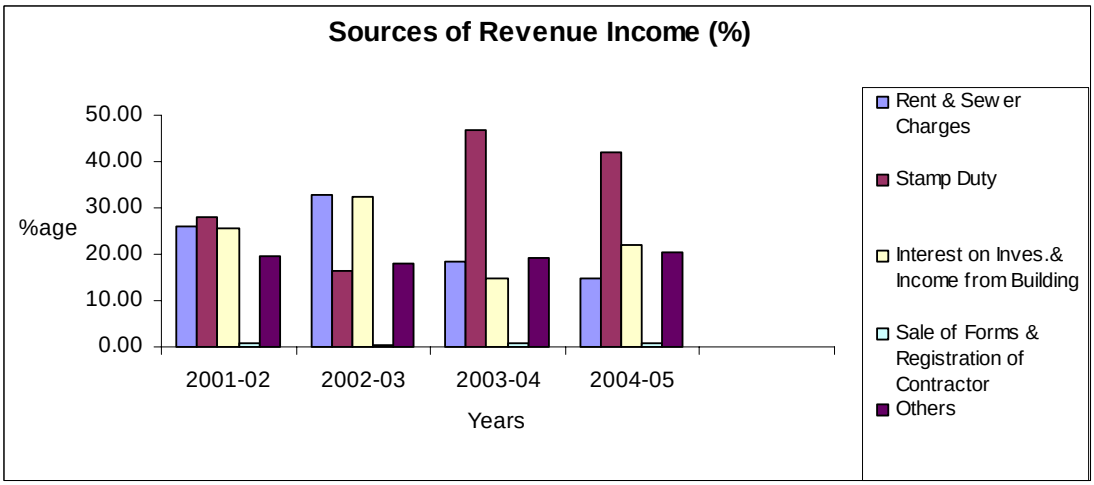
Table 6.12: Composition of LDA's Revenue Income

(Rs. Lakhs)

	2001-02	2002-03	2003-04	2004-05	2005-06
Rents	252.55	382.51	556.47	315.15	567.65
(% to total)	21.85	28.40	17.08	12.51	22.11
Stamp Duty	324.66	219.88	1522.3	1060.58	0
(% to total)	28.09	16.32	46.74	42.10	0.00
Sewer Charges	48.01	57.85	45.69	57.18	59.72
(% to total)	4.15	4.29	1.40	2.27	2.33
Interest on investments	80.43	301.13	93.3	36.84	70.93
(% to total)	6.96	22.36	2.86	1.46	2.76
Income from Building Regulation Department	215.19	137.2	393.07	515.77	714.79
(% to total)	18.62	10.19	12.07	20.47	27.84
Sale of forms	7.2	6.85	13.28	12.07	10.73
(% to total)	0.62	0.51	0.41	0.48	0.42
Registration of Contractors	0	0	11.28	9.01	54.07
(% to total)	0.00	0.00	0.35	0.36	2.11
Parks	20.37	15.98	51.76	48.11	51.4
(% to total)	1.76	1.19	1.59	1.91	2.00
Transfer Fees	13.22	14.13	32.8	29.29	38.28
(% to total)	1.14	1.05	1.01	1.16	1.49
Others	194.12	211.41	537.19	435.42	999.71
(% to total)	16.80	15.70	16.49	17.28	38.94
Total	**1155.75**	**1346.94**	**3257.14**	**2519.42**	**2567.28**

Source: LDA

Figure 6.12; Revenue Income Composition of LDA



6.6.4 Capital Account

The LDA receives its capital income mainly from grants, allocation of properties, and the loans that are prepaid. The share of income from allocation of properties has been the highest in the period under consideration remaining at around 78%. The income from registration of properties, contributed a little over 10% on an average. It varied from 7% (2002-03) to 22% (2005-06). Table 6.13 and Figure 6.13 show the composition of the capital income.

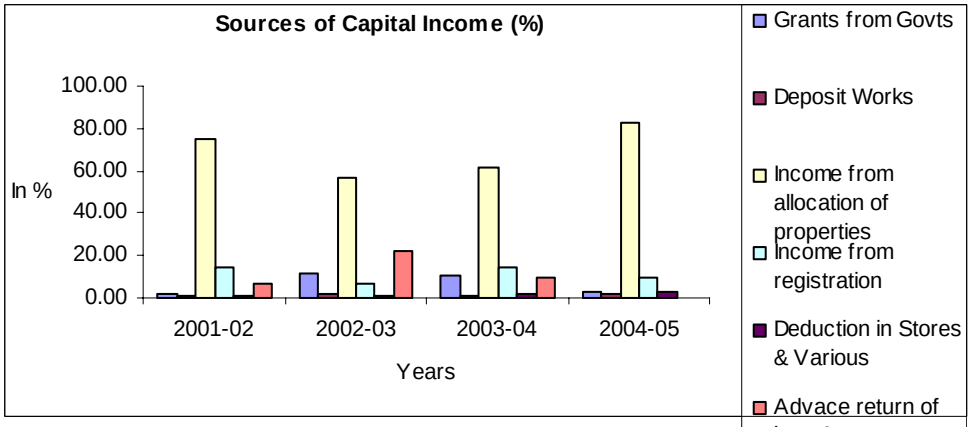
Table 6.13: Composition of Capital Income of LDA

(Rs. Lakhs)

	2001-02	2002-03	2003-04	2004-05	2005-06
Grants from Govts	400.00	4510.72	3749.00	1000.00	6124.98
(% to total)	1.81	11.63	10.69	2.42	9.35
Deposit Works	217.36	689.65	383.42	963.41	16.45
(% to total)	0.98	1.78	1.09	2.33	0.03
Income from allocation of properties	16672.11	22073.69	21553.29	34289.64	42757.72
(% to total)	75.30	56.90	61.43	83.02	65.30
Income from registration	3288.07	2696.67	5160.14	3873.66	14357.67
(% to total)	14.85	6.95	14.71	9.38	21.93
Deduction in stores	29.11	101.27	277.94	331.21	514.06
(% to total)	0.13	0.26	0.79	0.80	0.79
Various	130.82	313.02	500.78	793.24	1188.63
(% to total)	0.59	0.81	1.43	1.92	1.82
Advance return of loan & return on investments	1403.71	8408.41	3460.06	51.16	523.72
(% to total)	6.34	21.67	9.86	0.12	0.80
Total	**22141.18**	**38793.43**	**35084.63**	**41302.32**	**65483.23**

Source: LDA

Figure 6.13: Capital Income by Source in LDA



6.6.5 Revenue Expenditure

The LDA incurred revenue expenditure mainly on account of salaries and wages and other repair and maintenance responsibilities. The average share of expenditure going towards meeting salaries has remained at 44%. Similarly, the average share going towards the normal maintenance and repairs accounted for 42% of the total revenue expenditure, but fluctuated in the period under consideration. However, its share varied from 35% in 2001-02 to 53 % at the end of period (2005-06). Debt servicing was unsatisfactory. The average share of revenue expenditure towards meeting the interest payment obligations has remained around 14% of the total revenue expenditure. In 2001-02, its share was 19% and this reduced drastically to less than one percent in 2003-04 but increased once again to 39 % in the following year finally dropping to a little less than one percent at the end of period. The pattern of revenue expenditure is shown in Table 6.14 and Figure 6.14.

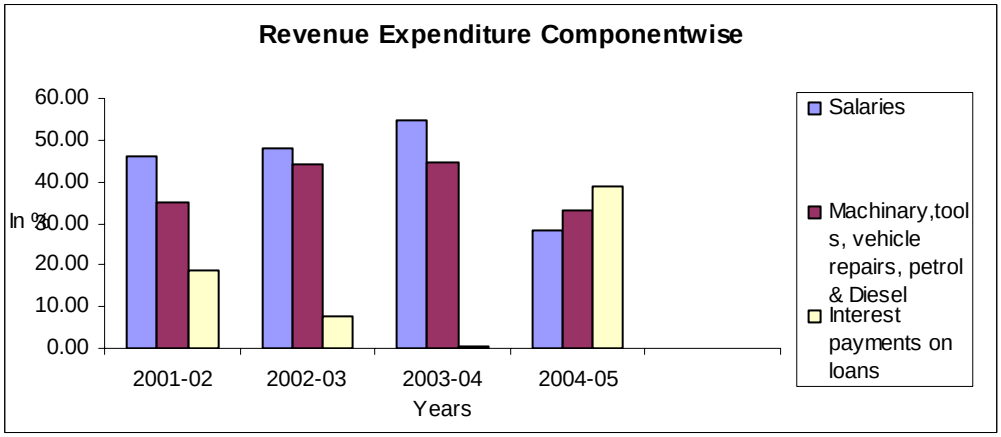
Table 6.14: Pattern of Revenue Expenditure of LDA

(Rs. Lakhs)

	2001-02	2002-03	2003-04	2004-05	2005-06
Salaries	1797.65	1793.53	2018.96	2209.20	2326.70
(% to total)	46.08	48.20	54.80	28.11	45.53
Machinery, tools, vehicle repairs, petrol & Diesel	1367.54	1638.59	1639.70	2599.80	2733.30
(% to total)	35.06	44.04	44.51	33.08	53.49
Interest payments on loans	735.77	288.69	25.29	3050.00	50.00
(% to total)	18.86	7.76	0.69	38.81	0.98
Total	**3900.96**	**3720.81**	**3683.95**	**7859.00**	**5110.00**

Source: LDA

Figure 6.14: Pattern of Revenue Expenditure of LDA



6.6.6 Capital Expenditure

Capital expenditure accounts mainly for meeting expenditure on immovable property and land development, suspense (including the repayment of loans). The average share of capital expenditure going towards land development has remained at 31% of the total capital expenditure. However, it has varied from 19% in 2001-02 to 4% in 2004-05 but increased to 22% in 2005-06. The share of repayment of loans and expenditure on construction has remained negligible during all the years. Here the component “Others” includes refunding of the amounts

that were taken for registering contractors. Thus, due to increase in the refund to the contractors, the share of component "others" has gone up in the year 2003-04.

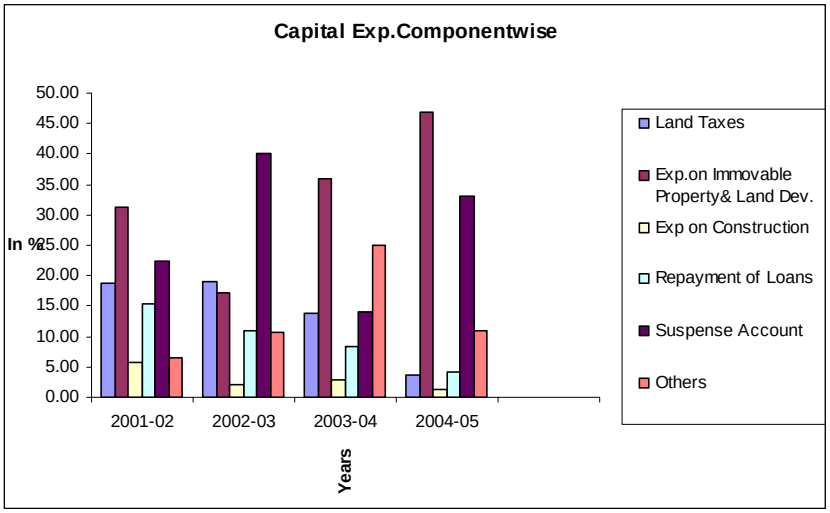
Table 6.15: Pattern of Capital Expenditure of LDA

(Rs. Lakhs)

	2001-02	2002-03	2003-04	2004-05	2005-06
Land Taxes	3422.54	6763.53	3878.24	889.57	10798.17
(% to total)	18.83	19.11	13.92	3.55	21.70
Exp on immovable property	86.46	133.6	84.44	117.32	65
(% to total)	0.48	0.38	0.30	0.47	0.13
exp on land development	5582.56	5920.37	9899.47	11601.34	13397.09
(% to total)	30.72	16.73	35.53	46.35	26.92
Exp on Construction	1038.95	699.64	823.72	327.96	467.07
(% to total)	5.72	1.98	2.96	1.31	0.94
Exp on Storage	194.97	207.73	831.48	839.19	1192.47
(% to total)	1.07	0.59	2.98	3.35	2.40
Repayment of Loans	2811.02	3909.52	2318.71	1060.58	99.27
(% to total)	15.47	11.05	8.32	4.24	0.20
Deposit Works	966.99	3588.29	6119.08	1897.75	3152.2
(% to total)	5.32	10.14	21.96	7.58	6.33
Suspense Account	4068.17	14161.86	3904.35	8297.31	20587.94
(% to total)	22.39	40.02	14.01	33.15	41.38
Total	**18171.66**	**35384.54**	**27859.49**	**25031.02**	**49759.21**

Source: LDA

Figure 6.15: Composition of Capital Expenditure of LDA



6.6.7 Key Issues

- LDA has generated surplus in capital account but incurred deficits in the revenue account.
- The expenditure on salaries and wages claims the major share in revenue expenditure and costs of maintenance and fuel are high. The link between this and the levels of service delivery in the agency's area of jurisdiction should be one issue in an organizational review of city institutions as it may point towards scope for efficiency improvement in city service delivery.

SUMMARY

The revenue base of key institutions is weak resulting in high dependence on government for grants.
As the key local level institutions LNN should consider means of enhancing tax revenue while reducing the cost of collection.
There are policy level interventions required in connection with fixing user charges that are currently not commensurate with the expenditures incurred for service provision.
It is critical to improve the financial situation of all key institutions so that the city is able to attract investment and tap capital markets.

7 Vision for Lucknow City

7.1 Introduction

Developing a Vision for the city is central to the City Development Plan. A Vision is a statement of where the city wishes to go, within a given time frame, and is often expressed in terms of clear expectations. It defines the potential of the city and reflects on its unique attributes in terms of comparative and competitive advantages, values and preferences of the residents of the city, the relationship of the city to the state, the national and global economies and is described within the scope of the historic and physical attributes of the city. A vision is a tool that helps align stakeholders' energies to work together to achieve a common goal for the betterment of the city and therefore design strategies accordingly. All programmes and projects must therefore be aligned with the identified vision.

7.2 Process of Developing Vision

The vision was developed in a participatory process through a series of consultations (Annex 2) with a variety of stakeholders, including the Lucknow Nagar Nigam, departments from the UP state government involved in the CDP process, representatives of NGOs, RWAs, industry and business associations, educationists, civil society groups, media, members of state legislature, the former Mayor of Lucknow. At present there is no elected body in the LNN – elections to urban local bodies are scheduled for September 2006. Additionally, the LNN put out a press release asking for inputs to the CDP from the general public. It should be noted here that all consultations in connection with the CDP formulation have received wide coverage in the English and vernacular press.

In each of the consultations, participants were asked their views on what they liked about their city, what they wished to change and the priority for bringing about the change. There was unity of opinion that the people of the city offer a core asset and something special, and every group of stakeholders felt that this 'special ness' should be preserved and utilized to the city's benefit. The inputs received on the vision from the stakeholders was then analysed sectorally to come up with specific objectives for the sectors and these in turn helped develop the strategy.

7.3 The Vision

The many stakeholders in the process voiced a wide range of expectations. Synthesising these expectations into one that is acceptable to all was tricky however; the overall vision defined is one that has the desired acceptability. Additionally, separate visions were identified at sector level in an attempt to test people's views on their expectations in different sectors.

7.3.1 Overall vision

Taking into consideration the range of perspectives, the following core vision emerged:

"One of the five most liveable cities in India where every citizen enjoys a high quality of life and access to basic services and amenities, and where local culture, crafts and heritage are preserved and promoted. A city with a dynamic economy driven by service sectors such as knowledge-based education, health, tourism, and information technology that provides opportunities for all and makes it an attractive investment destination".

The key factors underlying the effective implementation of the identified vision are:

- Recognition of the potential that Lucknow has and to build on it
- The need for and the importance of joint planning
- Focusing on building strong institutions with highly capable staff
- The state taking on the critical role of facilitating the process through enabling reforms

Achieving the city level vision will necessarily require the different sectors to define separate time bound visions. Sector level visions are challenging and will require the sector to strive hard to achieve the vision.

7.3.2 Sector visions

Consultations with various stakeholders helped identify the sector level visions. These are as follows:

a) Economy and Business Group

The vision identified by this group was as follows:

- A major 'knowledge economy' in India with very significant investments in IT, ITES, bio-technology, scientific research and medical tourism; having world class educational infrastructure and producing top-quality 'knowledge professionals'.

- Among the top seven tourist destinations in India by positioning Awadh as a premier Nawabi and Raj heritage hub with a distinctive culture, food, arts and craft.

- Among the top five liveable cities in India in terms of quality of life and human development leading to the sustained delight of citizens as well as visitors and investors from across the globe.

b) Water Supply

- To ensure that every citizen is receiving a 24x7 supply through a network that is efficient, cost effective and environmentally sustainable.

c) Sewerage and Sanitation

- To ensure that the city is served by an efficient sewerage system, that there is an organised solid waste management system including sanitary disposal, the people have access to hygienic public conveniences and Haider Canal is well maintained.

d) Urban Transportation

- To ensure that the city has an efficient road network with flyovers and subways at congestion points and served by an efficient public transport system that is multi modal and connects all parts of the city.

e) Environment

- To maintain Lucknow as a city of parks where the environment is clean and the air is sustained through the use of CNG fuel.

f) Heritage

- To revive the lost glory of heritage zones like Kaiserbagh, Hussainabad and La Martiniere including Hazratganj, Residency, Chowk, Dilkhusha, for the benefit of the city and the country culturally, and as a core ingredient of a vibrant tourism sector.
- Among the top tourist destinations in India by positioning Lucknow as a major Nawabi and Raj heritage hub that provides a holistic tourist experience through skilful amalgamation of historic monuments, culture, food and crafts.

g) Basic Services for the Poor

- To make Lucknow a city where there are no families living below the poverty line, and where all residents have access to affordable and reliable basic services.

h) E-Governance

- To make Lucknow a 'wired city' with a sustainable e-governance system for citizen services

7.3.3 Priority areas for interventions

There are two sets of priority areas that have been identified. One set of priorities is an outcome of the consultations. The priority areas identified are as follows:

(1) For Sub Mission 1 on Urban Infrastructure and Governance

- Water Supply
- Sewerage and sanitation
- Drainage and storm water drains
- City transportation and traffic – mass transport, parking, flyovers and sub-ways
- Inner city renewal
- Conservation of the River, ponds and lakes
- Conservation of heritage
- Governance and institutional reform

(2) For Sub Mission 2 on Basic Services to the Urban Poor

- In-situ integrated development of slums with provision of housing, basic services and amenities
- Relocation of slums that are in dangerous areas
- Night shelters for destitute
- Community toilets in selected slums

On the basis of the situation analysis and the key sectoral issues identified, it is **recommended** that the following be the priority areas for intervention.

