Chapter IV	POSITION PAPER – URBAN INFRASTRUCTURE

- This position paper aims to capture the existing scenario of Urban Infrastructure (UI) in the state of Chhattisgarh and focusses on the top six urban centres in the state – Bhilai, Bilaspur, Durg, Korba, Raipur and Rajnandgaon
- The per capita water availability in all cities except Bilaspur is well below the national average of 140 Litres Per Capita Per Day (LPCD). The actual availability is likely to be far lower due to distribution and transmission losses. In case of Raipur, the distribution network is almost 50 years old and is in urgent need for repair
- Most of the cities are not serviced by an underground sewerage system and only consist of individual septic tanks. In Bilaspur, an underground sewerage line was constructed almost 20 years ago but is not being used as it is not connected to houses
- While all the ULBs need to be commended for making significant improvements in enhancing revenues from property tax, their performance with respect to other revenue sources needs to improve
- There is scope for increasing the involvement of private sector in delivery of municipal services. Raipur has taken the initiative to privatise the process of composting solid waste and also organising primary garbage collection in some localities through the private sector. Rajnandgaon has involved the private sector in street sweeping and intends to extend the contract for one more year. In Durg, maintenance of some public parks and crossings has been taken up by corporates
- A time bound road map for municipal reform has been suggested to improve quality of civic services provided by them. The road map also suggests measures for strengthening the financial status and management capabilities of ULBs. Further, some models for large-scale urban development have been suggested in light of the proposal for development of a capital city township

Section 1: Introduction

Objective of the Position Paper

This position paper aims to capture the existing scenario of Urban Infrastructure (UI) in the state of Chhattisgarh. The study primarily focusses on the top six urban centres[1] in the state – Bhilai, Bilaspur, Durg, Korba, Raipur and Rajnandgaon. The study has been carried out through an analysis of the Municipal Corporations (MCs) in these cities.

The objectives of this position paper are to:

- Review the institutional framework for UI in the state
- Review the current scenario in the six cities in terms of:
  - Urban services like water supply, sewerage and sanitation, solid waste management, etc.
  - Revenue sources
  - Initiatives taken for improving efficiency of operations and Private Sector Participation (PSP) in urban services
- Identify areas of improvement for delivery of urban services and enhancing revenues sources
- Identify investment requirements for maintenance of infrastructure assets and provision of urban services
- Highlight the way forward for urban development and for improving the delivery of urban services in the state

[1] The study has only been restricted to the six urban centres (Municipal Corporations) only as data with respect to Nagar Palikas in the cities of Raigarh, Ambikapur, Jagdalpur, Bhatapara, Dhamtari, Old Bhilai and Chirmiri was not available

Structure and Coverage

This sector paper is structured into four sections. The first section presents the objectives of the position paper and also presents its structure and coverage.

The second section identifes the scope of UI and presents the various institutional frameworks prevelant in India. This section also presents the insitutional framework for UI in the State and highlights the role of Urban Local Bodies (ULBs) in the provision of UI services.

The third section presents an analysis of the six MCs in the state in terms of the services that they provide and the revenues that they generate. It presents recommendations for enhancing revenues from taxes and user charges. This section also presents a comparative assessment of the MCs . Finally, it identifies the investment requirements for maintenance of urban infrastructure assets and provision of urban services as per standard acceptable norms[2] in the six MCs.

The final section presents the way forward in form of a “Road Map” for improving the operations and financial position of ULBs in the state. It identifies the key activities that need to be undertaken for operationalising the Road Map. It also highlights the need for Private Sector Participation (PSP) in the delivery of urban services. Finally, it enlists and describes some innovative instruments that can be used by ULBs to generate additional resources and some innovative models followed by other states for undertaking large scale urban development.

[2] Norms used are those of the Zakaria Committee, as modified by National Institute of Urban Affairs (NIUA)

Section 2: Urban Infrastructure – Context and Institutional Framework

Introduction

Urbanisation has been a critical phenomenon in the Indian context, especially in the last two decades. With the liberalisation of the economy, urban areas have become the engines of economic growth. It is estimated that urban centres contribute about 60% of India's GDP while accounting for only 30% of the total population. This translates to an urban-rural productivity ratio of 7:2.

Over the last fifty years, the urban population in India has grown almost five times while the total population has grown by about two and half times. Such an enormous growth in urban population has put a tremendous strain on Urban Infrastructure (UI) services resulting in a deterioration of the physical environment and the quality of life. It is estimated that over 20% of urban population live in squatter settlements, where access to basic services is extremely poor.

Despite the prominent role of urban areas in economic development, most of the cities face serious infrastructure problems due to population pressure. Table IV.I shows the percentage of urban population having access to various urban services.

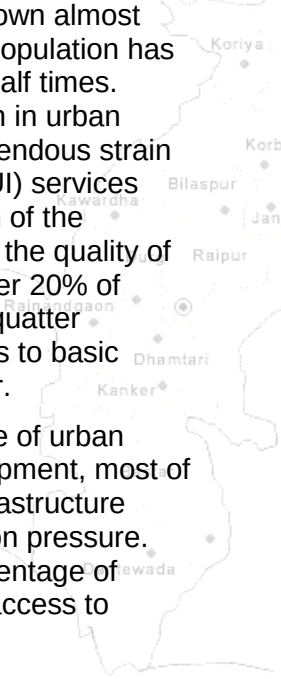


Table IV.1

Service Coverage

Service	Urban Population Coverage
Protected water supply	90%
Sanitation	49%
Sewerage system	*28%*
Low cost sanitation facility	*21%*
Solid waste collection - metros	90%
Solid waste collection - smaller towns	Less than 50%

Source: Economic Survey, 2000-01

Definition and Coverage

While there is no one common definition of urban infrastructure, it is generally accepted to include urban water supply and sanitation, solid waste management, street lighting, fire fighting, urban roads, bridges, housing, airports, commercial complexes, etc.

In terms of services, Urban Infrastructure services could be broadly divided into public and private goods.

- ***Public Goods:*** Services like street lighting, fire fighting, garbage clearance, street sweeping, etc. are used jointly and collectively and cannot be apportioned to individuals according to their consumption. This complicates the pricing of these services and therefore these are mostly funded through general tax receipts
- ***Private Goods:*** Services like water supply, sewerage and sanitation could be apportioned to individuals and therefore the cost of service provision is normally recovered through levy of user charges

The focus of this paper is on key urban services, viz., water supply and sanitation, sewerage, solid waste management and urban roads.