(1) For Sub Mission 1 on Urban Infrastructure and Governance

- Water Supply
- Sewerage and Sanitation
- Drainage and storm water drains
- City transport and traffic – mass transport, parking, flyovers and sub ways

The above prioritisation does not preclude interventions in other critical areas. In fact, interventions in the above areas will have a positive impact on the following cross cutting spheres:

- Inner City Renewal
- Conservation of the River Gomti, ponds and lakes
- Conservation of heritage

Governance and institutional reform is key to the sustainability of interventions in the identified sectors. This requires the state to take some harsh decisions that will be beneficial to all in the long run.

(2) For Sub Mission 2 on Basic Services to the Urban Poor

- *In situ integrated development of slums*
- *Relocation of slums in dangerous areas*

Interventions will also be required in providing night shelters for the destitute and provision of community toilets in selected slums. These timing and need for these interventions will depend on the success of the interventions in the critical areas identified.

7.4 Sector Goals

Sector Goals	2010	2015	2020
Water Supply	1) Reduce leakages by upgrading infrastructure and introducing quantifiable leak management systems. 2) Improve the quality of the water in the River Gomti by tackling water pollution. 3) Introduce metering of all water connections. 4) Consistent with the 74th Constitution Amendment introduce operational autonomy - including cost recovery and tariff setting - for service providers within appropriate policy guidelines.	1) 24x7 water supply in at least 50 wards. 2) Augment the present systems for increasing per capita supply consistent with GOI norms. 3) All buildings have provision for rainwater harvesting.	1) 24x7 water supply across the city. 2) Further increase per capita supply consistent with GOI norms. 3) No ground water withdrawal for meeting unmet demands.

Sector Goals	2010	2015	2020
	5) Transparent cross subsidies to specific user groups. 6) Introduce volumetric charges		
Sewerage and Sanitation	1) Develop an optimal sewerage and sanitation plan that includes network and decentralised on- site options and behavioural change. 2) Increase network coverage from the present 30% to 50%. 3) Replace degraded pipes of the present network. 4) All inner city and core areas are connected to a sanitary sewage disposal system. 5) No service latrines in the city.	1) Develop and implement on- site options in line with the sector plan. 1) Increase network coverage to 75%. 2) Increase the treatment of sewage to 75%.	1) 100% network coverage. 2) 100% treatment of sewage.
Drainage	1) 50% encroachments of drains removed. 2) All existing drains and storm water drains are cleaned regularly and sullage removed immediately. 3) Reduce the number of water logging points by 50%.	1) Drains free of encroachments. 1) Entire city to be covered by a network of storm water drains. 2) No water logging in any part of the city.	
Traffic & Transportation	1) Construct multi-level parking lots in identified commercial areas through public-private partnerships. 2) Extend the city bus transportation to identified residential, commercial and institutional areas in the city. 3) All public vehicles run on CNG.	1) Further extend the bus transport system. 2) Integrate relevant transport modes with the multi modal transport network. 3) Complete 50% of the construction work for the multi modal mass transport system.	City fully covered by a well planned multi modal mass transport system.

Sector Goals	2010	2015	2020
	4) Construct flyovers and subways at identified spots. 5) Develop a plan and proposal for a multi modal mass transport system. 6) Projects approved at the appropriate levels. 7) Identify partners and structure partnership arrangements for implementation of the multi modal mass transport system.		
Inner City Renewal	1) Remove encroachments in old congested areas. 2) Cover all areas with service levels at par with the surrounding zones. 3) Routine maintenance of all service infrastructure.	Relocate wholesale markets and non-conforming economic activities in suitable peripheral areas.	
Conservation of the River Gomti, ponds and lakes	1) Clean River Gomti and identified lakes/ponds. 2) Develop River Gomti front for recreational facilities.		
Conservation of Heritage	1) Coordinate with different agencies to draw up a detailed co conservation management plan for the city. 2) On the basis of the plan identify specific interventions at precinct level. 3) Provide inputs to agencies undertaking city beautification programmes on the	All city level interventions mainstream heritage.	

Sector Goals	2010	2015	2020
	nature of interventions in heritage zones. 4) Design a holistic heritage experience for tourists that incorporate the monuments as well as the culture, food and music of the city.		
Institutional development of slums with provision of housing, basic services and amenities	1) At least 100 slums identified for in-situ development and covered. 2) Community toilets in slums that do not have such facilities. 3) Initiate construction of night shelters for destitute.	1) Relocation of slums that are in dangerous areas. 2) Night shelters for destitute. 3) Community toilets in selected slums.	

7.5 Strategies to Achieve the Vision

Under the guidelines of the JNNURM, the reforms that are proposed at the city level should be on fast track and ensure that activities are focusing on the efficiency of urban infrastructure/service delivery mechanisms, community participation and accountability of the ULBs towards the citizen especially the poor. For Lucknow, there is immediate relevance in the following areas:

a) Service delivery and infrastructure development

New investments and reforms ultimately need to improve services that make Lucknow a better place for its citizens and those who do business here. A key step will be to match new investments with improved O&M. Better management of infrastructure will support better service delivery and provide a basis for the introduction of user charges – a pre condition for making service delivery institutions financially sustainable. Charges without better services will remain controversial, and the city therefore needs to be managed towards an inclusive approach to service infrastructure. At present there is high dependence on state government for funds, and services are not commercially viable. In this respect it is necessary to explore the options for partnerships such as already started with discussions about commercial parking.

In order for the city to improve its financial base and attract investment the financial viability of individual institutions and instituting appropriate regulatory mechanisms require consideration.

b) Basic services to the urban poor

Poor people are an integral part of the urban economy with equal rights to basic services and employment opportunities. Strategies for addressing their needs are dictated by tenure status and tenability, integration within the larger city network, and involvement into decision-making processes. The state government has already put in place two enabling Government Orders that will go some way towards in situ slum improvements and this approach will be expanded.

c) Institutional and governance reform

The term of the last elected local government ended in February 2006 and after some delay due to a judicial case, elections are now scheduled in September 2006. With an elected council in place, the city will be positioning itself to move forward on political and technical fronts towards the vision and the strategy outlined here, and it will obviously be critical to ensure the new council understands and owns the CDP. Until that is achieved, the city will not be able to fully assume the autonomy intended by the 74th Amendment. Simultaneously, it will be crucial to outline the substantive capacity building interventions needed to ensure that the LNN and related institutions can indeed take the city into the future, and render the services its citizens' demand.

Clarity in roles and responsibilities of all institutions engaged in urban service delivery to bring in accountability and transparency of operations will be the next key step. Designing a system that allows for systematic incorporation of 'citizen's voice' – including steps like the setting up of Ward Committees, the MPC, e-governance platforms – would be the next step to make the LNN a dynamic, autonomous entity.

The strategy to improve the financial situation of LNN should be focussed on commercialisation of urban infrastructure projects, municipal credit rating, fiscal concessions as an incentive to the investors, galvanising of municipal finances by enhancing the efficiency of tax administration machinery, devolution of additional tax authority and rational fiscal transfers, refurbishing the property tax, and increasing recourse to user charges for financing directly chargeable services. These should be supplemented by better municipal financial management and accounting systems.

A specific reform that has already been initiated concerns land and housing markets. Te state has repealed the Urban Land Ceiling Act, following which the land that was locked in the litigations etc. has now become available in the land market. But, there is little information on the utilisation of the land that became available following the repeal of the Act. The Rent Control Act is in operation currently. This Act has been amended several times to ensure a balance between the interests of the landlords and tenants. Further, there has been an initiative to bring in transparency in the land market by fixing the 'circle rates' as well as through the steps taken to computerise land records and transactions. However, further steps need to be taken to rationalise land tax, property tax, conversion charges, registration charges, betterment levy, development charges, etc. There is also a need to simplify the development control measures and make them transparent.

It is against this backdrop that the CDP for Lucknow has been prepared. At every stage efforts have been made to seek concurrence of stakeholders on the proposed programmes and projects. However, a priority in the immediate future is to concretise the reform strategy further.

SUMMARY

The vision has been identified on the basis of a series of consultations with a variety of stakeholders.
The overall vision is *"One of the five most liveable cities in India where every citizen enjoys a high quality of life and access to basic services and amenities, and where local culture, crafts and heritage are preserved and promoted. A city with a dynamic economy driven by service sectors such as knowledge-based education, health, tourism, and information technology that provides opportunities for all and makes it an attractive investment destination".*
The strategy for achieving the vision stands on three pillars: infrastructure and service delivery improvements, basic services to the poor and institutional and governance reforms.

8 City Investment Plan and Financing

8.1. Introduction

The CIP actually entails three capital investment plans and action plans over two phases: one for the current phase of JNNURM, viz. the seven-year period, 2006-2012, and the balance for the second phase (2011-2031), a perspective of 25 years. It sets out briefly key messages from the city assessment and the sector priorities for the two missions of the JNNURM. The sections on each sector explain the need for intervention, describe proposed projects and their budget implications, identify the institutions responsible and outline issues and further priorities to be addressed.

8.2 Key Messages from the City Assessment

The preceding chapters highlighted the problems that need to be overcome to take Lucknow into the future. These are as follows:

- Significant infrastructure needs clearly exist, arising not only out of the physical growth of the city but also from increasing demands for better services. Addressing these infrastructure needs includes augmentation and renewal of infrastructure including provision for the operations and maintenance of existing and new infrastructure.

- Needs for infrastructure investment and O&M are citywide and includes both economic infrastructure as well as basic services to the poor. The issue is not just about coverage levels and quantities but it is ultimately about improving the quality and reliability of services.

- The CDP proposes priority areas for interventions on a citywide scale on the basis of extensive consultations. These have then sorted on the basis of key areas of intervention in the first phase of JNNURM. The priority areas are water supply, sewerage and sanitation, solid waste management, urban transportation and basic services to the poor (in many ways a focused combination of the others). Interventions are proposed because infrastructure and service levels are inadequate; the city is not functioning as efficiently as it should and because slums are spread across the city.

- There are also important investment requirements around the issue of heritage. The unique blend of modernism and heritage that Lucknow offers is dear to all residents and is to be preserved. Investments around heritage also provide opportunities for improving tourism as a contributor to the economy.

- No amount of investments in infrastructure will have a positive outcome without focusing on issues of behaviour change; this is especially true of solid waste management, sewerage and sanitation. Attention to and funding of behaviour change campaigns followed up by a system of incentives and penalties is needed for sustainability of interventions as well as expected outcomes of investments in infrastructure.

- Capacity enhancement of the key institutions is critical for financial sustainability of investments. This should entail policy interventions to enhance the financial base of local institutions and increase their abilities to raise resources in capital markets. Internally,

institutions will have to improve their overall operational efficiencies and work on a reform path to become more accountable.

- The availability of finance at local level is key to the overall sustainability of investments. At the moment with the exception perhaps of the Lucknow Development Authority, none of the other city level institutions have a demonstrated ability to raise adequate resources.

- Institutional reform is fundamental to sustainability. All consultations around the CDP highlighted the overlapping of roles and responsibilities of institutions and the need for clarity and role separation. In this environment it is not possible to hold any agency properly accountable. The JNNURM provides an opportunity and ample scope for designing and implementing a reform agenda. The CDP is a starting point and is a working document for the city to revisit frequently in the implementation process and be used as a consultation tool in the design and implementation of the reform agenda.

8.3 Sub Mission I: Urban Infrastructure and Governance

The priority sectors identified for interventions in Phase 1 of the JNNURM for Sub Mission 1 and Sub Mission 2 are as follows:

a) Sub Mission 1: Urban Infrastructure and Governance

The **critical areas** for intervention are:

1. Water Supply, Sewerage and Sanitation
2. Drainage and Storm water drains
3. City transportation and traffic
4. Solid Waste Management
5. Governance and institutional reform (discussed in Chapter 9 and included in the budget figures below)

The **other areas** are:

1. Inner City Renewal
2. Conservation of river, ponds and lakes
3. Conservation of heritage

The investment details are discussed sectorally.

8.3.1 Critical Priority Areas

8.3.1.1 Water Supply, Sewerage and Sanitation

Water Supply

(i) Need for intervention

The importance of this sector needs no reiteration. As has been discussed in Chapter 3, coverage, access and levels of service are inadequate. This has led to rising dependence on ground water to satisfy unmet demands. The rising level of ground water withdrawal is a cause for concern in the absence of any regulation on use. Water quality is being adversely affected

and is a major issue of concern for consumers of all backgrounds. The earlier discussion also highlighted the poor quality of infrastructure, the lack of preventive maintenance, and the incomplete networks that compromised service levels and sector efficiency and the lack of reliable data upon which to base planning, financial management (including cost recovery) and operations.

The interventions proposed under JNNURM focus on augmentation of infrastructure, on some degree of improvements to existing infrastructure, and include specific interventions in the Inner City Area and the newly developed areas. The projects proposed hope to significantly reduce ground water withdrawal since all the new water works are based on surface sources, provide access to and coverage by a network and reduce pollution of the River Gomti. Given the importance of this sector, it is proposed that interventions be taken up in Phase 1 with spillovers to Phase 2.

(ii) Proposed projects

The proposed water supply project under JNNURM includes:

1. The construction of three water works at Gomti Nagar, Mohaan Road and Ghaila.
2. The construction of four zonal pumping stations in the four planning districts
3. The construction of nine overhead tanks in the different zones
4. The upgradation and renovation of the Aishbagh and Balaganj water works
5. A series of interventions for the improvement and rehabilitation of the existing systems mainly through the replacement of worn out pipelines
6. Improvement works in each of the planning districts to cover parts of the Inner City
7. Construction of new systems in the newly developed areas
8. Provision for ground water recharge

The phasing and costing of the interventions is shown in the following table:

(Rs. in Crore)

Work	Total Cost	Phase 1 2006-12	2006 -07	2007-08	2008-09	2009-10	2010-11	2011-12	Phase 2
Gomtinagar Water Works	252	237	32.55	36.2	50.2	55.2	33.5	29.35	15
ZPS, reservoir, water works mohan road	229	5	0	1	1	1	1	1	224
Water works Ghaila	151	0	0	0	0	0	0..00	0	151
Aishbagh upgradation	52.5	52.5	2.75	10	15	10.5	10.25	4	0
Balaganj water works and remodelling etc.	153.25	114.75	5.2	19.5	29.25	29	19.15	12.65	38.5
Inner-city areas	100	70	0.25	20.2	25	15.55	5	4	30
Water works in new areas	77.75	57.75	0.75	11.25	12.5	13	10	10.25	20

Work	Total Cost	Phase 1 2006-12	2006 -07	2007-08	2008-09	2009-10	2010-11	2011-12	Phase 2
Total	**1015.5**	**537**	**41.5**	**98.15**	**132.95**	**124.25**	**78.9**	**61.25**	**478.5**
Recharge, centage, training	262.03	138.56	10.71	25.33	34.31	32.06	20.36	15.80	123.47
Grand Total	**1277.53**	**675.56**	**52.21**	**123.48**	**167.26**	**156.31**	**99.26**	**77.05**	**601.97**

The total project cost is estimated at Rs. 1277.53 crore with an almost 50-50 split over the two phases – Rs.675.56 crore in Phase 1 and Rs. 601.97 crore in Phase 2. Investment requirements in Year 1 (2006-07) are Rs. 52.21 crore and rise steadily over the next three years and then reducing in the last two years of Phase 1 of JNNURM. The focus in Year 1 is the construction of the Third Water Works at Gomtinagar with minor amounts being spent on upgradation of the two existing water works at Aishbagh and Balaganj.

The levels of proposed investments for the Inner City Areas are clearly inadequate when measured against the total investment requirements. These localities are served mainly by the Aishbagh Water Works and through tube wells with about half the total demand being met. Storage reservoirs catering to these areas have outgrown their capacities compounding the problem of water shortage. Most of the distribution mains are very old and need replacement. In some areas the size of the mains is less than that required for meeting current demands and there are complaints of low pressure. This results in a situation where people draw water by exposing the house connection main. Further, due to the intermittent supply, it is observed that people do not turn off taps leading to wastage. Some of the house connection lines and distribution mains pass through drains and compromise the quality of water at the tap end.

Tackling the problems facing the water sector is a huge task and requires a complete reorganisation of the distribution system as well as extension of distribution mains in areas where they do not exist. The age of the existing infrastructure also contributes to leakages and pollution. The old tube wells need rejuvenation; water storage tanks need augmentation including new construction. The tanks also need cleaning, repairs and repainting along with proper security arrangements to prevent unauthorised entries. These problems are aggravated in the Inner City Areas. There is need for focused interventions in the Inner City Areas and this could well require that the State Government draw up a separate project.

(iii) Institutions Responsible

The UP Jal Nigam has key responsibility for implementation of the project. Once the project is completed, it will be handed over to the Lucknow Jal Sansthan for operations and maintenance.