Institutional Framework

There are multiple agencies involved in the development and maintenance of urban infrastructure services in India. The institutional framework differs from one state to another and also among urban areas within one state. The institutional framework could also differ depending upon the type of utility service being provided.

Development of infrastructure services like water supply schemes, drainage

facilities, housing colonies, etc. has been the domain of agencies like water supply and sewerage boards, urban development authorities, public works department, public engineering department and housing boards.

Provision of urban services and maintenance of public assets has normally been the responsibility of Urban Local Bodies (ULBs) consisting of Municipal Corporations, Municipalities and Nagar Panchayats. The 74th Constitutional Amendment significantly enhanced the role of ULBs by including functions such as town planning and overall urban development, regulation of land use, urban poverty alleviation, etc.

Table IV.2 shows the various institutional structures that are prevalent for water supply in urban areas in the country. Table IV.3 maps the institutional framework for urban services in Chhattisgarh

Urban Development Authorities (UDAs) are present in Raipur and Bilaspur and are responsible for large-scale urban development. In other cities, MCs, Municipalities and Nagar Panchayats are responsible for these activities within their municipal limits. In undivided Madhya Pradesh MPHB was responsible for development of housing colonies. However, it is understood that in Chhattisgarh, a State Housing Board would not be created and ULBs would look after this activity. As regards water supply schemes, earlier, PHED was responsible for development of water supply schemes but currently this function has been transferred to municipal corporations. However, Public Health Engineering Department (PHED) continues to play a limited role in assisting ULBs in the designing of some of the technical aspects related to water supply schemes. District Urban Development Agency (DUDA) has been set up in districts for improvement of urban poor. DUDA is responsible for implementing various schemes for upliftment

Table IV.2

Options for Institutional Structures in Water Supply

	Activities				
Options	**Source Development**	**Conveyance**	**Storage & Filteration**	**Distribution network**	**O&M**
1	Municipal Government (ULBs)				
2	State Government Department		Municipal Government (ULBs)		
3	State Government Department	Parastatal Agency	Municipal Government (ULBs)		
4	Metropolitan Agency				
5	State Government Department or Agency				

Source: National Institute of Urban Affairs (NIUA) Research Study

Table IV.3

Institutional Framework in Chhattisgarh

	Services								
Institutions	**Development of Master Plan**	**Urban Development**	**Water Supply**		**Sanitation**	**City Roads**	**Solid Waste Management**	**Housing**	**Slum Improvement**
			Development	**O&M**					
Town & Country Planning Organisation (TCPO)	✓								
ULBs -Municipal Corporations, Municipalities and Nagar Panchayats		✓	✓	✓	✓	✓	✓		✓
Urban Development Authorities (UDA)		✓							
Public Health & Engineering Department (PHED)			✓						
District Urban Development Agency (DUDA)									✓
State Urban Development Agency (SUDA)									✓
Madhya Pradesh Housing Board (MPHB)								✓	

Source: PwC Analysis

of urban poor. It takes up employment generation activities through ULBs and also facilitates access to credit facilities through financial institutions. State Urban Development Agency (SUDA) is responsible for co-ordinating activities of all DUDAs in the state.

As can be seen from Table IV.3, ULBs are responsible for providing most of the UI services in cities in Chhattisgarh.

The ULBs are envisaged to be the nodal entities for urban planning apart from being responsible for provision and maintenance of infrastructure services. Therefore, it is important to analyse the ULBs in Chhattisgarh in order to comment upon the quality of UI services in the state.

Urban Centres

Figure IV.1 is a pictorial representation of the major urban centres in the State of Chhattisgarh. As can be seen most of the large towns and cities are in Central Chhattisgarh.

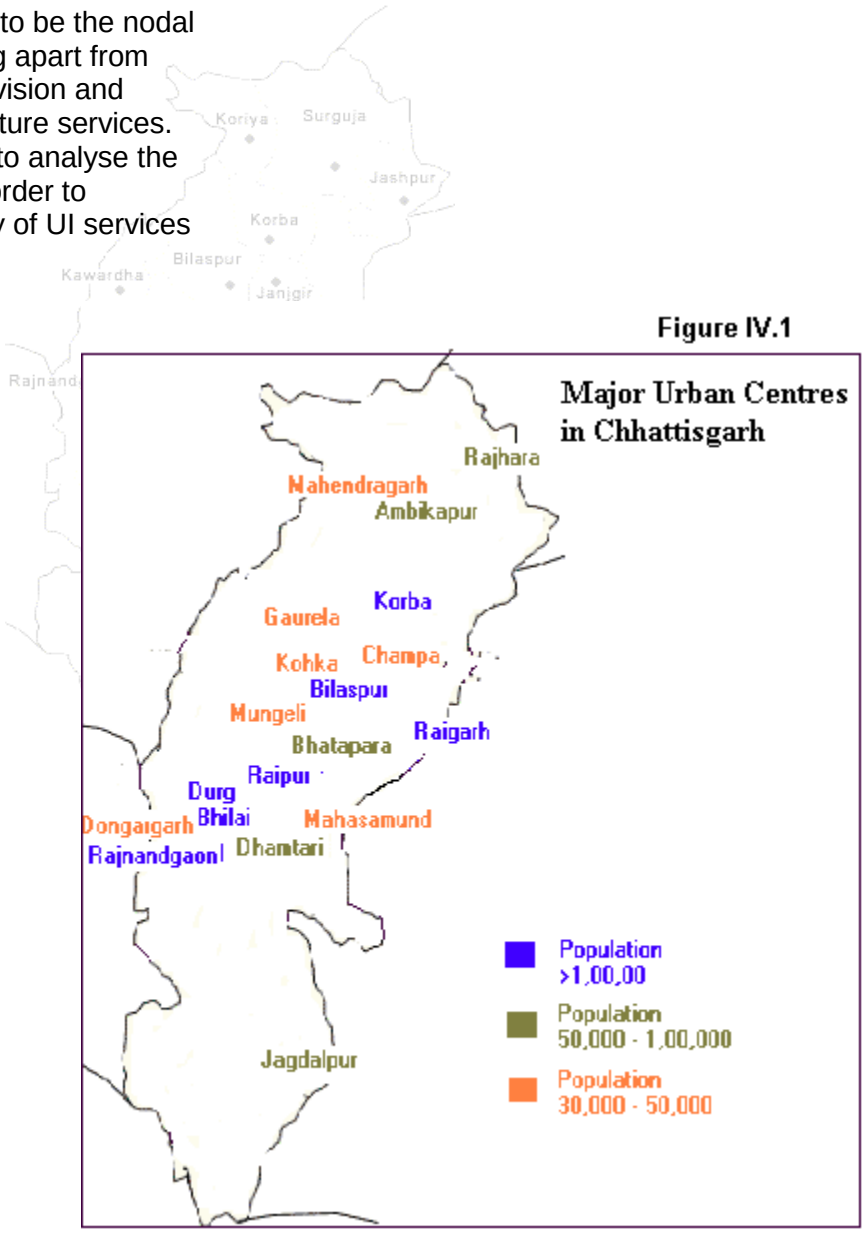


Figure IV.1

Section 3: Urban Local Bodies in Chhattisgarh

ULBs in Chhattisgarh – An Overview

Chhattisgarh has 6 municipal corporations, 20 municipalities and 49 Nagar Panchayats. A district wise list of these local bodies is set out in ***Annexure IV.1***.

As indicated earlier, our analysis is restricted to the six municipal corporations in the state. These are:

1. Bhilai Municipal Corporation
2. Bilaspur Municipal Corporation
3. Durg Municipal Corporation
4. Korba Municipal Corporation
5. Raipur Municipal Corporation
6. Rajnandgaon Municipal Corporation

Bhilai and Korba towns were under a Special Area Development Authority (SADA) till 1998. In 1998, SADA was disbanded and most of the area in Bhilai was brought under the newly formed Bhilai Municipal Corporation. Two other Nagar Panchayats were created and about 9 villages coming under SADA were transferred to Durg Municipal Corporation.

Table IV.4 shows the population and area under the jurisdiction of each of the six municipal corporations.

Table IV.4

Municipal Corporations in Chhattisgarh

Municipal Corporation	Population (2001)	Area (Sq.km)
Bhilai	553857	320
Bilaspur	225000	32.5
Durg	216700	54
Korba	173000	NA
Rajnandgaon	171200	70.5
Raipur	669210	NA

Source: Respective Municipal Corporations

Status of Urban Infrastructure Services in Chhattisgarh

Water Supply

Water supply is the most important service that is provided by the MCs. Table IV.5 summarises the existing scenario of water supply.

Table IV.5

Water Supply

Important Parameters	Bhilai	Bilaspur	Durg	Korba	Raipur	Rajnandgaon
Litres Per Capita Per Day	63	90	96	53.6*	99	64
No.of private connections	1200	13000	15000	10000	30000	7400
No.of public taps/handpumps	4000	Not Available	4900	Not Available	5000	2425
Treatment Plant - Capacity in Million Litres Per Day	77*		24		54	15

Source: PwC Analysis

Domestic water supply is unmetered in all MCs except for Bilaspur where almost 50% of the private connections are metered. The water availability in all cities except Bilaspur is well below the national average of 140 Litres Per Capita Per Day (LPCD). The actual availability is likely to be far lower due to distribution and transmission losses[3]. In case of Raipur, the distribution network is almost 50 years old and is in urgent need of repair. All municipal corporations are taking up schemes for augmentation of water supply. The status of some of these schemes are given below:

- **Raipur:** A water supply project for the newly formed capital city has been prepared at an estimated cost of Rs. 397 crores. The project envisages meeting the requirements of an estimated population of 25 lakhs by 2031. The water would be

[3] According to studies conducted under Financial Institutions Reform and Expansion Project – FIRE, almost 50-60% of water, pumped or treated by utilities in India is lost or unaccounted for.

sourced from Ravishankar Dam located at Rudri in Dhamtari district. Another augmentation scheme is being executed for the city at the estimated cost of Rs.28.05 crore (sanctioned in 1993). Most of the civil works pertaining to storage and treatment plants have been completed. Work on rising mains is yet to commence

- **Bhilai**: A water supply augmentation project has been envisaged at a cost of about Rs. 50 crore consisting of construction of raw water pumping set, anicut, water treatment plant (77 MLD), reservoir, cross drainage works, etc.
- **Durg**: A project is being considered by the municipal corporation for augmenting the storage capacity and enhancing raw water sourcing from Shivnath river
- **Rajnandgaon**: A project is proposed for construction of anicut, intake pumping station and water distribution system at an estimated cost of Rs. 18.71 crore. Almost 35% of the total work has been completed
- **Korba:** Upgradation of water supply scheme to a capacity of about 3 million gallons per day at an estimated cost of Rs. 1.28 crores is being considered by the municipal corporation
- **Bilaspur**: A water supply augmentation scheme prepared in 1995 by PHED for the next thirty years has been revised. Revised cost estimates of the project is about Rs. 14.68 crores

All the water supply projects are to be funded through government grants and loans from financial institutions like LIC and HUDCO.

Solid Waste Management

Table IV.6 summarises the existing scenario relating to solid waste management in the six municipal corporations in Chhattisgarh.

There is no waste segregation in any of the cities either by residents or by the municipal corporations. In Raipur, a few resident welfare associations have organised house to house primary collections through private sector.

Table IV.6

Solid Waste Management

Important Parameters	Bhilai	Bilaspur	Durg	Korba	Raipur	Rajnandgaon
Garbage (MT per day)	70	60-70	30	60-70	100-110	40
Equipment	3 trucks, 2 tempos & 3 trolleys	2 trucks, 4 excavators, 3 dumpers & 5 trolleys	6 tractors & 2 dumpers	2 trucks, 1 excavator, 2 dumpers & 9 trolleys	Not Available	2 dumpers & 4 trolleys
Waste Segregation	No					
Primary collection	No				Limited	No
Composting	No				Through Pvt sector	No
Landfill site	Proposed	Yes	Yes	Yes	Yes	Yes

Source: PwC Analysis

Raipur Municipal Corporation has also introduced an innovative primary collection mechanism in one ward whereby a collection truck goes around the ward ringing a bell and informing residents to deposit their garbage in the vehicle. It is estimated that almost 70% of the total garbage from the ward is collected through the truck. Such a mechanism minimises the need for primary collection and construction of secondary collection points. Waste could be directly transported to dumping ground.

Raipur has also taken the lead in initiating composting through contracting out to a private agency. The private agency pays a royalty to the municipal corporation for the garbage supplied.

Other municipal corporations, viz., Rajnandgaon, Durg had Bhilai had invited tenders for composting, however, there were no bidders. One of the reasons for lack of bidders could be the low quantity of waste being generated in the cities. In order to overcome this problem the option of inviting a joint bid for Durg and Bhilai is also being considered.