Sewerage and Sanitation

(i) Need for Intervention

As has been discussed in Chapter 3, existing network connections are woefully inadequate as are treatment facilities. This has led to as much as 316 mld of sewage being discharged directly into the River Gomti. The problems of service latrines, latrines opening directly into sewers all combine towards adverse health impacts arising out of contamination of water sources. The earlier discussion also highlighted the fact that the city has not undertaken any major sewerage works since the 1948 Master Plan.

Reducing pollution levels in the River Gomti was a need highlighted by all stakeholders just as there is need to augment existing infrastructure. The projects proposed focus on the creation of infrastructure including four sewage treatment plants, improvements to existing infrastructure and construction of zonal sewers.

It is hoped that through the projects, pollution levels in the River Gomti will reduce significantly. The phasing of the projects is such that the majority of interventions are proposed towards the latter part of the JNNURM.

(iii) Proposed Projects

The proposed projects for sewerage (map overleaf) under JNNURM are as follows:

1. The construction of four sewage treatment plants. One of these plants will be constructed in Phase 1 with the remaining three being deferred to Phase 2 of the programme.
2. The construction of sewage pumping stations in all the four planning districts.
3. Improvements to the existing sewers.
4. The Lucknow Development Authority also proposed to construct 30.55 km of zonal sewers in newly developed areas.

The phasing and the costing of the interventions is shown in the following table:

(Rs. in Crore)

Work / Districts	Total Cost	2006-11	2006-07	2007-08	2008-09	2009-10	2010-11	Phase 2
Sewage Treatment Plants								
I	6.44	6.44	3.22	3.22	0.00	0.00	0.00	0.00
II	45.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
III	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IV	98.40	30.00	0.00	0.00	0.00	0.00	30.00	68.40
Sub Total	150.44	36.44	3.22	3.22	0.00	0.00	30.00	114.00
S.P.S., Sewers & Other Works								
I	216.42	10.00	2.00	2.00	2.00	2.00	2.00	206.42
II	430.11	0.00	0.00	0.00	0.00	0.00	0.00	430.11
III	428.80	131.88	30.61	26.40	26.16	20.00	30.70	296.93
IV	828.86	447.65	87.57	71.42	52.10	114.14	126.42	381.21
Sub Total	**1904.19**	**589.53**	**120.18**	**99.82**	**78.26**	**136.14**	**159.12**	**1314.67**
Total	**2054.63**	**625.97**	**123.40**	**103.04**	**78.26**	**136.14**	**189.12**	**1428.67**

The phasing and costing of the construction of the zonal sewers is shown in the table below. This is to be taken up by the Lucknow Development Authority.

(Rs. in Crore)

Work	Total Cost	2006-12	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Phase 2
Zonal Sewer 30.55 km	31.00	20.00	5.00	10.00	5.00	0.00	000	0.00	11.00
Grand Total	**42.00**	**20.00**	**5.00**	**10.00**	**5.00**	**0.00**	**0.00**	**0.00**	**11.00**

The total project cost for the first set of projects is estimated at Rs. 2054.63 crore with the bulk of investments proposed in Phase 2 of the JNNURM. Phase 1 proposes an investment of Rs. 625.97 crore and Phase 2 proposes Rs. 1428.67 crore. Investments in Year 1 (2006-07) are estimated at Rs. 123.40 crore with a drop in investment requirements in the next two years and then steadily rising investment requirements towards the end of Phase 1.

The LDA project is smaller and estimates a total investment of Rs. 42 crore with Rs. 20 crore being the requirements in Phase 1 and Rs. 11 crore in Phase 2. Investment requirements in Year 1 (2006-07) are estimated at Rs. 5 crore. The project will be completed in the first three years of Phase 1.

(iii) Institutions responsible

Different institutions will carry out the two sets of interventions. The UP Jal Nigam and the Lucknow Jal Sansthan will be implementing the first set of projects and the Lucknow Development Authority the second project. It will be important to ensure effective coordination between the institutions to achieve the desired outcomes.

(iv) Issues and further priorities

There are a number of observations on the proposals. These are highlighted separately first for the water supply sector and then for the sewerage and sanitation sector.

Water supply

The focus of the water supply projects is on augmentation of capacity and improvements to existing infrastructure. With the inclusion of ground water recharging, there is a token of reform introduced. Infrastructure enhancement and improvements without corresponding attention to reforms will not be sustainable in the long run. Considering that high losses and low revenues plague current water supply systems, some reforms that definitely need to be implemented include:

- The introduction of comprehensive metering. This will require a policy change and it is highly recommended that action be taken at the earliest.
- Plugging the leaks through infrastructure interventions as well as effective penalties on those pilfering water.
- Tariff reforms that duly take account of cost recovery and affordability issues and that are supported by targeted subsidies and cross subsidies. There is need for subsidies especially to the poor but these needs to be clearly designed and targeted.

It will be difficult to implement volumetric charges for water but one possibility could be to increase the flat rates to such an extent that it is actually economical and beneficial for the consumer to switch to volumetric charges.

Sewerage and Sanitation

A closer examination of the funding requirements and phasing for the first set of large projects reflects the limitations of the current plan. The four treatment plants proposed only begin to address the full gravity of the problem. Further the nature of institutional arrangements that will govern the implementation of the proposals poses a risk of lack of coordination. Particular attention needs to be paid to ensure that proposed interventions and possible future ones fit in to a programmatic approach.

While the first set of projects does not make a separate mention of sanitation related interventions, the problems are critical especially in the Inner City Areas. Though main and trunk sewers serve these areas, the number of branch sewers and laterals are inadequate as are house connections. These areas are also characterised by poor sanitation. Those who can afford have constructed septic tanks but these discharge into open drains. Flooding of these drains due to blockages aggravates the situation.

There is a lack of systematic and regular maintenance of sewers resulting in several of them being badly chocked. There is need for regular desilting, cleaning and repairs. Household latrines are either single or twin pit pour flush. In the absence of systematic desilting of septic tanks and pour flush latrine pits, the sullage tends to be spread in the street or dumped into the nearby drain. Although manual carriage of the night soil is officially banned, some houses in this area have conservancy type of latrines. There are also some houses that have latrines near the drains or directly connected to them. Open defecation is a common problem in some of the poorer areas of this part of the city.

The State Government has ratified the project proposals in principle. The existing proposals need to be revisited inline with the issues identified in the CDP and specific attention needs to be paid to the Inner City Areas.

At a general level, the lack of data about detailed cost estimates, maps, the absence of metering makes financial and project planning difficult. It is therefore necessary to develop a comprehensive water sector review and plan which should be prepared in time for inclusion in a revised investment strategy by the beginning of financial year 2009. The sector review should deal with network issues, finances, and behavioural and institutional issues.

In the context of sewerage, there is an opportunity cost of changing from existing systems of disposal to a network system. The service provider can adopt a system of rewards and penalties to facilitate this change. One option that can be considered is to provide a window for consumers to convert to the network free of cost. Failing this, the consumer will be fined a steep amount that will be added to the water bill.

Tackling the sanitation issue will require substantial investment in behaviour change communication. The Government of India has in fact constituted a task force on urban sanitation that will focus on this issue. The State Government may wish to explore details of this task force. In the meanwhile, it will be very necessary to link with civil society organisations and mount a massive campaign against the ill effects of poor sanitation practices.

Implementing any of the reforms identified above will be challenging in the face of interests of various constituencies. However, for sustainability in the long run, hard decisions are necessary in the immediate term.

8.3.1.2 Drainage and Storm Water Drains

(i) Need for intervention

Lucknow faces a severe problem of drainage. As has been discussed in Chapter 3, nallahs and embankments have been encroached in many places restricting their flow and causing floods. There is no regular maintenance of the nallahs and whenever some desilting work is undertaken, the encroachments do not allow an entire stretch of drain to be cleaned. Drains also suffer blockages from the indiscriminate disposal of solid waste in them. Additionally in the new colonies, the internal drains are not connected to the trunk drains leading to water logging.

In the Inner City Areas drains exist but most have been encroached making it difficult to clean them. In the absence of regular cleaning, most drains are badly silted and only a part of the drain

section carries the dry weather flow. During rains, these drains are unable to carry the storm water and water logging is common. Besides encroachments, the dumping of street sweepings into the drain and plastics blocking drains are common. Some of the major old drains pass through the area. The condition of these drains is similar to that of the others leading to backflow and storm water flooding in low-lying areas along the major drains. Broken and damaged sections of the drains are also observed. Some lengths of the smaller drains are kutcha resulting in stagnation of wastewater.

The proposed project is very small and focuses on a mix of new construction and improvements to existing infrastructure.

(ii) Proposed Projects

The project proposed for funding under JNNURM is as follows:

- In Zone 1: improvement of 12.85 km of drains
- In Zone 2: construction of 11.90 km of drains but with the majority of them draining into the Moti Jheel
- In Zone 3: improvement of 33.60km of drains
- In Zone 4: improvement of 40.66 km of drains
- In Zone 5: construction of 79 km of drains
- In Zone 6: construction of 19.80 km of drains

Additionally the Lucknow Development Authority proposes to construct 29.55 km of zonal drains.

The phasing and costing of the interventions is shown in the following table:

(Rs. in Crore)

Work	Total Cost	2006-07	2007-08	2008-09	2009-10	2010-11
Zone 1	20.58	6.00	6.00	6.00	2.58	0.00
Zone 2	47.43	12.00	12.00	12.00	11.43	0.00
Zone 3	10.65	5.00	5.65	0.00	0.00	0.00
Zone 4	139.72	30.00	30.00	30.00	30.00	19.72
Zone 5	215.37	50.00	50.00	50.00	50.00	15.37
Zone 6	10.54	5.00	5.54	0.00	0.00	0.00
Total	**444.29**	**108.00**	**109.19**	**98.00**	**73.91**	**35.09**

The phasing and costing of the Lucknow Development Authority project is shown in the following table:

(Rs. in Crore)

Work	Total Cost	2006-12	2006-07	2007-08	2008-09	2009-10	2010-11	Phase 2
Zonal Drains 29.55 km	100.00	55.00	15.00	20.00	10.00	0.00	0.00	45.00
Grand Total	**145.00**	**55.00**	**15.00**	**20.00**	**10.00**	**0.00**	**0.00**	**45.00**

The first project proposes a total investment of Rs. 444.29 crore and is only designed for Phase 1. The expected investment in Year 1 (2005-06) is Rs. 108.00 crore. The bulk of investments will be in Zone 5 where the focus is on construction.

The Lucknow Development Authority project proposes an investment of Rs. 145 crore – Rs. 55 crore in Phase 1 and Rs. 45 crore in Phase 2.

(iv) Institutions responsible

The Lucknow Nagar Nigam and the Lucknow Development Authority will carry out the two projects.

(v) Issues and further priorities

The proposed projects are only beginning to address the nature and scale of issues confronting the sector. It is critical that a clear strategy is drawn up for the removal of encroachments that is the main factor affecting the efficiency of the drains. It is recommended that the existing project proposal be revised in line with the issues identified in the CDP.

8.3.1.3 City Transportation and Traffic

(i) Need for the project

Lucknow has seen a radial growth but the city centre continues to remain the hub of commercial activities. As has been discussed in Chapter 3, there is a problem of connectivity of the outlying areas with the commercial centre. There has also been a rise in the number of registered vehicles without corresponding increase in the carrying capacity of the roads and road width in turn has been reduced due to encroachment. The central part of the city also has a large number of railroad crossing and road crossings leading to traffic congestion. Parking facilities in the commercial and institutional areas is inadequate.

The focus of interventions under JNNURM is on bus transport, improving roads, constructing new roads, construction of parking facilities and rail over bridges. The projects are realistic in their assumption that these interventions will not offer the final solution to urban transport in the city.

(ii) Proposed Projects

The proposed projects under this broad category are described below:

Roads

a) Municipal Roads

(i) Improvement of 46.96 kms of roads in Zone 1; 58.70 kms in Zone 2; 52.15 kms in Zone 3; 119.03 kms in Zone 4; construction of 80 kms in Zone 5 and 93.60 kms in Zone 6

b) PWD Roads

(i) There are 620 kms of roads (PWD plus NH) in Lucknow. This includes 73 kms of NH; 12.5 kms State Highways (Rai Bareili, Hardoi and Mohaan Roads); 9 kms of Main District Roads, and 215 kms of other urban and district roads.

(ii) The key project to be completed in Phase 1 is the Lohiya Path from Kalidas Cauraha to Faizabad Polytechnic (6.2 kms). This will have the state's first cycle track. Work has started and will be completed by March 2007.

(iii) Construction of a sub arterial road on the Haider Canal in Phase II.

c) Zonal Roads

(i) Construction of 80 kms of Zonal Roads. (ii) Widening of 65 kms of roads.

The Zonal roads to be developed will be in the Gomtinagar area, along with the Gomtinagar Extension, the Hitech city area and in the new areas that will be acquired.

d) Sub Arterial Road on the Haider Canal

This is an ambitious project drawn up by the LNN. While its successful implementation will undoubtedly improve the environment of the city, it will be very difficult to implement. Haider Canal is one of the heavily encroached areas of the city and these have to be removed before implementation can begin. It is recommended that the proposed Rs. 796.40 crore project be deferred to Phase 2 with Phase 1 focusing on drawing up a plan for removal of encroachments without affecting livelihoods.

Road based bus transport

(i) Construction of 600 bus shelters, 12 bus stands, 2 bus terminals and service stations.
(ii) Addition of 500 CNG buses to the fleet.
(iii) IT –enabled management of the entire bus network

Parking through Public Private Partnerships

(i) Bhopal House parking in Lalbagh.

(ii) Hazratganj parking in front of Vidhyak Nivas.

(iii) There is a proposal to construct an underground car park at the Sarojini Naidu Park

Bridges

Construction of 5 Rail Overhead Bridges, and two Bridges over Gomti. 3 over bridges are proposed in Gomtinagar, 1 on Bijnour Road and 1 at Uttratia. Additionally two new bridges are proposed to the east of Gomtinagar.

(iii) Projects

The proposed projects and their phasing is as follows:

a) Municipal Roads

(Rs. in Crore)

Work	Total Cost	2006-07	2007-08	2008-09	2009-10
Zone 1	23.86	8.00	8.00	7.86	0.00
Zone 2	42.38	20.00	15.00	7.38	0.00
Zone 3	14.33	5.00	5.00	4.33	0.00
Zone 4	84.58	20.00	20.00	20.00	24.58
Zone 5	215.80	60.00	60.00	60.00	60.00
Zone 6	40.24	15.00	15.00	10.24	0
Total	**421.19**	**128.00**	**123.00**	**109.81**	**60.38**

The proposed financial outlay is Rs. 421.19 crore. The entire investment will be completed in Phase 1 and the proposed investment in Year 1 (2006-07) is Rs. 128 crore. Again, Zone 5 gets the highest allocations throughout the programme period.

b) PWD Roads

The Lohiya Path is an important project for the state government. The project is scheduled for completion in March 2007 and will cost Rs. 69 crore.

c) Zonal Roads

(Rs. in Crore)

Work	Total Cost	2006-12	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Phase 2
Zonal Drains 29.55 km	519.00	319.00	75.00	100.00	64.00	20.00	30.00	30.00	200.00
Widening of Roads 66 km	98.00	98.00	15.00	25.00	25.00	20.00	13.00	0.00	0.00
Grand Total	**617.00**	**417.00**	**90.00**	**125.00**	**89.00**	**40.00**	**43.00**	**30.00**	**200.00**

The proposed investment is Rs. 617 crore with Rs. 417 crore being the requirements in Phase 1 and Rs. 200 crore in Phase 2.

Road based bus transport

The detailed costs are as follows:

Works	Cost (Rs. Lakhs)
Bus Shelters - 600	600
Bus stands - 12	3000
Parking places (acres)	
Parking for city buses	55
Parking for other private modes of urban transport	339
Parking for other private vehicles	523
Terminal and service stations - 2	2000
CNG buses - 500	9060
IT enabled management	500
Total	**16077**

The total investment is estimated at Rs. 16077 lakhs of which Rs. 2917 lakhs is estimated towards the cost of acquiring land for construction of parking, terminal and service stations. The JNNURM does not fund land – the government will need to explore other options for this funding.

Parking through Public Private Partnerships

The laws in the state do not allow the destruction of parks for the construction of car parks. The JNNURM states that parking provisions should be through public private partnerships. The proposed projects and their costing is as follows:

(Rs. in Crore)

Location	Total Cost	2006-07	2007-08
Bhopal House, Lalbagh	16.77	10.00	6.77
Hazrat Ganj (in front of Vidhayak Nivas	5.02	5.02	0.00
Total	**21.79**	**15.02**	**6.77**

There is a long pending proposal for the construction of a parking facility in the Sarojini Naidu Park. This proposal ran into litigation and has been stalled. It is however possible to revive this and construct the facility underground. Given the fact that the government will need to identify partners and take forward the plan, there are two suggested options that the government can consider:

- Get in to a 50-50 Joint Venture with IL & FS.
- Explore the 'India Infrastructure Initiative' (III) that is a revolving fund of the IDFC available to State Governments to develop PPP options. The III is a 'no risk no cost' proposition to the government and can be used for project preparation and partnership management.

Bridges

As has been described there are some bridges proposed. The details are as follows:

(Rs. in Crore)

Work	Total Cost	2006-12	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Phase 2
Rail Overhead Bridges – 5	186.00	103.00	0.00	50.00	40.00	13.00	0.00	0.00	83.00
Bridges over River Gomti - 2	88.00	40.00	0.00	20.00	15.00	5.00	0.00	0.00	48.00
Grand Total	**247.00**	**143.00**	**0.00**	**70.00**	**55.00**	**18.00**	**0.00**	**0.00**	**131.00**

An investment of Rs. 274 crore is proposed of which Rs. 143 crore is the outlay in Phase 1 and Rs. 131 crore in Phase 2. No interventions are proposed in Year 1 (2006-07).