Bhilai does not have a landfill site and the inert and non-degradable material present in the garbage is used for filling up low-lying areas. There is a proposal to set up a landfill site. Since there is no composting being done in any of the municipal corporations except Raipur, it is likely that degradable waste is also being dumped in landfill sites. This could result in health hazard and could also lead to contamination of ground water.

Sewerage and Sanitation

Most of the cities are not serviced by an underground sewerage system and the sewerage facility only consists of individual septic tanks. In Bilaspur, an underground sewerage line was constructed almost 20 years but is not being used, as it is not connected to houses. Similar situation prevails in Korba where most of the houses have individual septic tanks.

The public toilets in the cities are managed by the MCs and also by Sulabh International. Most of the cities have proposals for construction of 10-15 seater Sulabh complexes.

Street cleaning and sweeping is executed through municipal staff in all the municipal corporations. Some municipal corporations such as Raipur and Rajnandgaon have also contracted out this activity in few areas within their jurisdiction and the results have been very encouraging. Cleaning of big drains in Raipur is also executed through private contract.

City Roads

Maintenance of city roads is the responsibility MCs. No reliable estimates were available regarding the length of urban roads. Currently, private sector has minimal role in maintenance of city roads excepts for a few places in Durg and Raipur where certain crossings are maintained by private companies and industrial groups. There is potential for greater involvement of private sector in maintenance of urban roads in lieu of advertising rights.

Financing of Urban Infrastructure

According to the Eleventh Finance Commission (EFC) estimates – based on Zakaria Committee norms, investment in Operation & Maintenance for urban services is likely to cost Rs. 72,099 crores between 2000-05. According to the India Infrastructure Report, Rs. 27,773 crores would be required annually between 2001-06 for meeting the capital and Operation and Maintenance (O&M) requirements for urban services in India.

Financing of urban infrastructure in India is primarily through budgetary allocations of central, state and local government, grants and loans from multilateral or bilateral agencies or through institutional lending. The total annual allocation by central and state

governments during the Eighth Plan was about Rs. 3,792 crores, which is approximately 14% of the annual requirement. Thus there exist huge gaps in financing of urban infrastructure.

While there are multiple agencies involved in the development of UI, maintenance of UI assets and provision of services is the primary responsibility of ULBs. Financial sustainability of ULBs would be critical for satisfactory provision of UI services. Table IV.7 presents the major income sources of ULBs in India.

Table IV.7

Major Sources of Income for ULBs in India

		Components
I	**Internal (own)sources**	
A	Taxes	Property tax;conservancy tax, tax on vehicles, animals, trade and profession; show tax; tax on advertisements; etc.
B	Non-tax Revenues	User charges - water, sanitation cess; income from municipal assets; fees and fines; income from investments; etc.
II	**External sources**	
A	Grants-in-aid	General purpose; specific purpose; grants in lieu of taxes - Octroi, Passenger Tax; etc.
B	Shared taxes	Entertainment tax; motor vehicle tax; land revenue; stamp duties; etc.

Source: NIUA, Research Study

Among own sources of income, property tax constitutes the single most important source. This is especially true in case of non-octroi states like Chhattisgarh, Madhya Pradesh, etc. Property tax in India is levied on the basis of annual rateable value of property. In practice, the rateable value estimates are frozen due to the rent control legislation, which prescribes standard rents. As a result, property tax is not a very buoyant source of revenue, as it does not reflect the large-scale escalation of real estate prices that have occurred in urban areas.

Apart from taxes, user charges for services like water supply, sewerage and sanitation also represent an important source of revenue. However, these services are mostly priced at highly subsidised levels resulting in low cost recovery.

Financial Analysis of Municipal Corporations in Chhattisgarh

The financial position of MCs in Chhattisgarh has been analysed in order to assess their capacity to generate revenues for providing UI services.

Table IV.8 on the following page gives the break-up of the income of the MCs in Chhattisgarh. Latest income figures available from respective MCs has been considered for analysis[4].

Own sources of income as a percentage of total income range between 32% in case of Rajnandgaon to 55.7% in case of Bilaspur. Higher percentage of own sources of income indicates better financial situation, as the ULB would not be dependent upon external sources of funding for meeting its regular expenditure. Moreover, if the revenue potential of taxes and non-tax resources is fully utilised, the MCs could generate a revenue surplus that could be potentially used for funding capital investment projects. A higher percentage of internal sources of income would also increase the capacity of the ULB to access debt funds for infrastructure projects.

[4] Korba Municipal Corporation has not been considered, as complete details of actual expenditure for any year were not available.

Table IV.8

Financial Analysis of Municipal Corporations in Chhattisgarh

	Bhilai (99-2000	Bilaspur (98-99)	Durg (99-2000)	Raipur (99-2000)	Rajnandgaon (99-2000)
					Rs. Lakhs
Property Tax	257	214.64	75.1	277.06	40.47
Water Tax	23.04	62.54	121.23	288.08	37.02
Consolidated Tax	45.73	26.05	32.77	39.66	13.34
Other own Income	578.82	280.32	265.36	754.75	67.77
Total Own Income	904.59	583.55	494.46	1359.55	158.6
Compensation for Octroi	510.61	151.44	217.18	1077.39	133.8
Compensation for Passenger tax	13.72	36.01	63.11	132.38	86.04
Other loans/receipts	826.24	321.81	112.9	1594.57	114.04
Total loans/receipts	1350.57	509.26	393.19	2804.34	333.88
TOTAL INCOME	**2255.16**	**1092.81**	**887.65**	**4163.89**	**492.48**
Own Income/Total Income	***40.11%***	***53.40%***	***55.70%***	***32.65%***	***32.20%***

Source: Budgets of Respective Municipal Corporations

Property tax represents one of the most important sources of revenue for municipal corporations in Chhattisgarh. Table IV.9 presents the key aspects relating to property tax in Chhattisgarh.

Table IV.9

Property Tax

Important Parameters	Bhilai	Bilaspur	Durg	Korba	Raipur	Rajnandgaon
System of assessment	Self-Assessment					
No of Properties (estimated)	45000-50000	40000-45000	35000-40000	75000	More than 80000	24000
Properties assessed for tax	32000	12000-14000	20000	6000-7000	35000-45000	2000-2500
Communication ot residents	Tax camps and leaflets	Leaflets and newspapers	Leaflets and newspapers	Leaflets and newspapers	Tax camps and leaflets	Tax camps and leaflets
Physical survey of properties	To be completed by June 30th	Proposed	Underway	Underway	Proposed	Underway
Collection within office premises	Minimal					

Source: Meetings with respective Municipal Corporations

All MCs in Chhattisgarh have implemented the self-assessment system. This system is briefly explained below:

- The municipal corporation categorises the total area into various zones
- It announces zone-wise annual rental value per sq.ft. for different types of construction depending upon the location (main road or away from the main road) and type of use (residential or commercial)
- Individuals assess the rental value of their property depending upon the municipal rates and file the property tax return along with the tax assessed

The self-assessment system has been well received by residents. In Durg, the number of properties assessed for property tax has gone up from 20000 to 32000 over the last three years. Almost all-municipal corporations regularly conduct property tax camps or notify through newspapers throughout the year, encouraging people to clear their property tax arrears.

As a result of the above efforts, the growth rate in property tax revenues over the last few years has been very impressive. Table IV.10 presents the trend of property tax revenues for MCs over the last few years.

A physical survey of properties is either underway or proposed in all MCs and

Table IV.10

Income from Property Tax

	97-98	98-99	99-00	2000-01 (Estimated)	CAGR
				Rs. Lakhs	
Rajnandgaon	7.77	27.44	40.06	60	98%
Durg		47.53	75.09	106.5	50%
Bilaspur*	77.92	214.63	265		84%
Bhilai#		140	257	300	46%
Raipur			277	400	44%

* Figures relating to 99-00 are revised estimates

In 98-99 Rs. 650 lakh was received from Bhilai Steel Plant as arrears. This amount has not been included in the table as it would affect the CAGR

Source: Budgets of respective Municipal Corporations

this is expected to further increase the number of properties being assessed.

Despite the good collection of property tax, there is still huge potential for increasing collections through this source. Even if there is no increase in tax rates and it is ensured that all the properties are assessed, there would be manifold increase in collections.

For instance in Rajnandgaon, only about 2500 out of the total 24000 properties are assessed for property tax. Assuming that about half the total number of houses would be exempt from property tax, there would be still about 10000 properties not being assessed. If these properties are brought within the tax net, the property tax revenues could register fivefold increase from the present level of Rs. 40 lakhs to about Rs 2 crores.

Some of the possible steps that could be effected to improve revenues from property tax are highlighted below:

- Ensuring complete enumeration of properties through a physical survey at the earliest
- Analysing the criteria for zoning of properties in detail, and if the capital value of properties in different zones does not vary significantly, the number of tax rates should be reduced. This would help the assessee while filing the property tax return and could also potentially increase the number of properties being assessed
- The government should consider appointing certified valuers who would assist the assessee in filing their returns. This would ensure that the assessments are realistic and at the same time also reduce the administrative cost relating to collections *(taxes are mostly collected through door to door collections and the corporations also incur costs in organising camps throughout the year)*

Water Tax

Apart from property tax, user charges for water constitute another important source of revenue for MCs. Water tax is levied on a flat rate basis. If property is not exempt from property tax, then 5% of property tax is also charged. Apart from water tax, MCs also generate income from tax on public standposts, water connection charges, etc.

In most of the MCs, the recoveries are about 70% except for Durg where only about 50% of total demand is collected. This is probably due to the fact that in Durg all taxes including water tax are collected simultaneously. Since there is lower propensity to pay property tax (due to lack of perceived quid pro quo) as compared to water tax (which is charged against specific service), those

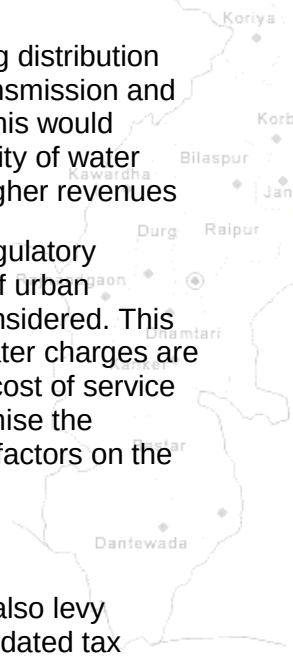
reluctant to pay taxes also do not pay water tax.

It is estimated that in Raipur Municipal Corporation, the cost of water supply is over Rs. 6 crores while only about Rs. 2.8 crores is collected through water charges. Ability to raise revenues from water charges hinges on controlling administrative and technical losses and enhancing user charges for meeting the cost of service provision. Some of our recommendations for improving revenues from water charges are given below:

- Improving the existing distribution system to control transmission and distribution losses. This would increase the availability of water supply resulting in higher revenues
- Creation of a tariff regulatory authority for pricing of urban services could be considered. This would ensure that water charges are fixed in line with the cost of service and would also minimise the influence of external factors on the fixing of water tariffs

Consolidated Tax

All MCs in Chhattisgarh also levy sammekith kar or consolidated tax (lighting tax, fire fighting tax and sanitation tax). The tax rate is Rs. 90 per annum if the property is exempt from property tax, otherwise it is Rs. 180 per annum alongwith a 5% surcharge on property tax. Recoveries from consolidated tax could be enhanced if properties are frequently assessed to make sure that the annual rental value moves in line with the market rates.



Income from Municipal Property

Income from municipal properties consisting of land, buildings, markets, etc., normally constitute an important albeit under-utilised source of income. This is because the asset registers are mostly outdated and do not reflect the current market value. The MCs in Chhattisgarh have not completely identified their assets and have not undertaken any exercise for valuation of their properties through certified valuers. Some of our recommendations for increasing the revenues from municipal properties are given below:

- Ensure complete mapping of municipal properties and constant updation
- Value properties through certified valuers to assess appropriate market value
- Ensure elimination of encroachment on municipal land and accord priority to all pending litigation
- Identify opportunities for commercial development of municipal land through private sector participation at minimal or no cost to municipal corporation

Assessment of Municipal Corporations

An effort has been made to assess the six MCs on a normative scale. The purpose of the assessment is to provide a snapshot of all MCs across the following dimensions:

- Municipal services
- Revenues
- Efficiency in operations

- Long term planning

Each of the dimensions has various parameters. For instance, municipal services include water supply, sewerage and sanitation and solid waste management. For the purpose of comparative assessment of the municipal corporations, an ideal municipal corporation has been chosen and standards have been identified for each parameter for the same. The details of the benchmarks along with the rating methodology have been presented in ***Annexure IV.2***.

Table IV.11 presents a comparative assessment of the six municipal corporations.