(iii) Institutions responsible

There are a number of institutions responsible for these projects. These are the Lucknow Nagar Nigam, the PWD, the UP State Road Transport Corporation and the Lucknow Development Authority.

(iv) Issues and further priorities

The proposals are holistic but will have to be updated given the growth of the city. The most crucial aspect for greater efficiencies will be increasing the carriage width through removal of encroachments. Improving transport planning and circulation through better interventions like pedestrian zones, designated parking for smaller vehicles etc. will be important for overall improvement.

In order to keep pace with the growing public transport needs, the city may consider a multi modal mass rapid transport system – the various components of which will be defined following a thorough feasibility study. These proposals will require approvals at appropriate levels Following on from an estimate of MRTS made by RITES for Lucknow in 1997, the likely investment levels is shown below:

(Rs. in Crore)

Institutions	Total Cost 2006-12	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Special Purpose Vehicle	0.00	0.00	1000.00	1000.00	1000.00	1000.00	1000.00
Total	**5.000**	**0.00**	**1000.00**	**1000.00**	**1000.00**	**1000.00**	**1000.00**

This investment will need to be raised outside of the JNNURM therefore; a thorough financial analysis is a prerequisite.

8.2.1.4 Solid Waste Management

(i) Need for intervention

As in other cities, Lucknow too has a problem of solid waste disposal. The key issues highlighted in Chapter 3 included the fact that there is a problem of final sanitary transportation and disposal of wastes. A system of house-to-house collection has been introduced in some wards but the scale of operations needs to be stepped up. The waste depots that are the first point in the systemic chain are few and far between encouraging indiscriminate dumping. In the waste depots, there is intermixing of wastes putting the rag pickers and the surrounding areas at risk. Currently Lucknow generates 1300MT of wastes per day and this is expected to double by the end of the Master Plan period (2021).

At the national level, the Supreme Court has passed a ruling on the handling of municipal wastes thus making it mandatory for all cities to develop systematic interventions in line with the ruling. The proposed project is in line with the Supreme Court ruling and will go some way towards tackling the problems.

(ii) Proposed project

The details of the project are as follows:

(i) Management of Solid Waste in the city as per MSW Rules 2000, including collection, segregation, storage, transport, processing, treatment and disposal.

(ii) Purchase of equipments like trolleys, bins, tricycles, handcarts.

(iii) IEC for creating civic awareness for proper storage of solid waste and its segregation.

(iv) Consideration of various means of final disposal of municipal wastes through various means like sanitary landfills, biomethanation, conversion of wastes to hydrocarbons.

The investment requirements and phasing is as follows:

(Rs. in Crore)

Particulars	Total Cost	2006-07	2007-08	2008-09	Phase 2 (2009-21)
Collection of MSW	1.71	0.61	0.67	0.43	0.00
Segregation of MSW	0.30	0.15	0.08	0.07	0.00
Storage of MSW Containers	9.10	3.59	2.70	2.81	0.00
Transportation of Solid Waste	11.80	3.34	5.26	2.58	0.00
Processing of Waste	0.80	0.30	0.50	0.00	0.00
Treatment and Disposal – Land fills, Bio-medical Waste Treatment, Conversion of Wastes to Hydrocarbons	15.35	8.25	7.10	0.00	0.00
Integrated Waste Management	0.00	0.00	0.00	0.00	36.00
Total	**38.46**	**16.24**	**16.33**	**5.89**	**36.00**
Escalations and Administrative @ 20%	7.69	3.25	3.27	1.18	7.20
Grand Total	**89.35**	**19.49**	**19.60**	**7.07**	**43.20**

A total of Rs. 89.35 crore is proposed for the project in two phases. Rs, 46.15 crore is proposed in Phase 1 and Rs. 43.20 crore in Phase 2. The investment requirement in Year 1 (2006-07) is Rs. 19.49 crore.

(iii) Institution responsible

The Lucknow Nagar Nigam is the institution responsible for this project.

(iv) Issues and further priorities

This is an area that requires substantial investment in IEC to get people into the habit of segregation, refrain from indiscriminate dumping etc. There is also substantial scope for involvement of civil society organisations as partners in the initial collection and transportation to the waste depots. Given that solid waste is an area that will only grow in scale, it is critical that various options for quicker service delivery and final disposal are considered.

8.3.2 Other Priority Areas

The **other areas** for intervention as defined in the initial prioritisation are discussed below.

8.3.2.1 Inner City Renewal

The key issues and the need for focused interventions to address them have been discussed under the sectoral interventions.

8.3.2.2 Conservation of the river, lakes and ponds

Lucknow has a number of lakes and ponds within its limits and of course the River Gomti flowing through it. The LNN has drawn up a project for the conservation of these water bodies. With the expansion of the LNN boundary, 124 villages have been included within its limits. The land records of the LNN show that there are 846 ponds in the LNN limits of which, a conservation plan

has been prepared for 256 ponds. The total cost has been estimated at Rs. 74 crore. In the first instance, 10 of the larger ponds will be taken up for conservation.

This project needs to be approached with caution. Given the pace of urbanisation and encroachments, it is unlikely that all the ponds identified in the land records are identifiable on the ground. It is recommended that the LNN first identify the number of ponds that are in a position to be conserved. Based on this identification, separate costs be determined depending on the size of the ponds and the nature of interventions necessary. It would be effective utilisation of funds for the LNN to concentrate on the larger water bodies that exist within the city limits like the Moti Jheel – that is under imminent threat following the construction of a series of nallahs discharging in to it – the Butler Palace Lake, the water body in the Imambara etc.

The LNN has also drawn up a project for river front development. The proposed financial outlay is Rs. 16.21 crore only to be utilised in Phase 1. Interventions include landscaping, setting up of an arts and crafts bazaar etc.

8.3.2.3 Conservation of Heritage

As has been reiterated throughout the CDP, heritage and its conservation are intrinsic to Lucknow. While recognising its importance, it is recommended that the bulk of activities be taken up in Phase 2 of the programme after revisiting the cost estimates. It is very critical for effective inter departmental coordination between institutions focusing on infrastructure development and the Tourism Department so that plans of the former do not adversely impact the ambience around heritage zones. The proposed activities that are specific to heritage conservation in Phase 1 are as follows:

(Rs. in Crore)

Restoration Work	Total Cost	Phase 1	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Phase 2
Shaheed Smarak	4.51	4.51	1.00	2.00	1.51	0.00	0.00	0.00	0.00
Clock Tower	0.28	0.28	0.28	0.00	0.00	0.00	0.00	0.00	0.00
Picture Gallery Husainabad	0.55	0.55	0.30	0.25	0.00	0.00	0.00	0.00	0.00
Sat Khanda	0.68	0.68	0.30	0.38	0.00	0.00	0.00	0.00	0.00
Management of Heritage Area	10.00	10.00	1.66	1.66	1.66	1.66	1.66	1.66	0.00
New Projects	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	144.03
Total	**156.64**	**16.02**	**3.54**	**4.29**	**3.16**	**1.66**	**1.66**	**1.66**	**144.03**

The Department of Tourism has outlined a series of plans for improving and conserving the heritage of the city. However, as discussed earlier, interventions have to be necessarily undertaken through the LDA and the LNN - not separately but together and in discussion with the State Government. The plans on the anvil along with their rough cost estimates are as follows:

Historic Buildings/Sites	Estimated cost (Rs. Lakhs)
Bada Imambara Area	
a) Setting – signage, pedestrian pathway, amenities, landscaping, façade lighting, street furniture, parking, removal of encroachments and rehabilitation	800

Historic Buildings/Sites	Estimated cost (Rs. Lakhs)
removal of encroachments and rehabilitation	500
b) Roomi Gate and Noubat Khana	500
c) Internal area development including restoration of baoli	500
d) Main building restoration	
Chota Imambara	
a) Setting	500
b) Building restoration	1000
Important Buildings of Hussainabad Area	
a) Satkhanda	100
b) Picture Gallery	150
c) Lake in front of Picture Gallery	50
d) Clock Tower	15
d) Sheesh Mahal	150
e) Sarai	50
f) Setting of the area	500
g) Infrastructure development	500
Hazratganj	
a) Architectural control and restoration of facade	1000
b) Street and façade lighting	200
c) Street furniture and setting	800
d) Underground parking	2500
Kaiserbagh Heritage Zone	
a) Land scaping	100
b) Façade restoration	200
c) Gate restoration	100
d) Amir-ud-Doulah library	200
e) Bharkhande building	100
Dilkhusha	
a) Setting	300
b) Building	800
Chowk	
Rouza	500
Preparation of architectural control precinct wise	
a) Hazratganj	10
b) Sarrafa Bazar	10
c) Kaiserbagh	8
	8

Historic Buildings/Sites	Estimated cost (Rs. Lakhs)
d) Latouche Road e) Victoria Street	5
Residency	
a) Setting: parking, entrance development, encroachment removal, pathways, amenities, lighting	500
La Martiniere	
Landscape and Building restoration	500
Important buildings in the corridor from Dilkhusha to Hussainabad along the River Gomti	
Bibiapur Kothi	50
La Martiniere obelisk	10
Butler Palace Gate	20
Butler Palace Lake	50
Sikandar Bagh	20
Shahnajaf Imambara	30
Tara Wali Kothi	100
Chhattar Manjil	500
Lal Biradari	200
Pucca Pul	50
Tikait Rai talab	200
Alambagh Gate	50
Preparation of Conservation Management Plan	500
Total	**160 Crore**

Heritage conservation will have a positive impact on tourism that in turn will improve the economic base of the city.

There are a few more small projects proposed by the Lucknow Nagar Nigam to be undertaken in Phase 1. They are unlikely to address the sectors in their entirety but have been included.

8.3.2.4 Environmental Improvement and City Beautification

(i) Development of parks; (ii) Arboriculture; (iii) Conservation of water bodies; (iv) Development of River Front; (v) Construction of community halls.

(Rs. in Crore)

Works	Total Cost	2006-07	2007-08	2008-09
Boundary Wall	3.17	1.00	1.00	1.17
Pathway	4.72	2.00	1.00	1.72
Development Works	1.49	0.50	0.50	0.49
Arboriculture	1.73	0.50	0.50	0.73
Total	**11.11**	**4.00**	**3.00**	**4.11**

The interventions will be to the parks in the different zones of the city. The distribution of parks in the city is as follows:

Zone 2: 110 parks
Zone 3: 78 parks
Zone 4: 10 parks
Zone 5: 43 parks
Zone 6: 55 parks

} 296 parks

8.3.2.5 Improvement in Street Lighting and maintenance

The interventions will focus on providing adequate lighting in the slums, community toilets and general street lighting to improve safety. Interventions are also planned in the newly developed areas that are either totally lacking in streetlights or are inadequately lighted. In addition to the lighting of specific roads, interventions include

1. Installation of electric poles in all 110 wards of the city;
2. Lighting arrangements in 50 crossings through semi high masts;
3. Installing 30 m high masts in 12 crossings;
4. Installation of 20 m high masts in 47 crossings and tri junctions;
5. Replacement of worn out sodium light fittings in all 110 wards.

The proposed investment outlay is as follows:

(Rs. in Crore)

		2006-07	2007-08	2008-09	2009-10	2010-11
Total Cost	56.64	10.00	11.00	11.00	12.00	12.64

The LNN estimates that it requires about Rs. 10.29 crore per year for street lighting. In view of rising demands with growth of the city and regular maintenance of existing facilities, the fund requirements are likely to go up to double in Phase 2.

8.4 Sub Mission II: Basic Services for the Urban Poor - Priorities

The **critical areas** for intervention are:

1. In-situ integrated development of slums and basic services
2. Relocation of slums located in dangerous areas
3. EWS Housing

The **other areas** for intervention are:

1. Night shelters for the destitute
2. Community toilets in selected slums

(i) Need for intervention

As has been discussed in Chapter 4, Lucknow has a substantial slum population with very poor access to basic services. The slums are spread across the city and are growing because of rising migration. Various stakeholders voiced their desire to make Lucknow ‘slum free’ and slum dwellers expressed desire to work towards improving their quality of life. The earlier discussion

also highlighted the data discrepancies and the importance of clarity on tenure issues for designing specific interventions.

(ii) Project details

The estimates are on the basis of the slum population identified through the Oxfam 2005 survey i.e. for 11 lakh slum dwellers. Estimates for infrastructure development have been made on the basis of norm identified by SUDA. The suggested interventions are as follows:

1. **Comprehensive Survey of Slums** – The need for a survey arises out of the fact that there are different sources for identification of slums and the people housed in them. Therefore, a comprehensive survey to ascertain the total population, housing conditions, infrastructure availability, land tenure status, affordability levels of the population etc. is critical. Based on the assumption that 11 lakh people are approximately 20,000 families, the cost of the survey is estimated at **Rs 50,00,000**
2. **Integrated Slum Development and drinking water scheme aimed at improving the number of water points and hours of supply -** The basis for estimating the above interventions is as follows:
   - The Oxfam survey estimates that there are about 5.9 lakh slum dwellers that are residing either in urban villages or slums with multiple land ownership. For this group, in situ slum development is recommended.
   - Assuming the average family size to be 5, services are to be provided to 1.18 lakh households.
   - SUDA estimates the cost of basic service provision at Rs. 30,000 per family – total cost is therefore Rs. 354 crore
3. **Housing for EWS -** In the short run, public agencies will have to play the role of provider of housing for the EWS. This need not be in the form of fully built houses but in the nature of sites and services. In this case smaller plots (25 to 30sq.m.) with pedestrian access and water and sewerage facilities are provided. Water tap and toilet seat are built on the plot. The person allotted the plot can then build the shelter and improve it as personal income improves. By ensuring water and sanitation, environmental hygiene is ensured. There are experiences of such schemes in India, and lessons from them can be applied in Lucknow. Taking stock of the situation at hand and considering the present status of the slums as reported above, it is suggested that the in-situ rehabilitation option be considered for the authorised slums and relocation (if at all necessary) be seen as an option for unauthorised colonies. This assumes that the developing authority has already acquired the land, and the cost of land will not form part of the total cost.

   EWS housing has been proposed for a population of 5.1 lakh. With an average family size of 5, a total of 1.02 housing units will be required. Cost has been estimated at the rate of Rs. 80,000 – Rs. 50,000 for the house and Rs. 30,000 for basic infrastructure. Basic infrastructure includes piped water supply; sewer system and storm water drains. Additionally at cluster level there will be one building each for community hall, primary school and primary health centre with the costs being equated within the cluster. The total cost of EWS housing is estimated at Rs. 816 crore.
4. **Creation of additional housing stock**

   To work towards making Lucknow slum free, there is need to build up EWS housing stock. SUDA estimates that there is need to create at least 7000 housing units per annum and at the rate of Rs. 80,000, the total cost is estimated at Rs. 336 crore. There is also a move to make it mandatory for all new housing developments to reserve 25% of housing stock for EWS groups.

The phasing of interventions and costs is as follows:

(Rs. in Crore)

Project	Total Cost	2006-12	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Phase 2
Integrated Slum Development Scheme and Drinking Water Scheme	354.00	200.00	90.00	50.00	20.00	20.00	10.00	10.00	154.00
EWS Housing	816.00	700.00	100.00	150.00	150.00	100.00	100.00	100.00	116.00
Survey of Slums	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00
Creation of Additional Housing Stock @7000 Units per Annum	336.00	150.00	10.00	15.00	20.00	25.00	30.00	50.00	186.00
Grand Total	**1506.50**	**1050.50**	**200.50**	**215.00**	**190.00**	**145.00**	**140.00**	**160.00**	**456.00**

The total investment for Sub Mission 2 is estimated at Rs. 1506.50 crore of which, Rs. 1050.50 crore is projected for Phase 1 and Rs. 456 crore for Phase 2. The Year 1 investment is estimated at Rs. 200.50 crore. EWS housing has been allocated the largest share of investment. The phasing of investments for the creation of additional housing stock is projected to rise Year 3 on wards with corresponding reductions in allocations for EWS Housing – this is because, the first objective before the state is to address the issues of access to basic services for the existing slums and therefore lesser funds will be available for creation of additional housing stock. The allocations for Phase 2 are significantly lower than that for Phase 1 because of two reasons – the fact that there is a directive requiring reservation of 20-25% housing in all new developments for the EWS sector and, through systematic interventions in Phase 1, the numbers of slums will reduce significantly.

(iv) Issues and other priorities

Public interventions will be required in providing basic services to the slums. To the extent feasible, community involvement may be secured in maintaining the facilities particularly community toilets, solid waste management etc. As has been pointed out in Chapter 2 slums have community groups active around specific issues and through mobilizing these groups it is possible to secure community participation.

Consultation with slum dwellers revealed their willingness to share responsibility in work execution and bring about transparency, accountability and quality of work. The following steps could be adopted to achieve community participation and ownership of interventions:

- Conducting group meetings on the need to take over the responsibility of works' execution in their own slums.
- Vigilance committees to be formed to monitor implementation of different works. These groups will not only ensure that there is a social audit but also make sure that the contractor does not degrade the quality of work in an attempt to make high profits out of the money allotted for slums.