Table IV.11

Comparative Assessment of Municipal Corporations

Parameter	Bhilai	Bilaspur	Durg	Korba	Raipur	Rajnandgaon
Municipal Services						
Water Supply	Poor	Average	Average	Average	Average	Poor
Solid Waste Management	Poor	Poor	Poor	Poor	Average	Average
Sewerage and sanitation	Average	Poor	Average	Poor	Average	Poor
Revenues						
Property tax	Good	Good	Good	Good	Good	Good
Water tax	Average	Average	Average	Average	Average	Average
Income from municipal property	Average	Poor	Poor	Poor	Average	Average
Efficiency of Operations						
Accounting system	Good	Average	Average	Average	Good	Poor
Citizen responsiveness	Average	Average	Average	Average	Average	Average
Computerisation	Good	Poor	Poor	Poor	Average	Poor
Involvement of private sector	Poor	Poor	Average	Poor	Good	Average
Long term planning						
Plan for improving civic services	Average	Average	Average	Average	Average	Average
Capital investment programme	Average	Average	Average	Average	Average	Average

Source: PwC Analysis

As can be seen from the above, there is need for all-round improvement in the level of municipal services. There is also an urgent need for augmenting the water supply scheme in Bhilai and Rajnandgaon. None of the cities except Raipur undertake composting of solid waste and Bhilai urgently needs an appropriate landfill site.

All MCs have performed well in generating revenues from property tax. There is urgent need for increasing revenues generated from municipal property and steps need to be taken in this regard.

All MCs follow cash based single entry accounting system. Bhilai had a double entry accounting system when it was notified as SADA. However, due to government guidelines, the Bhilai Municipal Corporation is now following a cash based single entry accounting system. Bhilai also has a computerised accounting application (Tally) system, which was implemented in SADA. The accounts of the municipal corporation are also being updated using Tally.

Bhilai is also computerising the details of assessment relating to property tax and water tax.

There is scope for increasing the involvement of private sector in delivery of municipal services. Raipur has taken the initiative in privatising the process of composting of solid waste and also organising primary garbage collection in

some localities through the private sector. Further, it has out-sourced the maintenance of drains in the city. Rajnandgaon has involved the private sector in street sweeping and intends to extend the contract for one more year. In Durg, maintenance of some public parks and crossings has been taken up by corporates.

Finally, none of the MCs have prepared long-term plans or investment programme for augmenting civic services. Most of them have prepared proposals only for augmentation of water supply within the corporations.

Investment Requirements for Urban Infrastructure

Investment requirements have been estimated for operation and maintenance of municipal services. These investments are based on Zakaria Committee norms for different categories of functions according to population size. Investment requirements have been estimated for the following heads:

- Water supply (distribution and treatment)
- Sewerage, sewerage disposal and storm water drainage
- Construction of roads and paths
- Street lighting and electric distribution
- Fire fighting
- General administration

The detailed methodology used for estimating investment requirement alongwith the calculations are presented in ***Annexure IV.3***.

Table IV.12 presents the aggregate investment requirements for the six MCs in Chhattisgarh.

As can be seen, the annual requirement of funds for the six cities would be about Rs. 120 crore per annum by 2003 and is likely to increase to about 147 crore per annum by 2010. Table IV.13 gives the city-wise requirement of funds. As can be seen, Raipur followed by Bhilai and Bilaspur would have the largest investment in O&M – also reflective of the size of the cities.

Table IV.12

Investment Requirements *(Rs. Crore)*

	2003	2007	2010
Water supply	41.54	46.54	50.72
SWM & Storm water Drainage	44.86	50.21	54.68
City roads	6.69	7.49	8.15
Street lighting	11.20	12.55	13.67
Fire fighting	1.49	1.66	1.81
General Administration	14.87	16.64	18.11
Total	**120.64**	**135.09**	**147.15**

Note: Figures indicate requirement per annum

Source: PwC Analysis

Table IV.13

Investment Requirements-City wise *(Rs. Crore)*

	2003	2007	2010
Raipur	41.09	47.27	52.51
Korba	9.58	10.93	12.06
Durg	12.00	13.69	15.10
Rajnandgaon	9.45	10.70	11.75
Bilaspur	13.35	15.04	16.44
Bhilai	35.17	37.46	39.28
Total	**120.64**	**135.09**	**147.15**

Note: Figures indicate requirement per annum

Source: PwC Analysis

Section 4: Way Forward

Introduction

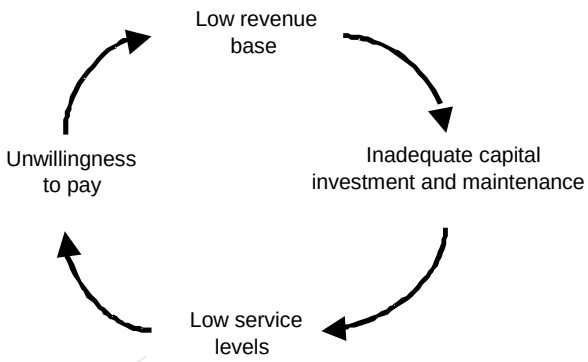
Mapping of ULBs in Chhattisgarh has highlighted the need for all round improvement of these institutions. While all the ULBs need to be commended for making significant improvements in enhancing revenues from property tax, their performance with respect to other revenue sources needs to improve. Moreover, there are significant deficiencies in the quality of urban services in most of the ULBs. There exists significant opportunities for improving the efficiency of existing operations through computerisation and streamlining of processes.

Some of the recommendations for improving the civic services as well as enhancing revenue mobilisation have been addressed in Section 3. This section presents the way forward for transforming the ULBs in Chhattisgarh. It highlights the need for a Road Map to strengthening the ULBs. It also presents the approach for operationalising the Road Map along with specific initiatives to be implemented.

Reform Road Map

Most of the ULBs in the country are caught in the vicious cycle or "low level equilibrium trap" in provision of urban services. Most of the ULBs are plagued by low revenue base. While the cost of service provided by ULBs has grown consistently, their revenues from taxes and user charges have grown at a very slow pace. This has resulted in inadequate maintenance of assets and lack of investment in creation of new assets, leading to inadequate and poor service quality. Low service quality reduces the propensity of people to pay taxes and user charges. This trap is illustrated in Figure IV.2.

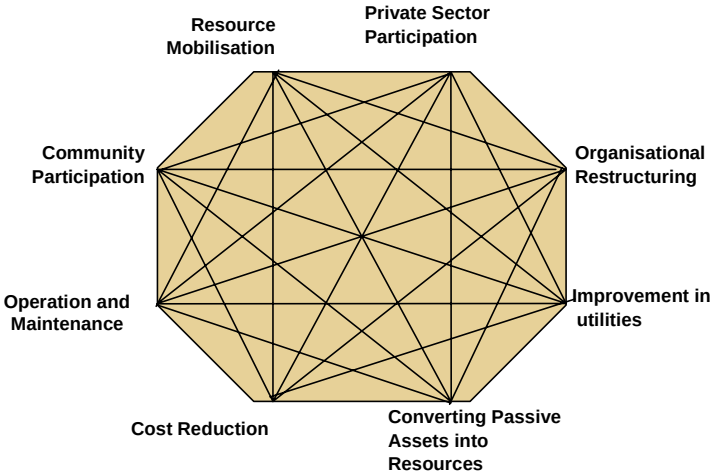
Figure IV.2



As a result of the above process, revenue generated by ULBs are not enough for ensuring proper operation and maintenance of urban assets leading to a further deterioration in the level of service. Inadequate State and Central Government budgetary support has made it imperative for ULBs to enhance their own revenue sources and in turn to consider alternative mechanisms for enhancing the quality of service delivery to the people.

In order to bring about improvement, there is need for concerted effort at various levels. The broad areas that need to be addressed are presented in the Figure IV.3.

Figure IV.3



For addressing the areas identified above it is necessary to follow a structured reform "Road Map". The Road Map provides a comprehensive tool for the ULBs to execute the reform process.

The Road Map identifies the various initiatives that need to be taken up by the ULBs in order to successfully transform themselves into effective institutions of urban governance and ensure efficient delivery of urban services.

It should also be recognised that the ULBs may not have the adequate institutional and financial capacity for charting the reform Road Map. It is necessary to augment the efforts of the ULBs though external experts, non-government institutions, etc. Therefore, it is important to clearly identify areas where the ULBs would be incapable of executing an initiative on their own and would require the assistance of external agencies.

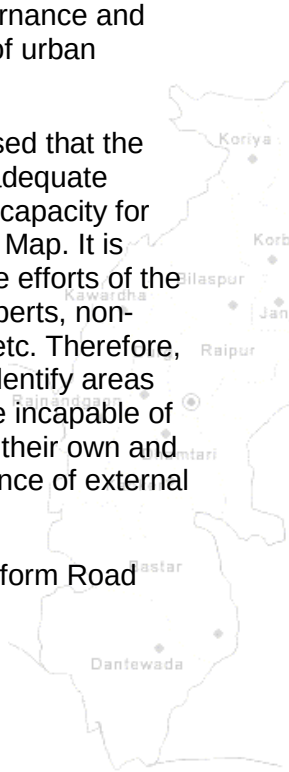
In order to execute the reform Road Map it is necessary to

- unbundle,
- package and
- sequence

the various initiatives.

Unbundling

The issues faced by the ULBs are interlinked. For instance, enhancement of revenue from property tax involves strengthening the administrative mechanism, ensuring community acceptance, improving the accounting system, etc. Similarly, any improvement in the water supply involves improvement in the technical and management systems, ensuring user acceptance for tariff reforms, etc. Unbundling of the reform process would result in identification of a long list of activities and the tasks within an activity, broken down using a logical framework. More importantly, it would help identify the tasks within different activities that need to be addressed together or in a specific sequence.



Packaging

For efficient execution of activities, it is important to package the interlinked tasks into distinct and identifiable projects. Appropriate packaging of activities/tasks would minimise delays due to multiple responsibilities or gaps in responsibility. Another important benefit of packaging would be to clearly identify the tasks that could be done by the ULBs and those that need to be out-sourced to external agencies like consultants, NGOs, private contractors, etc. Packaging of activities / tasks would also help identify the key qualifications and skills required of the consultants, NGOs and the private sector for smooth execution of projects.

Sequencing

Sequencing of projects is critical to ensure successful completion of overall reforms and to realise full benefits from all the initiatives. Sequencing of initiatives at a broad level would be similar across ULBs. For instance, community participation and involvement should be achieved to a large extent before additional revenue could be mobilised from taxes and user charges. Similarly, the internal processes and systems should be strengthened before any significant investment commitment is made for improving utility service provision.

Sequencing of projects at the micro level would be largely dependent upon the priorities of ULBs and its citizens. If solid waste management is the most important concern, then it should be addressed on priority. In certain cities the improvement of city roads could be the most important concern and therefore this needs to given priority.

While defining this Road Map for municipal reform, an implicit assumption is that the municipal leadership, viz. The Municipal Commissioner and City Mayor would champion the process of reform.

Phasing of the Road Map

The timeframe of the execution of the Reform Road Map would vary from one ULB to another depending on size, population initiatives completed, services under purview, etc. The timeframes in the proposed Road Map have been prepared for an average size ULB with a population of about 5 lakhs.

The Road Map has been divided into five phases over five years with each phase corresponding to broadly to one year. The five phases are:

1. Internal assessment and credibility building
2. Revenue improvement
3. Project preparation and internal reorganisation
4. Infrastructure financing and development
5. Stability and sustenance

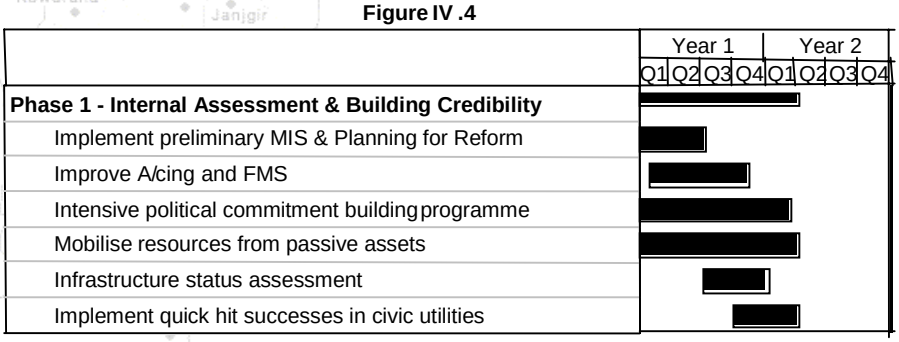
There exist a series of initiatives that need to be taken up in each phase. The efficacy of subsequent initiatives depends crucially upon the success of earlier ones.