- Identifying target beneficiaries and initiating efforts to form Community Based Organization (CBOs), covering the target population for participation in the implementation of JNNURM projects for slum rehabilitation.
- Designing specific programmes for the vulnerable groups - the socially under privileged, women and aged. Implementation of these programmes through effective IEC campaigns, thus improving the level of awareness among the communities and ensuring the participation of the vulnerable groups. This approach will ensure long-term sustainability of interventions. The activities of the CBOs should be monitored periodically. The involvement of local NGOs with experience in community empowerment activities will be beneficial to the promotion, formation and capacity building of CBOs.
- There needs to be better convergence between different urban poverty programmes, so that resources from the centre, state and local governments are all able to focus and make real change happen. A Town Development Plan/ Master Plan should be prepared with special attention to land tenure, basic services, housing and employment needs, including informal enterprise of the poor, of women and children. The urban poor's access to housing finance at affordable cost through micro-credit schemes and community-based lending needs to be facilitated.
- Granting security of land tenure to slums (individually or preferable to groups) will be a major intervention that would enable slum dwellers to access housing finance and improve slums over a period of time. An enabling environment will have to be created for this by co-ordination and liaison between the different departments/ organisations/ individuals owning the land on which the slums are located and proactive intervention by the state government in the form of a suitable G.O. on tenural security to the slum-dwellers.

8.5 Lucknow Cantonment Board

There are three small projects proposed by the Lucknow Cantonment Board that have been included in the CDP. Although the Lucknow Cantonment is now surrounded by the city, it has separate institutions for governance and service delivery. Similarly, JNNURM funding patterns will differ from that of the other institutions. The discussion on these projects is therefore undertaken separately.

The project proposals for the Cantonment Board arises out of the inability of the State Government to provide bulk supplies to the civilian population living in the Cantonment Board area. The Cantonment Board has therefore proposed projects for water supply, sewerage, solid waste management and rainwater harvesting.

The water supply project will fund the boring of tube wells in different locations to supply water. According to Census 2001, the civilian population in the Cantonment Area was estimated at 53764 ad was spread across eight zones – RBI and Hata Ram Das, Sadar Bazar (the highest concentration), B.C. Bazar, R.A. Bazar, R.A. Line, Mal Avenue Colony, Dilkhusha Garden and Pipra Ghat Staff Colony, LBI Bazar, Kasturba Garden, Vijaya Park and RAK Marg Colony.

The sewerage project does not include the Mal Avenue since it has a well-developed sewer system and the Pipra Ghat Staff Colony since the area has a septic tank based system and few staff quarters. The plan also excludes the RAK Colony since it is classified as unauthorized as per the direction of the Cantonment Executive Officer of the Lucknow Cantonment Board.

A small project has been proposed for the execution of ground water recharging structures in the Kasturba Udyan, Gurmukha Singh Park, the school campus of RA Bazar and the school campus of BC Bazar. The proposed construction will cover 50566.25 sq m area and is estimated to cost a total of Rs. 0.20 crore.

The Cantonment Board is currently funding a feasibility study on solid waste management and plans to implement the recommendations at the earliest. The detailed costing of the various projects is as follows:

(Rs. in Crore)

Work	Total Cost	2006-12	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Phase 2
Water Supply	4.70	4.70	2.00	2.70	0.00	0.00	0.00	0.00	10.00
Sewerage	15.70	15.70	5.50	5.50	2.35	2.35	0.00	0.00	30.33
Water Harvesting	0.20	0.20	0.20	0.00	0.00	0.00	0.00	0.00	0.00
Solid Waste Management	10.00	10.00	0.00	2.00	2.00	2.00	2.00	2.00	20.00
Total	**30.60**	**30.60**	**7.70**	**10.20**	**4.35**	**4.35**	**2.00**	**2.00**	**60.50**
Grand Total				**91.10**					

The funds for these projects will be through the JNNURM and the Ministry of Defence and there is unlikely to be any resource gap.

8.6 Phasing of Capital Investment Plan (CIP)

Based on the above the total financial outlay under JNNURM is shown in the table below with the priority areas highlighted.

Sector	Total	Phase 1 2006-12	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Phase 2 2012-31	Institution Responsible
Sub Mission 1: Urban Infrastructure & Governance										
Water supply	**1277.54**	**675.6**	**52.2**	**123.5**	**167**	**156**	**99.3**	**77.1**	**602**	**UP Jal Nigam**
Sewerage	**2058.63**	**630**	**123**	**103**	**78.3**	**136**	**189**	**0**	**1429**	**Lucknow Jal Sansthan**
Drainage	**1555.01**	**444.3**	**108**	**109.2**	**98**	**94**	**35.1**		**1111**	**Lucknow Nagar Nigam**
Construction of Roads	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
Lohiya Path	**69**	**69**	**69**	**0**	**0**	**0**	**0**	**0**	**0**	**PWD**
Internal Roads	1474.17	421.2	128	123	110	60.4	0	0	1053	Lucknow Nagar Nigam
Roadbased urban transport	**562.7**	**160.8**	**161**	**0**	**0**	**0**	**0**	**0**	**401.9**	**UPSRTC**
Parking through PPP	**153.36**	**21.79**	**15**	**6.77**	**0**	**0**	**0**	**0**	**109.6**	**Lucknow Nagar Nigam**
Haider Canal Road & Elevated Roadway	796.4	0	0	0	0	0	0	0	796.4	Lucknow Nagar Nigam
Solid Waste Mangement	**89.34**	**46.14**	**19.5**	**19.58**	**7.07**	**0**	**0**	**0**	**43.2**	**Lucknow Nagar Nigam**
City Beautification	38.88	11.11	4	3	4.11	0	0	0	27.77	Lucknow Nagar Nigam
River Front Development	16.21	16.21	4	8	4.21				0	Lucknow Nagar Nigam

Sector	Total	Phase 1 2006-12	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Phase 2 2012-31	Institution Responsible
Conservation of Ponds	170	5	5	0	0	0	0	0	170	Lucknow Nagar Nigam
Street Lighting	156.64	56.64	10	11	11	12	12.64		100	Lucknow Nagar Nigam
Conservation of Heritage Sites	160	15.97	3.54	4.29	3.16	1.66	1.66	1.66	144.03	LDA, LNN
Community Halls	3.47	3.47	3.19	0.28	0	0	0	0	0	Lucknow Nagar Nigam
Infrastructure Projects	1352	845	110	275	234	133	53	40	507	Lucknow devp. Authority
Water supply, Sewerage, SWM, RWH	91.1	30.6	7.7	10.2	4.35	4.35	2	2	60.5	Lucknow Cantonment Board
Sub Total	**10007.4**	**3453**	**823**	**796.8**	**721**	**598**	**294**	**121**	**6555**	
Sub Mission 2: Basic Services for Urban Poor										
Basic Services for Urban Poor	**1506.5**	**1051**	**201**	**215**	**190**	**145**	**140**	**160**	**456**	**SUDA & DUDA**
Technical Assistance	**342**	**342**	**57**	**62**	**52**	**57**	**57**	**57**	**0**	
Grand Total	**11855.9**	**4845**	**1081**	**1363**	**1173**	**943**	**590**	**338**	**7011**	
Critical Areas for Intervention highlighted: Phase 1 Expenditure Rs. 4845.21.21crore of which Rs. 1080.82 crore is in 2006-07										

In addition to the financial outlay, there is a substantial technical assistance/capacity building component that is proposed. This component is fully funded by the JNNURM.

(Rs. in Crore)

Technical Assistance	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Total
Feasibility studies (MRSST, SWM Traffic, Flyovers, etc.)	10	10					**20**
Miscellaneous surveys and development of MIS, e-gov.	15	15	15	15	15	15	**90**
Training and capacity building	10	10	10	15	15	15	**75**
GIS of various utilities and road network	5	10	10	10	10	10	**55**
Restructuring of institutions / constitution of SPVs	5	5	5	5	5	5	**30**
IEC Campaigns	12	12	12	12	12	12	**72**
Total	**57**	**62**	**52**	**57**	**57**	**57**	**342**

The total investment for Sub Mission I is estimated at Rs 11856 crore, out of which an amount of Rs 4645 crore is the cost of estimated works and technical assistance proposed in Phase-I of the Mission. The remaining work amounting to Rs 7006 crore would be undertaken in Phase-II.

For Sub Mission 2, the estimated fund requirement is Rs. 1506.50 crore of which Rs. 1050.50 crore is to be spent in Phase 1 with the remaining Rs. 456 crore being spent in Phase 2.

(Rs. in Crore)

Investment Requirement	2006-12	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Infrastructure and Services (LNN, LDA, UPJN, LJS, LCB, PWD)	3452.71	823.32	796.83	721.23	597.85	293.51	120.71
Basic Services to the Poor (LNN, SUDA, DUDA) *(These are projections for SUDA & DUDA)*	1050.50	1023.52	1011.83	911.23	742.85	433.51	280.71
Total	**4503.21**	**1023.52**	**1011.83**	**911.23**	**742.85**	**433.51**	**280.71**

8.7 Financing Strategy

The Financing Strategy has been worked out by identifying the share of JNNURN and the State Government. Then depending on the financial assessment of the institution doing service delivery, an estimate has been made of the funds that are likely to be available from all sources. Estimates have been made separately for Sub Mission 1 and Sub Mission 2 since the financing pattern is different. It is assumed that the Ministry of Defence will provide the share of finances required by the Cantonment Board in addition to the JNNURM funding. The estimates for Sub Mission 1 are as follows:

(Rs. in Crore)

Institutions	Investment requirements 2006-12	50% JNNURM / Govt. of India	20% Govt. of Uttar Pradesh	30% Local Body	Investment requirements 2012-31
UP Jal Nigam and Lucknow Jal Sansthan	1305.53	652.76	261.11	391.66	2030.64
Lucknow Nagar Nigam	1041.81	520.91	208.36	312.54	3664.20
Lucknow Development Authority	845.00	423.00	169.00	254.00	507.00
UP State Road Transport Corporation	160.77	80.39	32.15	48.23	401.93
Public Works Department	69.00	34.50	34.50	0.00	0.00
Lucknow Cantonment Board	30.60	30.60	0.00	0.00	60.50
Total	**3452.71**	**1742.16**	**705.12**	**1006.43**	**6603.77**

For Sub Mission 2, JNNURM will provide 50% of the funds and 50% will be the responsibility of the State Government and the Local Government. Further, in the State/Local government share,

beneficiaries will contribute to the tune of 12% for regular beneficiaries and 10% for SC/STs and physically handicapped. The estimates are as follows:

(Rs. in Crore)

Institutions	Investment Requirements 2006-12	50% JNNURM	50% Govt. of Uttar Pradesh, Local Bodies	Investment Requirements 2012-31
SUDA / DUDA	1050.50	525.25	525.25	456.00

8.8 Financing Options for Institutions

From the above it is clear that local government has to generate substantial resources as their contributions towards project costs. Some of the institutions are relatively better placed to raise their share of resources. These institutions include the Lucknow Development Authority, PWD, Cantonment Board, UP State Roadways Corporation. Key institutions like the LNN, the UPJN and the LJS who are responsible for major infrastructure sectors in the city would find it difficult to raise their share of funds unless they improve their functioning and build their capacities following a major reform agenda.

Discussions with LNN indicate that they would generate surpluses through:

- Reforms in property tax and increasing revenue from the tax (identifying new properties by developing a GIS fro the city properties, improving tax administration, collection etc).
- Cost savings measures by way of reduction in fuel cost, savings in electricity cost by P-P-P of streetlights, and the manpower costs by good governance (e-governance).
- Developing partnership with private sector for to use its land assets for developing residential and commercial projects that would provide regular revenue to LNN. The partnership will be done in such a manner that the ownership of the land remains with the LNN.
- Recovering properties that have been encroached upon.
- Introducing new taxes such as profession tax, vacant land tax.
- Building capacity of its employees for efficient delivery of services and collection of taxes, fees etc.
- Introducing accrual based accounting system to improve financial management.

However, all the above reform measures may not be able to generate sufficient resources to cover the total requirement of funds. In such a situation, the LNN will have to mobilize additional resources through loans from financial institutions.

The LJS could improve its financial base through the implementation of the reform measures discussed earlier in the chapter.

The financing options available to the institutions of service delivery are shown below.

Options	Lucknow Nagar Nigam	Lucknow Develop-ment Authority	Lucknow Cantonment Board	UP State Road Transport Corporation	Public Works Depart-ment	UP Jal Nigam & Lucknow Jal Sansthan
Financial Requirement	1041.81	845.00	30.60	160.77	69.00	1305.53
Own Resources	100.00	253.00	0.00	0.00	0.00	0.00

Options	Lucknow Nagar Nigam	Lucknow Develop-ment Authority	Lucknow Cantonment Board	UP State Road Transport Corporation	Public Works Depart-ment	UP Jal Nigam & Lucknow Jal Sansthan
State Govt. Grants	208.36	169.00	0.00	32.15	34.50	261.11
Financing Institutions & Capital Markets	0.00	0.00	0.00	48.23	0.00	0.00
JNNURM	520.91	423.00	15.30	80.39	34.50	652.76
Other Central Grants	0.00	0.00	15.30	0.00	0.00	0.00
Private Sector	34.00	0.00	0.00	0.00	0.00	0.00
Gap	**178.54**	**0.00**	**0.00**	**0.00**	**0.00**	**391.66**

8.9 In Conclusion

Successful completion of the proposed works under JNNURM will lead to a qualitative improvement in life. The financing strategy as discussed above is indicative of the near sustainability of the projects under JNNURM framework. The challenge is to utilise the Phase 1 of the programme to make the local level institutions self-sustainable i.e. define a balanced approach between infrastructure development and reforms.

SUMMARY

Different institutions have identified projects for support under JNNURM.
The scope of projects identified by the LNN – the key institution at city level – is limited. These do not inspire confidence in the ability of the institution to take the lead in the future.
Key institutions like the LNN; LJS have limited capacity to raise their share of resources.
Following a reform agenda is critical to make key institutions self-sustainable.

9 The Way Forward: Institutional and Governance Reforms

9.1 Introduction

This City Development Plan for Lucknow provides a perspective as well as a broad roadmap for the development of the city. The vision articulated in the plan aims to show the way to planners, administrators and city managers to keep their city development efforts on track and a basis for citizens and consumers to hold agencies accountable.

While the JNNURM will provide funds in the short term, it begins to map out an approach to balance the pursuit of infrastructure priorities agenda with a reform agenda. The immediate incentive for such reforms is the JNNURM, which outlines a set of 'mandatory' and 'optional' reforms at the state and local level, revolving around implementation of the 74th Constitutional Amendment in letter and spirit. This requires more than mere compliance with the list of reforms outlined in JNNURM guidelines – the letter and spirit of the 74th Amendment and the ultimate outcome of JNNURMs reforms implies that the formal transfer of powers be followed by a systematic process of empowerment through, for example, transfers of fiscal resources, staff and management autonomy as well as appropriate capacity building.

The State Government of UP has already passed legislation towards implementation of the 74th Constitutional Amendment. The challenge now is to consolidate these steps by supporting Lucknow to attain greater functional autonomy and fiscal independence.

9.2 Data Improvement and Analysis

The need for better data is evident across all functions and sectors – from physical planning to budgeting and revenue improvement. The use of GIS based technology is essential, and will have to be supplemented by consumer surveys and other ways of obtaining better data. This will require engagement with residents. Refinements will then be possible as a systematic effort continues to identify and assess taxable property. Aspects of data improvement like introduction of e-governance, sector and functional reviews and accounting reforms are discussed below. A number of studies should be prioritised.

- Feasibility studies for various improvements in urban infrastructure in the city including MRTS, SWM, traffic management, and flyovers.

- Miscellaneous surveys to collect the required information to improve tax administration, tax coverage, development of MIS systems, and e-governance systems etc.

- Development of multi-purpose GIS that will include all the line features like roads, water supply, sewerage, and communication networks and related attribute information, polygon features like land plots and properties, institutions, land use, point features like streetlights, manholes which will be useful for city planning, tax administration, service delivery, O&M of service networks, traffic management etc.

- Reviews of organisational arrangements and exploration of institutional and governance systems to ensure accountability, cost recovery and formulation of clear policies, responsiveness to customers and citizens. Restructuring of institutions, like reforms in accounting systems, HR policies, municipal acts, building policies, municipal acts, building byelaws, corporatisation, constitution of SPVs, regulatory bodies etc.

- Awareness generation and IEC campaigns to obtain information from communities.

9.3 Revenue Enhancement

The lack of fiscal viability at the local level, and the continued reliance on transfers remain major problems. It is difficult to manage proactively if an institution is so dependent, and it also weakens its accountability to its constituents and consumers. Guided by the JNNURM, a package of reform needs to be phased over the next few years, starting immediately:

- **A Revenue Roadmap:** With Revenue Enhancement at the top of the agenda to move the LNN and other bodies from their current financial vulnerability to a new fiscal independence, a clear planned roadmap for revenue reform is needed. In follow up to the CDP, it is necessary for the LNN (and other relevant institutions) to develop a systematic approach, involving data improvement and more robust application of available sources. A plan of this nature can be updated regularly, linked to the budget process. One aspect that requires specific attention is to facilitate consultation with citizens and stakeholders in outlining such roadmaps. The state government has emphasized reform of property taxes as fundamental to reform. These are significant challenges, given the weak state of these aspects of financial management at present.

- **Property tax reform:** As far as property tax is concerned, the need is first for more accurate property inventories and record management (among others through computerizing property tax records and physical surveys); adopting new approaches such as self-assessments to simplify property tax assessments and make it more transparent; improve taxpayers' understanding of the assessment process; and improve collection methods, for example through e-governance.

- **Improved service charge payments:** Service agencies have not been charging effectively. They are unable to address revenue issues credibly, as they lack information about consumers, levels of usage etc. The issue of metering has to be addressed, as it is the most effective way of making revenue assessments more credible and makes it possible to monitor consumption, leakages and other aspects of service delivery and shortcomings of services. The JNNURM's investment funding will be used in part to assist the local bodies to address these constraints at a technical level and – apart from its own contribution – the GoUP will continue efforts to help LNN and these other bodies to address these fundamental concerns.

9.4 Accounting Reform

The introduction of an accrual based accounting system has to be achieved in terms of JNNURM requirements. The time is ripe to push forward this reform now in Lucknow, which has been slow in coming, but on the agenda for sometime. On its own such a system will not produce miracles, but it is a way of helping to improve the quality of data that will make the LNN a more open and transparent institution and improve financial planning and monitoring. The process should be managed such that LNN becomes ready to open itself to effective internal and external auditing, complying with uniform norms and standards for financial reporting, for which the leadership has to come from the centre and state level.

9.5 Budget Reform

Improved budget practice is crucial. The infrastructure and service planning required under the JNNURM demands multi-year budgeting and concerted effort will have to be planned even before the start of the next fiscal year to align staff and systems for multi-year budgets and to develop

the capacity to track and analyze inter-governmental transfers and effectively integrate planning and budgeting, including O&M budgets. It is understood that such budget reform requires a change of culture and systems, and significant capacity enhancement, and that it has taken years in many countries to be implemented. The need is evident though and the GoUP will be in a pivotal role initially to create incentives and help mobilize support for such reform.

9.6 E- Governance

Implementation of e-governance in ULBs has been identified as an important aspect of Lucknow's path forward. Efforts have already started, but in the follow up to the CDP more detail will be added to plans and resource mobilization to enable LNN and other local bodies to move forward with computerization of records, tax data, collection process and the interface between the public and their local governments. A baseline assessment of existing capacity, needs and options is required as the basis for building staff capacity and developing appropriate systems.

9.7 Enabling Environment for Development

At least four – albeit not the only – enabling interventions are critical for Lucknow's long term interventions.

- **Policy Reform:** While the JNNURM provides a broad framework for urban reform and infrastructure development, the GoUP now has a critical role to provide the necessary leadership and direction to Lucknow and other cities. Aspects to be prioritised include clear policies on universal access to services, cost recovery and transparent governance (including accounting and financial management reforms).

- **Institutional restructuring** is identified as an optional JNNURM reform, and is an area that needs to be considered. The current institutions have mostly been established in terms of old legislation, and at a time when the growth of Lucknow was not as prevalent as it has become. The key issue is to clarify roles and reduce overlap, and in that manner position the city institutions for clear policy direction, unambiguous assignment of roles for implementation, effective coordination, and fair but robust regulation. Further discussion on options in the different sectors and across city institutions will be needed, and should be integral to the follow-ups to the CDP.

- **Capacity Building** goes beyond training. While training through formal courses and at the work place are integral parts of a capacity building approach, many of the long-term challenges relate to the introduction of sustainable systems. The development of such systems has to be based on the sector and functional reviews and data improvements mentioned above. Key focus areas are financial management; the development of appropriate budgeting, planning and monitoring systems; project planning, management and implementation; equipping officials to engage with citizens; and empowering members of the elected local government as well as citizens to engage with service agencies.

- **Land Reforms:** The state has repealed the Urban Land Ceiling Act. However the discussions with Government were inconclusive on whether this had a positive fall out for the poor. The Government is trying to limit adverse impacts that may have happened through the fixing of circles rates for property. This is an area that needs further analysis since land and its rights will be crucial to interventions under Sub Mission 2.

9.8 A Partnership for the Future

Achieving all the above will require legislative and policy changes and concerted effort to introduce new systems within realistic time frames.

Underpinning technical reforms there needs to be a vision of a city that thinks of itself as city, and that is governed and serviced in ways that become a modern city, transcending sector and institutional fragmentation. Its rich heritage is a source of inspiration for many, and should be nurtured – within the framework of vision for the future though, supported by modern approaches that make it a liveable city.

Building momentum around such a vision requires partnership between the LNN, the State Government, other local service agencies, private sector and non-governmental organizations, and the wider community. During the preparation of the CDP some very initial steps in such direction were taken, but the challenge cannot be met in such a short space of time. Much more has to be done to institutionalize such a partnership. The CDP itself can make a small contribution if it is viewed as a living document – not merely as a map of infrastructure projects, but as a platform from which Lucknow can approach its future on the basis of a partnership between government and society towards what the CDP vision statement articulated as the aim of becoming 'one of the five most liveable cities in India'.

ANNEX: 1 TERMS OF REFERENCE AND SCOPE OF SERVICES

[Refer Clause 1 (i)]

This ToR describes the scope of the task to be undertaken and modalities to be adopted by the engaged consultant in preparation of the City Development Plan (CDP) for the city of Lucknow in support of the city's participation in the Jawaharlal Nehru National Urban Renewal Mission (JNNURM). The CDPs will be the first steps in developing a tri-partite Memorandum of Agreement as required by the JNNURM*[*], which will be a precursor to approval of any project-specific funding proposals.

1. Background

The JNNURM aims to provide an incentive to large urban areas to undertake institutional, structural and fiscal changes necessary for improved service delivery systems that are suitable, address poverty and enhance local economic performance. While the Mission requires several mandatory state and city-level reforms, and purposes a range of optional reforms, success depends ultimately on city and state government achieving the following outcomes:

- Modern, transparent budgeting, accounting, financial management systems designed and adopted for all urban services and governance functions;
- City-wide framework for planning and governance established and operational;
- All urban residents obtain access to a basic level of urban services;
- Financially self-sustaining agencies for urban governance and service delivery established, through reforms to major revenue instruments;
- Development of a well-functioning, efficient and equitable urban land market;
- Local services and governance conducted in a manner that is transparent and accountable to citizens;
- E-governance applications introduced in core functions of ULBs resulting in reduced cost and time of service delivery processes.

This approach to central funding of city restructuring is new and innovative, and will require significant institutional reform[2] at both state and urban local government levels. The City Development Plan (and associated rapid assessment) jointly provide the starting point for this process. It will be important, however, to ensure that the CDP does not duplicate unnecessarily and that the consultants consider – in close consultation with the Lucknow Municipal corporation all existing planning and strategic documents that may be relevant to the CDP.

2. Objectives of this Assignment

The City Development Plan provides the starting point for the reform by laying the basis for identifying core city challenges, indicate the readiness of cities and states to reform, and will suggest mechanisms through which the process with the implementation of urban reforms might

Modify in order to reflect the output required, as described in Annex C

[*] There will be one contract for the city assessment and CDP jointly, but proceeding with the latter will be subject to approval of the Assessment by the relevant authorities. It will also not preclude firms from later work in other cities under the JNNURM, or from being involved in training based on the initial work, but such contracting will remain the prerogative of the relevant authorities, and will be subject to normal procurement rules and requirements.

[2] For the purpose of this ToR, 'institutional reform' entails one of or a combination of various elements: policy and regulatory reform; changes to the relationships between different levels of government and between state and local government agencies and the broader public, as well as non-state project partners; organizational restructuring; and capacity building.

be monitories and evaluated. All these aspects will be vital in developing specific JNNURM funding proposals for submission to the MoUD.

3. Scope of Work

The consultants shall propose a methodology for the assignment that provides for:

- An inception report at the formal initiation of the project, following initial consultation with relevant city, state and central level authorities and other stakeholders, and with specific consideration of existing planning documents of the city of Lucknow;
- Desktop research using existing material on urban management and service delivery issues, with specific consideration of existing planning documents of the city of Lucknow and of the rapid assessment report completed in 2005;
- Identification of and extensive interaction with local partners at a strategic level, provided that these partners are not limited to a single agency;
- The finalization of the assessment report in regular consultation with the relevant government agencies at city, state and central levels;
- The development of a CDP in consultation with city and state stakeholders, and its finalization in consultation with relevant government agencies at city and state level to include the following:

    - City-specific outcomes that correspond to the JNNURM outcomes and outputs, but applied to the city (See indicative Illustrations 1 and 4, and Section 5 (C2));
    - A plan for strategic action, with a roadmap and prioritisation of programmes and projects;
    - A resource mobilization and application plan, cleared with the key financial decision makers at city level, and ready for use in the city budgeting process;
    - Clear timeframes and provisional outcome-based benchmarks for implementation of the strategy.

- To fulfil the consultation requirement in preparing the CDP, the consultant would be expected to develop at first and then work to a systematic plan for ensuring the participation of key stakeholders in the development of a CDP. At a minimum, the following aspects could be expected to form part of such a plan:
- Compliance with normal conditions for public disclosure – and it should be noted that new GoI legislation is intended to improve this in the near future;
- Appropriate consultative meetings and workshops at critical stages of the process to obtain assessment and broad direction of the CDP;
- Regular interaction with the management of the ULB and other relevant urban bodies throughout the planning process.

It is not anticipated that significant primary date collection will be required. The proposal should also clearly identify the anticipated involvement of officials in the assessment process.

4. Timeframes

It is anticipated tat the CDP preparation will take two months, with the bulk of time spent in the city.

5. Scope of Submissions in Response to this RFP

Proposals should comply with normal WSP requirements for offers for consulting services, and proposals submitted should include detailed information on:

- Cost data;
- The methodology for CDP preparation;
- The substantive focus on the CDP;
- The timeframes for the mobilization and deployment of the consulting team, and for the finalization of the CDP;
- To consortium e/ firm, including the team to be deployed (with abbreviated CVs of team members) and a discussion of their collective strengths, weaknesses, suitability and experience relative to the task. A list of references of appointments of a similar nature undertaken should also be provided. It should be noted that team members may not be changed without approval from the task manager;
- The full cost of the CDP preparation, including a breakdown of the cost per city, the hourly tariff inclusive for services rendered and, insofar as is possible, a comprehensive budget, showing the service activities proposed, with charge-out rates and budgeted hours per activity, detailing all assumptions made in arriving at a proposed budget, including all costs factors such as travelling and incidental expenditure.

6. Deliverables

There are four typical sets of deliverables, likely to vary according to the specific conditions in each city or town:

- Inception report outlining the approach to CDP preparation, of not more than 5 pages plus annexures. This should identify specific data requirements and outline the approach to ensure community consultation at various stages of the planning process;
- Two early draft reports and presentations at workshops to be held at dates to be determined by the task manager, followed by a final report to be presented at a workshop to be held at a date determined by the task manager;
- A comprehensive CDP of on less than 15,000 words, supported by the necessary benchmarking and other relevant guidelines, and containing an executive summary and annexures;
- Agree-upon instruments for public participation and consultation;
- Reports and drawings must also be submitted in Microsoft or compatible electronic format in two sets of CD and on DVD.

7. Reporting

The consultant will report to Mr. Anup Wadhawan, who will be the Task Manager for this assignment, in consultation with the nodal city official in Lucknow, indicated by city authorities.

ANNEX: 2 DETAILED CONSULTATIONS AND OUTCOMES

Consultation Activity and Date	Main Purpose of Consultation	Key Participants
Introductory Meeting 28 April 2006	To familiarise the participants with the various features of JNNURM and explain the purpose, approach and expected outcomes of CDP formulation and to firm up the CDP formulation process	Officials of concerned government departments and other agencies ***(number of participants: about 50)***
Workshop for Working Groups on Key Issues 15 May 2006	• To discuss the structure of the Inception Report, identify data sources, generate ownership of the CDP and elicit views of the stakeholders on key issues related to urban infrastructure development in Lucknow. • Working Groups constituted to discuss key issues in the following areas: - Institutional and governance - Infrastructure and services - Access of urban poor to basic services - Conservation and environment - Finance and resource mobilisation • To identify priority areas for infrastructure development	Officials of concerned government departments and other agencies, and representatives of select NGOs, RWAs, and civil society ***(number of participants: about 60)***
Individual consultations with government departments and agencies 31 May, 1 and 2 June	To discuss the functions, institutional structures and roles of the departments/agencies in the provision of infrastructure and services in Lucknow City as well as their strengths, weaknesses, opportunities and threats and collect information on their proposals to augment the infrastructure in the City	Officials Lucknow Nagar Nigam and other concerned government departments and para-statal agencies ***(Number of officers interviewed: about 35)***
Group consultations for issues concerned with Sub-Mission II of JNNURM 31 May	To identify issues related with providing basic services to the urban poor particularly in slums in the City, gaps in the service provisions	Representatives of NGOs working with poor communities and select RWAs as well as civil society leaders, and officials of SUDA and DUDA ***(Number of participants: about 55)***

Consultation Activity and Date	Main Purpose of Consultation	Key Participants
Group consultation on vision and rapid assessment with government and other stakeholders 13 June	• To present preliminary Rapid City Assessment of Lucknow and the SWOT analysis of the institutions concerned with the provision of infrastructure and services in the city. • To developing a Vision for the city and set up the goals under the Sectoral and Reforms agenda, and • To develop alternative strategies and programmes for bridging the gap between where the city is and where it wishes to go	Officials of Government of UP and all the stakeholder departments/agencies of Lucknow City, representatives of NGOs, RWAs, Industry, Chamber of Commerce, civil society, former Mayor, prominent citizens ***(Number of participants: about 70)***
Consultations with the Lucknow Nagar Nigam 14 June	To discuss the issues associated with implementation of the provisions of the Constitution 74th Amendment, revenue generation, and property tax assessment	Municipal Commissioner, Additional Commissioners and other officials of LNN ***(number of officials: 15)***
Group Consultation in a State Level inter-departmental meeting of Government of UP 21 June	To present the Rapid City Assessment, City Vision and sectoral vision and strategies along with all other consultancy organisations engaged for formulating CDP of 7 cities selected under JNNURM and elicit suggestions from the participants about Sectoral Programmes	Senior most officers of all the departments of Government of UP ***(Number of participants: about 40)***
Group consultation with Business leaders on their vision of the City and strategies to achieve the vision 21 June	The meeting organised at the initiative of Lucknow Management Association was focused on developing Vision 2020 for Lucknow City	Senior officials of Government of UP, business leaders and eminent citizens ***(Number of participants: about 45)***
Group Consultation with elected representatives, media, private builders 22 June	To present the progress of the CDP formulation and elicit views of the participants on priority sectors and strategies for developing sustainable projects	Three Members of the Legislative Assembly of UP representing Lucknow, prominent builders, representatives of select NGOs and media ***(Number of participants: about 70)***
Eight Group Consultations with Slum Dwellers and residents of Urban Villages	To obtain views of the urban poor about their vision about Lucknow, their access to basic services, housing requirements, tenure rights, considerations in relocation, user charges and their participation in O&M, and the community participation and	Slum dwellers, women's groups, and representatives of specific groups of workers (such as rickshaw pullers, construction workers, domestic servants, rag-

Consultation Activity and Date	Main Purpose of Consultation	Key Participants
21 - 23 June	public disclosure laws	pickers, street vendors) from slums/urban villages selected with the help of NGOs working with urban poor communities ***(Number of participants in 8 group consultations: About 320)***

ANNEX: 3 LIST OF STAKEHOLDERS

Lucknow Jal Sansthan
U.P. State Road Transport Corporation
Lucknow Corporation Transport service
Public Works Department
Regional Centre for Urban and Environmental Study
Lucknow Development Authority
Gomti Pollution Control Board
Water and Sanitation Programme
State Urban Development Authority
Town and County Planning Office
Bridge Corporation
Irrigation Department
Housing Board
North Eastern Railway
Directorate of Environment U.P.Government
Media (Times of India, Punjab Kesari etc.)
District Urban Development Authority
Niral Nagar Welfare Association
Long Residential Welfare Association
Shrinagar Nagar C-operative Society
Pichhra Aviam Seva Samiti
Muskan Joyti
EXNORA
Sadbhawana Housing Society
SEWA
SPARC
Centre for Environment and Health
Uttar Pradesh Voluntary Health Association (UPVHA)

ANNEX: 4 DETAILED STAKEHOLDERS CONSULTANTIONS

The key points emerging from the Working Group discussions at the First Consultative Workshop are summarized in the tables below. Working Groups were constituted to discuss the following areas:

- Governance and institutional development
- Infrastructure and services
- Conservation
- Finance and resource mobilisation

1. Governance and Institutional Development

Constitution 74th Amendment and other reforms	Organizational structure	Service provider arrangements
- The Amendment should be fully and truly implemented; - Functions devolved to elected municipal body should include water supply, sanitation, cleanliness, pollution, power, health, education and transport; - The act governing the working of local authorities should be consolidated into one act with separate sections for different services - Legislative powers for implementing different provisions of the act should be with the local representative with executive powers being vested in the executive body	- The elected representative and nominated representative to that body should be accountable for administration and monitoring, resources of the local bodies should be at the disposal of authorities responsible for execution of functions relating to local government; - The roles, responsibilities and accountability of each and every executive head must be clearly defined and interference with the local representative must be minimised.	-There should be a manual defining the functions of each executive and subordinate staff in different sections; - All the elected and nominated members should be responsible for the collection of dues for local governance -The following areas require coordination across departments for effective solutions: encroachments, pollution, cleanliness, street lighting, building regulations, transportation

2. Infrastructure and Services

Water Supply & Sewerage	Solid Waste Management	Traffic & Transport	Urban Poor	Sustainable Development
- Present Supply and demand is 470 mld/day with population of 28 lakhs - Future demand would be 792 mld/day by 2021. - Low lpcd due to: inequity in distribution, malfunctioning of	- Proposal for decentralized system for 0% garbage - Make small clusters of 15000 to 20000 houses catering to a population of 1 to 1.25 lakhs for handling garbage disposal	- Involvement of private sector - Presently 104 buses are running. - It is planned to increase to 500 by 2015	- Provide service to poor: lighting, water supply & solid waste management - Rehabilitation should not be far from the working place - There should not be multi-storied buildings - There should be	- Development should focus on maintenance - Rationalisation of tariff

Water Supply & Sewerage	Solid Waste Management	Traffic & Transport	Urban Poor	Sustainable Development
regulatory values,old pipelines and encroachments - Non revenue water 40 – 45% Leakage – 30% UFW – 15% - 30% coverage of sewerage - Sewerage generation present 32 mld/day, in 2021 – 720-mld/ day.	- On the basis of above, 30 such centres will be required for the city - One such centre needs 700 sq.m. for collection and disposal		arrangement of cheaper night shelters houses for the poor - No sewerage and disposal point in housing area.	

3. Finances and Resource Mobilization

Existing Sources of Finance	Financial Constraints	Improving Financial Management	Private sector involvement
- House tax - Advertisement fee and Taxes - Licences fee - Registration fee (under different by laws) - Stamp Duty - Sale of land - Parking Charges - Allotment charges - Show Tax - Water charges - Sewer charges	Political interference Resistance to adopting new policies Lack of interest among staff	**Data improvement** through systematic survey of properties and upgrading of records, such as 100% registration of all hospitals and nursing homes **Finance** enhancements though increase the availability of funds, increasing rates and tariff and revision of tariff at regular intervals, increase of PFA and Nagar Nigam By Laws and licence fees, and beneficiaries coming forward to finance new projects **Governance** improvements through: Regular meetings with local people; State level regulatory authority should be constituted for revision of tariff and roles Institutional reforms: training of staff, unplanned area should be demolished on identified norms; strict execution of rules; finance based area development (so that people from area develop their interest); Public - Private partnership; recommendations of the State Finance Commission strictly followed and efficiency time frame and responsive administration ensured	Regarding maintenance of parks Development of private colonies Operation of tube wells be vested with the local committee Collection of revenue from beneficiaries with a portion being passed on to them for investment Common facilities for solid waste management Place must be designated for vendors The master plan must be discussed before finalisation The execution of rules and laws should be simplified

4. Conservation and Environment

Heritage and its conservation	Environment impact of lack of services to poor	Improving the environment
- Lucknow is a city of rich heritage, historical monuments and gardens - The area around Heritage buildings should be controlled for development as per the norms laid down by ASI - Government of India. These norms should be strictly followed - Encroachment should not be allowed around historical monuments - Gomti River has been boon for Lucknow for centuries and its sanctity must be maintained	- Basic amenities and services in areas inhabited by the poor are highly inadequate which leads to illegal connection of electricity, open drain and illegal tapping of waterlines - These pockets become breeding grounds of pollution and causing health hazard to urban environment. - Therefore, urban poor colonies should be well planned - There should be proper provision of basic amenities and strict control of encroachment and illegal construction	- This should not be any kind of waste dumping in ponds and lakes - Disposal of waste should be taken care of properly - Segregation of waste be made mandatory - Use of poly packs should be restricted to improve the environment - Development of green belts around the housing colonies and maintenance of existing parks in colonies should be mandatory

The Workshop also initiated the Visioning process. All participants were asked to identify three things they liked about their city, three things they disliked and three things that they wished to change as decision makers and influencers. While the majority of respondents liked and wanted to preserve the culture and attitude of the city, they disliked the pockets of inequity in terms of availability of services and development, the inadequacy of sewerage and drainage and the rising pollution levels of the River Gomti. The absence of systematic solid waste management, rising encroachments and lack of effective public transport were other areas for concern. In terms of areas for intervention, the majority of participants identified the need for better water supply, public transport, improved solid waste management and removal of encroachment.

ANNEX: 5 YIELD OF TUBE WELLS

Sl. No.	Location of TW	Lowering Depth (M)	Depression	Year	SWL(M)	Original Discharge LPM	Measured Discharge 2004
1	Adarsh Nagar	140.84	8.53	1972	8.53	1590	450
2	Adarsh NaQar	313.77	6.5	2002	31	1200	1000
3	Aliganj sector-G	94.78	8.8	1987	7.6	1000	400
4	Aliganj sector-G,IIR '	103.53	6.2	1987	7.3	1000	800
5	AliQanj sector-I REBORE	111.73	4.7	1998	20.1	1000	800
6	Aligani sector-M	109.76	5.49	1996	19.51	1000	600
7	Aliganj sector-N2	141.81	4.26	1997	13.71	1300	600
8	Aliganj TW NO -8 LOA	114.4	7.31	1984	10.06	122p	800
9	AliQani sector-K	111.33	4.27	1997	15.54	1000	600
10	Aliganj sector-Q	111.00	5.48	1997	13.71	1000	800
11	Aminabad	103.29	6.5	1973	7.31	1150	300
12	Aminabad Inter College	136.38	5.0	1997	21.34	1000	500
13	Aminabad Hanuman Mandir	343.19	6.4	2002	28.96	1200	1200
14	Anand Nagar	102.85	2.7	1986	' 16.2	500	300
15	Anand Nagar	.306.00	7.92	1998	24.4	2000	1000
16	Ashok MarQ	109.88	3.5	1974.	4.78	1358	500
17	Ashok Marg	110.30	4.2	1974	4.78	1450	1200
18	Arya nagar	83.01	4.0	1982	11.58	700	
19	Arya nagar	82.50	6.09	1982	11.58	700	
20	Arya naQar	146.25	5.48	2000	26.82	1200	
21	Azad NagarTW-1l	115.95	10.67	1985	10.67	1200	800
22	Azad NaQar REBORE	147.57	4.57	2000	26.82	1500	1000
23	Azad Nagar DEEP TW	316.90	4.5	2003	4.5	1500	800
24	Balrampur Hospital	129.81	3.65	1983	3.65	700	
25	Balrampur Hospital	120.48	4.26	1989	4.26	700	
26	Balrampur Hospital	141.50	7.00	2002	7.00	1000	
27	Butlar Palace	129.85	9.50	1978	9.5	1600	
28	Butlar Palace	337.43	6.4	1999	19.2	2000	
29	Butlar Palace	131.97	5.8	2000	15.6	1562	
30	Butlar Palace	319.70	7.98	2002	25.91	1200	
31	Chandar Nagar TW no -4	311.08	11.8	1999	28.5	1600	1200

Sl. No.	Location of TW	Lowering Depth (M)	Depression	Year	SWL(M)	Original Discharge LPM	Measured Discharge 2004
32	Chandar Nagar TW no -5	331.48	7.9	1999	25.65	2000	1000.
33	Chandar Nagar TW no -1 RE	325.93	5.18	2000	29.00	2000	1200
34	Chandar Nagar TW no -6 RE	329.92	4.4	2001	31.3	1600	1000
35	DaliQani	82.40	11.58	1978	6.09	1152	
36	Daliganj TW no -3 Nai Basti	129.21	6.00	1985	6.7	1200	
37	Daliganj Ward-1	119.08	4.87	1984	4.87	1000	
38	DaliQani MalQodam	161.59	4.5	1997	16.00	1000	
39	Darulshafa TW NO -2	120.49	17.37	1995	21.95	1000	
40	Darulshafa TW NO -3	334.19	8.54	2000	29.88	1135	
41	Diamond Dairy	101.64		1979	7.01	1832	1200
42	Diamond Dairy	128.68	7.01	1996	22.86	800	
43	Diamond Dairy REBORE	292.76	4.8	2003	33.23	1154	
44	GaneshQani	102.22	1.98	1989	16.00	900	
45	Ganeshganj	105.47	5.48	1992	22.8e	700	
46	GolaQani	12Q.33	7.01	1979	9.75	2427	
47	Golaganj	103.09	8.45	1992	17.98	1MO	
48	GolaQani	122.63	6.1	1998	19.2	1345	
49	HAL TW NO -3	128.08	2.1	1978	3.5	2100	
50	HAL TW NO -4	123.32	3.04	1984	10.67	1000	
51	HAL TW NO -8	131.86	4.87	1995	19.51	1000	
52	HAL TW NO -4	320.66	5.49	2003	22.86	1793	
53	Hornor school	118.48	5.9	1997	16.76	700	490
54	Indira NaQar TW NO 15	94.01	4.0	1995	20.15	1000	
55	Indira Nagar TW NO 11	125.64	5.5	1997	18.9	1000	
56	Indira NaQar TW NO 44	137.50	4.57	2001	16.16	1500	1000
57	Industrial State, Rajajipuram	118.55	3.35	1996	21.95	1000	300
58	Khadra no -1	109.78	10.97	1978	5.67	2125	
59	Khadra no -2	*109A2*	4.87	1994	18.29	1000	
60	KhurramNaQar	319.74	5.1	1999	18.2	2000	
61	Khursheed Park	87.10	8.5	1975	11.89	850	500
62	Lal Bagh	87.22	5.48	1963	6.7	1355	500
63	LalBaQh	114.95	5.18	1987	14.63	1084	
64	Loreto cnvent	110.06	8.54	1978	8.54	2290	900
65	Loreto cnvent REBORE	136.34	4.27	2000	.28.65	1345	

Sl. No.	Location of TW	Lowering Depth (M)	Depression	Year	SWL(M)	Original Discharge LPM	Measured Discharge 2004
66	Lumbeshwar Mandir	131.15	10.06	1997	6.09	1832	
67	Lumbeshwar Park	132.01	4.87	1994	4.87	1000.	600
68	Mehndi Khera	101.55	4.0	1984	10.97	1500	600
69	Model House	132.34	6.7	1978	10.06	1600	1100
70	Modern Vocational College Modern Vocational Sar(1ar	105.15	5.79	1985	10.36	1900	700
71	Vihar Alambagh	146.95	4.9	2000	25.91	1400	8PO
72	Nazar Bagh Lucknow i	151.82	7.62	1972	9.14	1600	500
73	Nazar Bagh Lucknow	312.51	6.46	2002	*30A8*	1550	
74	Rajajipuram B-Block TW-16	102.84	5.48	1990	12.65	800	600
75	Raiaiipuram F-Block TW-9	140.70	4.81	1998	18.9	1300	900
76	Rajajipuram E-Block TW-4.	148.48	3.96	2000	22.25	1350	900
77	RaiaiipuramSector-F	152.05	5.00	2001	23.78	1800	700
78	Raiaiipuram TW-1	116.59	5.7	1'987	12.2	1200	600
79	Raiaiipuram TW-15	148.11	4.57	2001	23.47	1000	900
80	Raiaiipuram TW-2	120.05	3.1	1987	10.9	1000	800
81	Rajajipuram TW-8	138.12	4.73	2000	25.6	1563	900
82	Rajajipuram TW-14	1 31.46	3.96	1996	22.06	1000	400

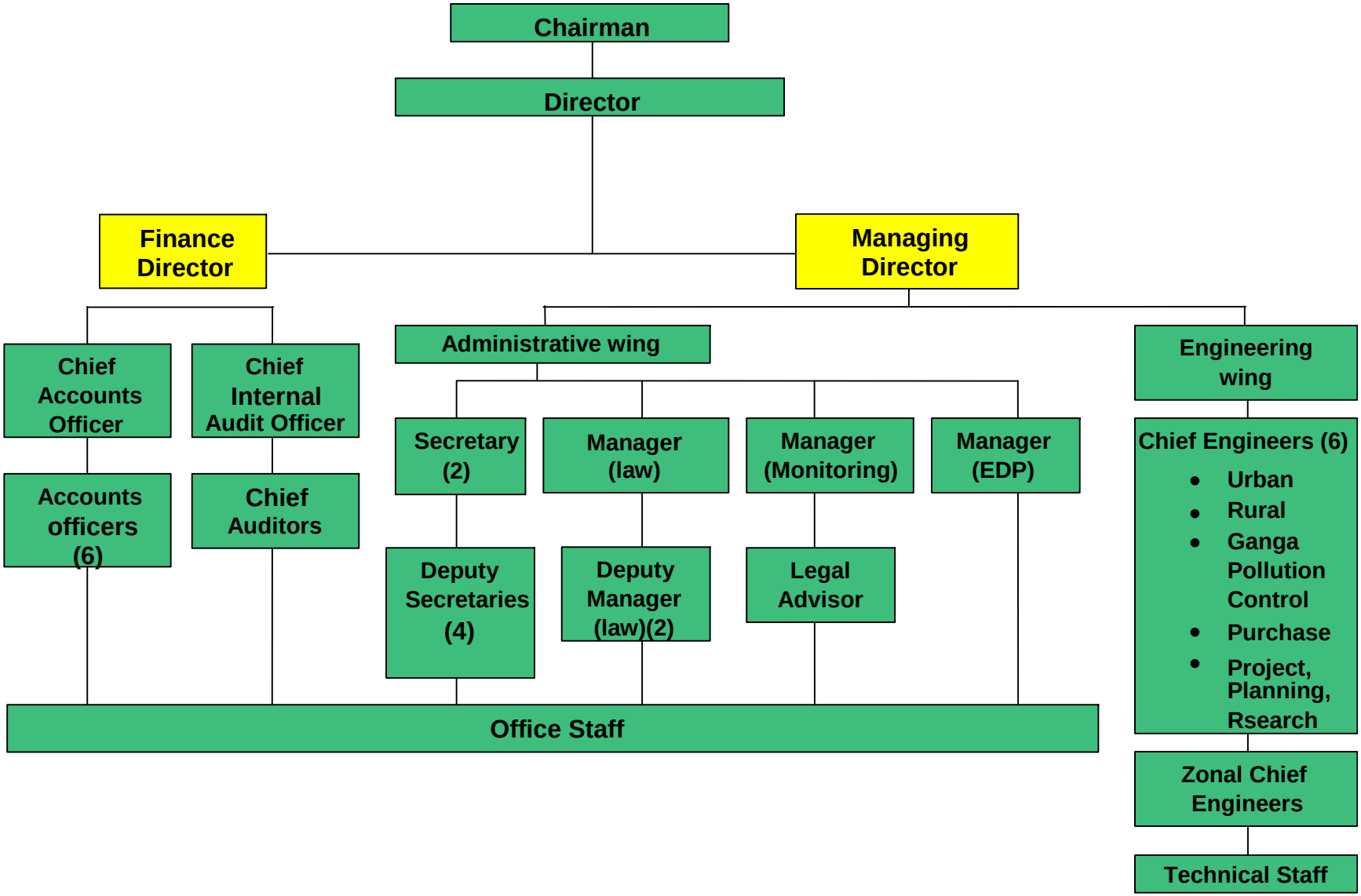
ANNEX: 6 INSTITUTIONAL ARRANGEMENTS

6.1 Functions of Lucknow Nagar Nigam

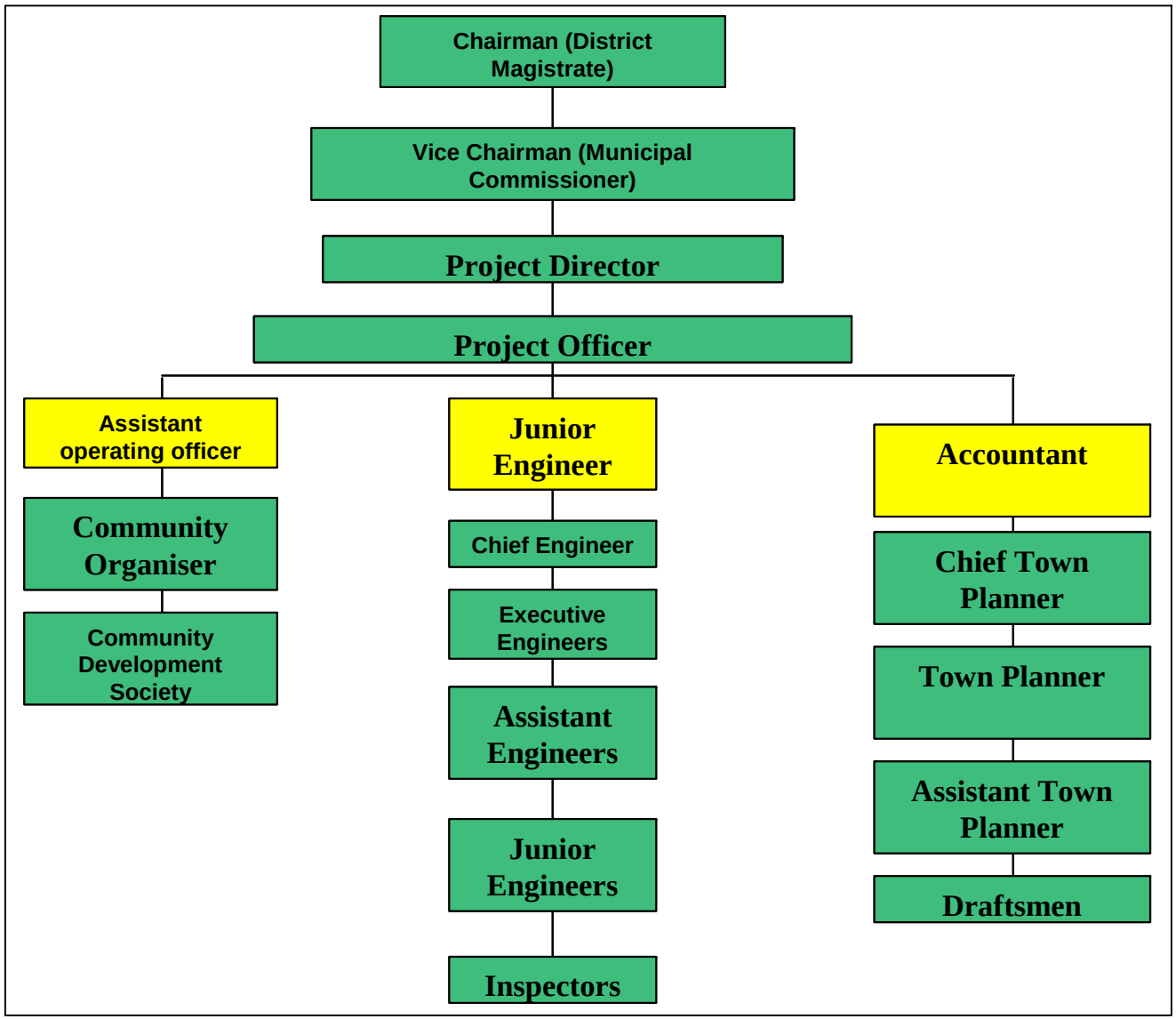
Department	Activities
Public Health Department	Cleaning of Roads and Sewerage lines
	Maintenance of public toilets
	Cremation of dead animals
	Registration and issue of death- birth certificate
	Public health and related works
	Restriction on sells of unhygienic food and water
	Identification and management of crematorium
	Restriction of activities harming public health
	Issue of license
	Management for prevention of the epidemic.
Street lighting	Repairing of lighting points
	Set –up of new lighting points
	Establishment of new street lighting
	Set-up new poles and connections
	Establishment and repairing of traffic signals
	Arrangement of light on public places and festival
Solid Waste Management Department	Removal of solid wastes
	Management and disposal of solid waste
	Cleanness of Storage and collection points
	Other related work with solid waste
Taxes and fees	Tax decision and collection
	Removal of encroachment
	Information about taxes and fees
	Tax collection from rickshaws and horse carts
	To change name
	Under ground shopping complex and parking
	Transfer of property
Roads	Construction and repair of road and street
	Patches repairing
	Construction and repair of park
	Supervision of roads

Department	Activities
	Other types of construction, repair and supervision
	Permission of road cutting
Animal Health Department	Cattle Catching
	Dog catching
	Cremation of dead cows and buffalos
	Related to slaughterhouse
	Complain related to fish and meat
	Related to milking animal
	Medical facility to animals
	To issue the license for pet dogs
Adverting Department	Regulation and tax collection on poster& banners and other advertisement
	Tax collection on different advertisement in newspapers
	Tax collection from cinema halls
	Regulation for use of sound making instrument for advertising
Property Department	Accounting of land and property of Municipal Corporation
	Accounting of non-profit making property
	Property evaluation
	Detail of encroached property
	NOC certificate
Rent Department	Collection of rent
	Action on complains of renter
	Action for deposition of rent on time
Park Department	Maintenances of parks
	Protections of green tree on public places
	Removals of dangerous and dry tree
Water Supply and Sewerage	Water supply for commercial and industrial activities and domestic parks
	Water tax collection
	Water supply through public stand post
	Operation and maintenance of water supply department

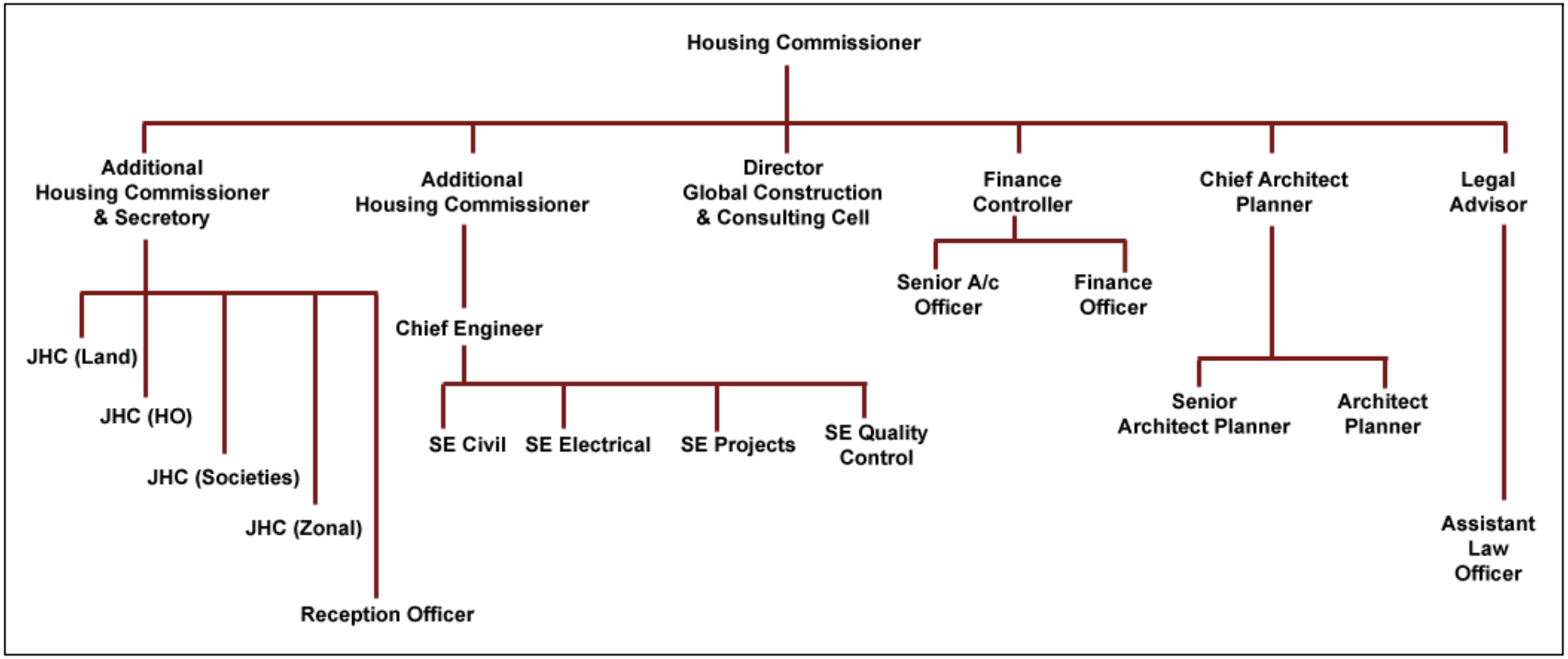
6.2 Organogram of UP Jal Nigam

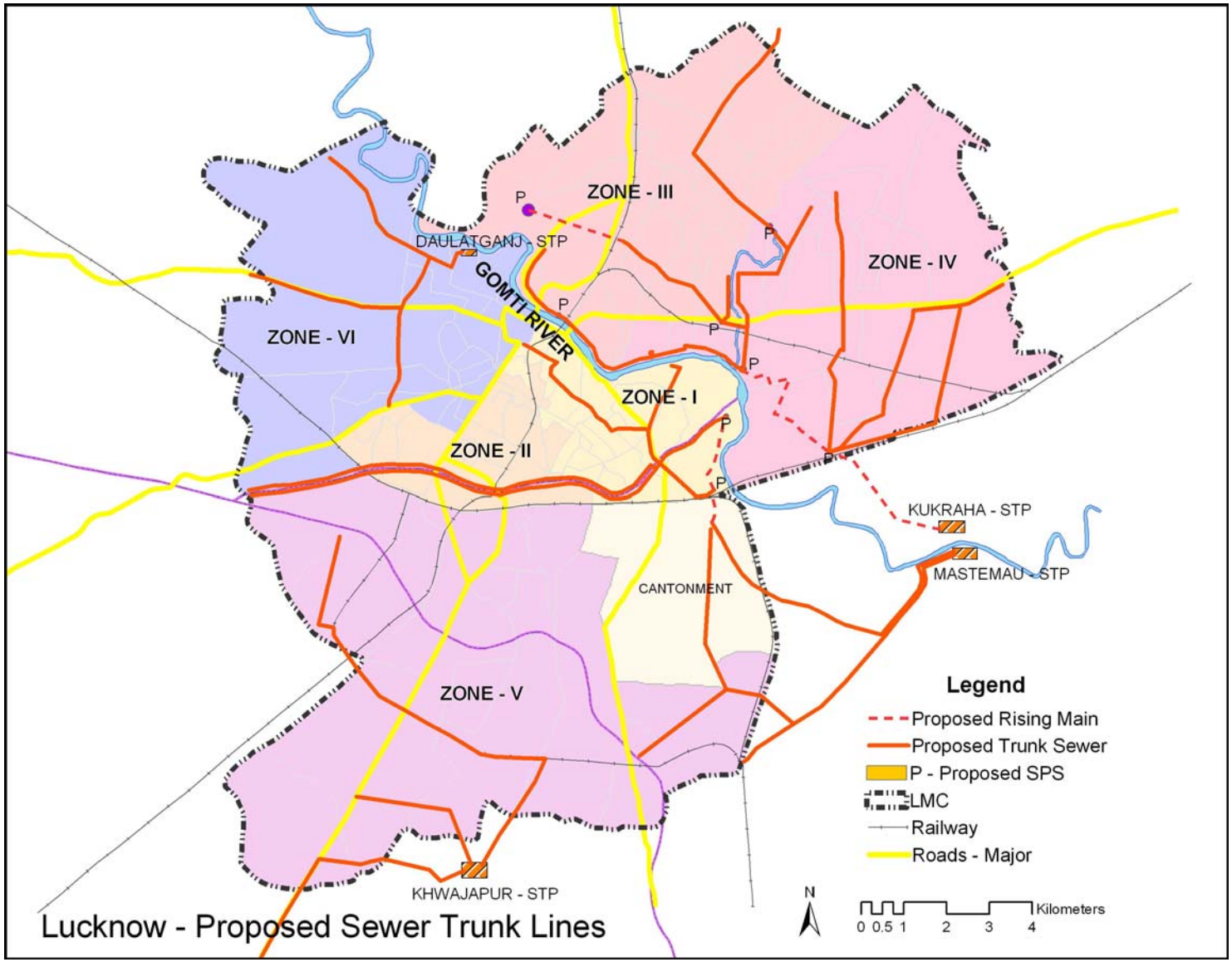


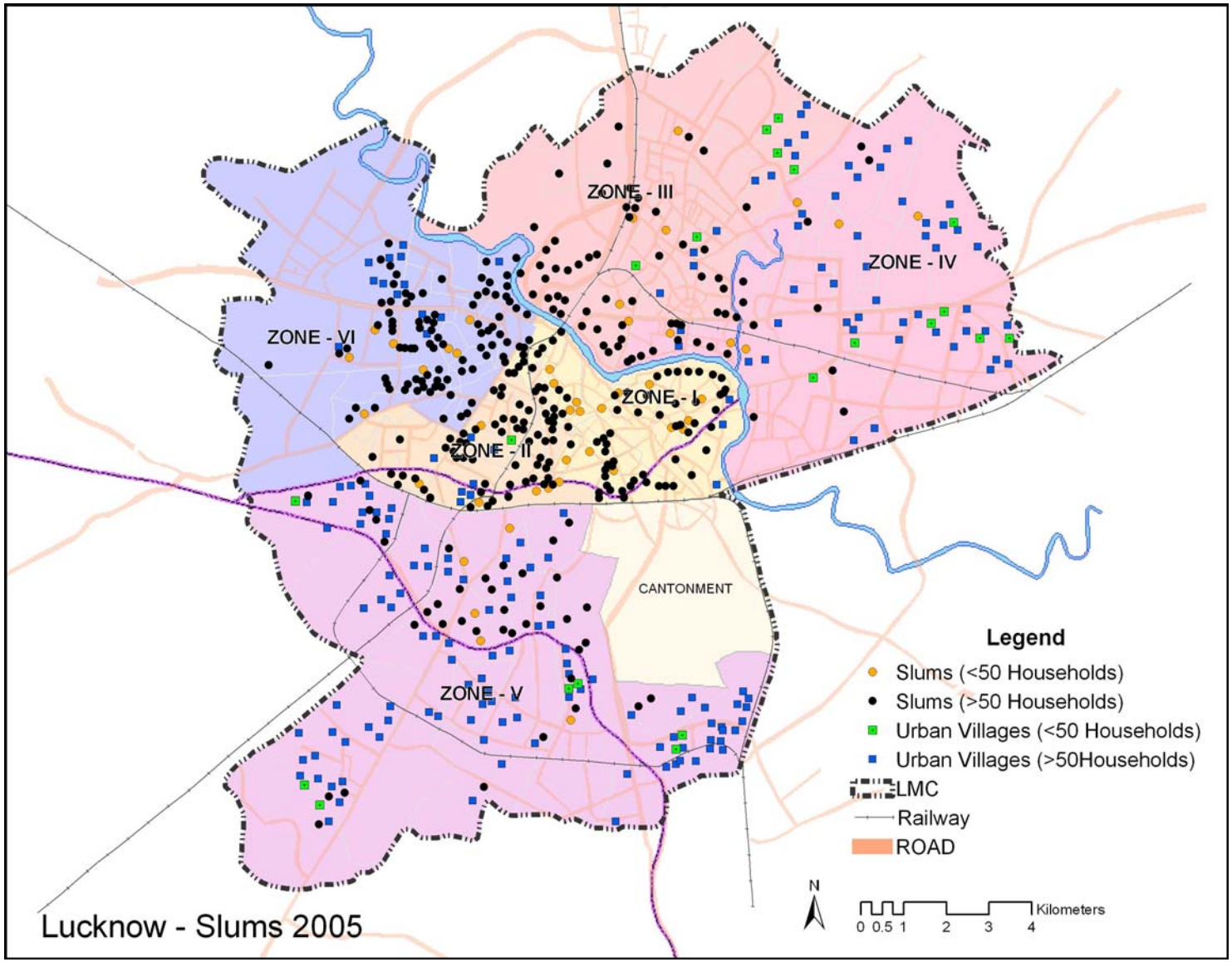
6.3 Organogram of Lucknow Development Authority

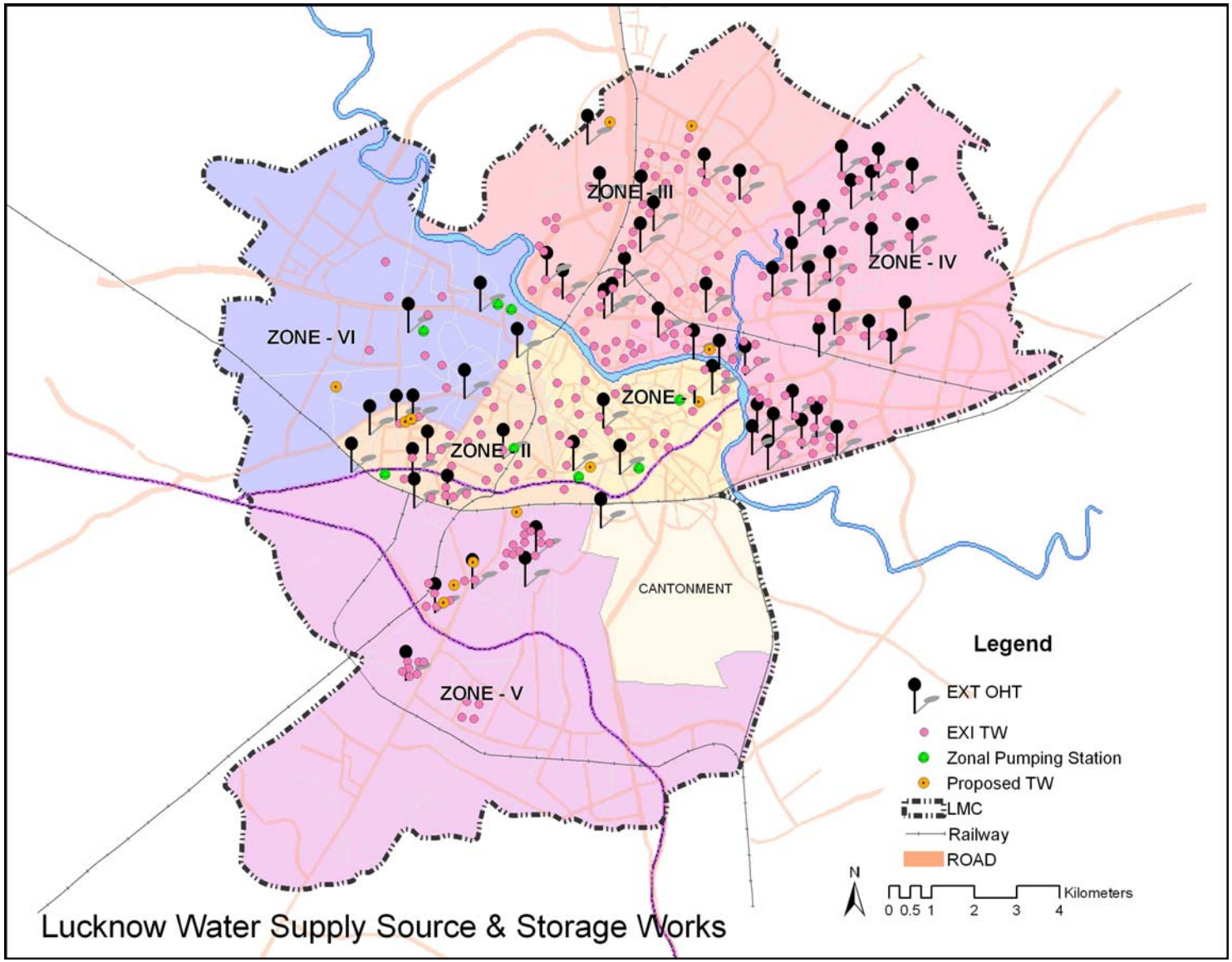


6.4 Organogram of UP AVP




ZONE - III
ZONE - IV
ZONE - VI
ZONE - I
ZONE - II
ZONE - V
CANTONMENT
GOMTI RIVER
DAULATGANJ - STP
KUKRAHA - STP
MASTEMAU - STP
KHWAJAPUR - STP
P
Legend
Proposed Rising Main
Proposed Trunk Sewer
P - Proposed SPS
LMC
Railway
Roads - Major
N
0 0.5 1 2 3 4
Kilometers
Lucknow - Proposed Sewer Trunk Lines


ZONE - III
ZONE - IV
ZONE - VI
ZONE - I
ZONE - II
CANTONMENT
ZONE - V
Legend
Slums (<50 Households)
Slums (>50 Households)
Urban Villages (<50 Households)
Urban Villages (>50Households)
LMC
Railway
ROAD
N
0 0.5 1 2 3 4
Kilometers
Lucknow - Slums 2005


ZONE - III
ZONE - IV
ZONE - VI
ZONE - I
ZONE - II
CANTONMENT
ZONE - V
Legend
EXT OHT
EXI TW
Zonal Pumping Station
Proposed TW
LMC
Railway
ROAD
N
0 0.5 1 2 3 4
Kilometers
Lucknow Water Supply Source & Storage Works