Each phase, along with a description of the initiatives and timeframe are discussed below:

Phase 1 - Internal assessment and building credibility

The objective of this phase (Figure IV.4) is to enhance the credibility of the ULBs institution and put in place systems that would enable comprehensive assessment of the ULBs. It involves a quick assessment (financial and operational) of the ULBs followed by planning for the reform process. One of the first initiatives involves putting the accounting and financial management systems in place. Building political commitment towards the reform process is a vital initiative in this phase. In order to build this commitment, a positive public opinion needs to be built-up and reinforced. Comprehensive assessment of the existing quality of infrastructure and standards of service delivery is the other important initiative. This is to be achieved through measures (quick-hits) that have a high-impact on the lives of ordinary citizens. Such quick hits may be financed from mobilising funds from

Figure IV .4

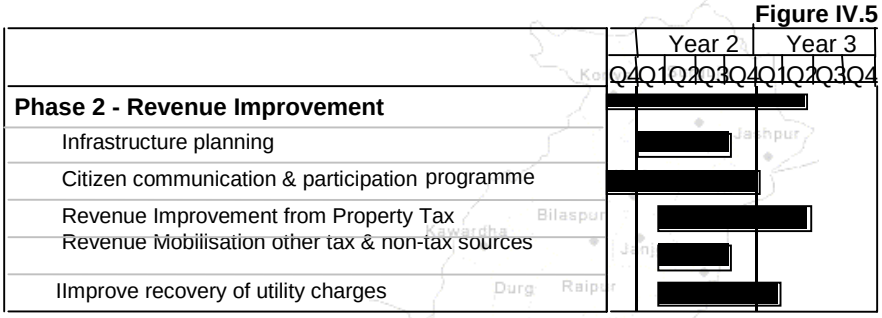


passive/ under-utilised assets through sale /lease etc.

Phase 2 - Revenue Improvement

This phase (Figure IV.5) involves undertaking revenue improvement initiatives from internal sources such as tax, non-tax, rents and utility charges. In a scenario of decreasing financial support from the state government and the need for financial sustainability of ULBs, revenue enhancement from internal sources takes precedence over funds mobilisation from external sources. Initiatives in this phase should thus, seek to enhance base of tax/ utility charge assesses, rationalise the rate and streamline administrative mechanisms with the use of Information Technology. While this phase should attempt a rationalisation of rates (application of principles of 'user pays' / 'beneficiary pays' or 'polluter pays'), comprehensive tariff reform to reach a situation of complete cost recovery should be taken up in subsequent phases (Phase 4 and Phase 5). This is because, without a significant increase in the standards of service delivery, citizens are unlikely to accept substantial hikes in tax rates / utility tariff charges. Private participation (through contracting) in managing systems related to revenue improvement and managing existing municipal assets should be explored in this phase. Cost reduction measures too need to be undertaken in this phase of the reform process.

Figure IV.5



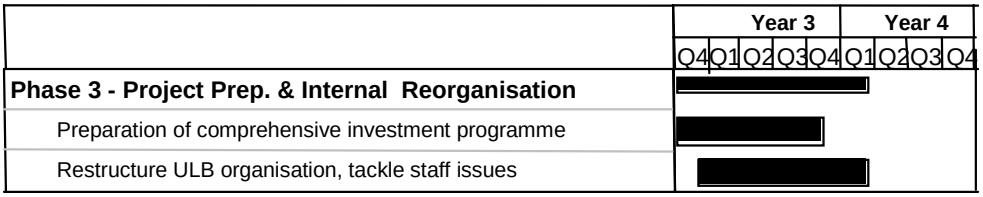
Phase 3 – Project preparation and internal reorganisation

This phase involves simultaneous initiatives towards preparation for major capital enhancement programmes and organisational restructuring of the ULBs. Initiatives in this phase will lay the foundation for enabling the ULBs to seek external sources of funding for building / enhancing city infrastructure. Internal reorganisation of the ULB should also be carried out in this phase. This would involve identifying the structural changes required to effectively manage the activities of the ULBs. Since this initiative would have a high impact on the roles and responsibilities of the functionaries, it should be taken up only after the commitment of political and administrative leadership in such an exercise is firmly established. Figure IV.6 given below shows the initiative in this phase alongwith the indicative time frame.

Phase 4 - Infrastructure financing and development

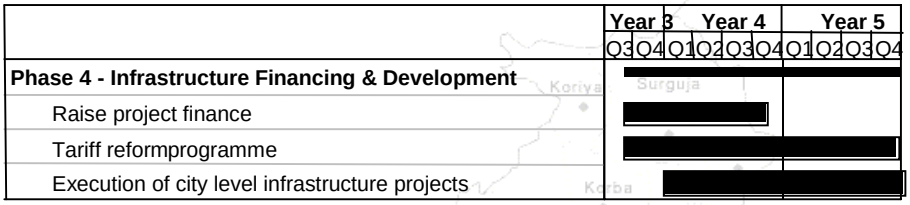
This phase comprises initiatives towards obtaining credit rating, raising

Figure IV.6



institutional finance/ approaching capital markets, carrying out tariff reform and implementing physical works of city level infrastructure projects. Appropriately structured city level infrastructure projects backed by financially sound ULBs will prepare the ground for private sector investment and participation. Figure IV.7 given below shows the initiatives in this phase along with the indicative time frames.

Figure IV.7



Phase 5. - Stabilisation and sustenance

Initiatives in this phase are aimed towards stabilising earlier initiatives and building sustainability within the ULB. This phase addresses financial sustenance of the ULB, integration of various information systems within the ULB and institutionalisation of continuous improvement processes. Figure IV.8 given alongside shows the initiative in this phase alongwith the indicative time frame.

Figure IV.8

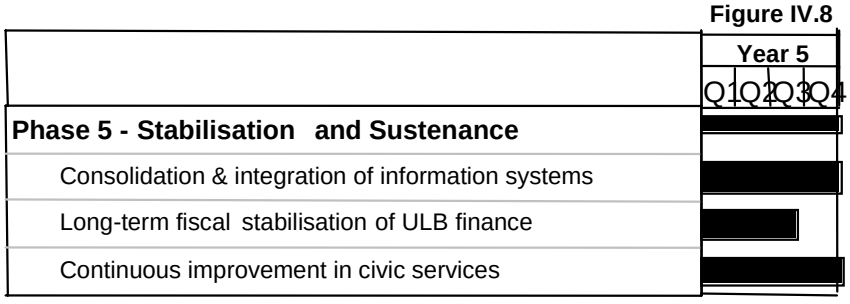
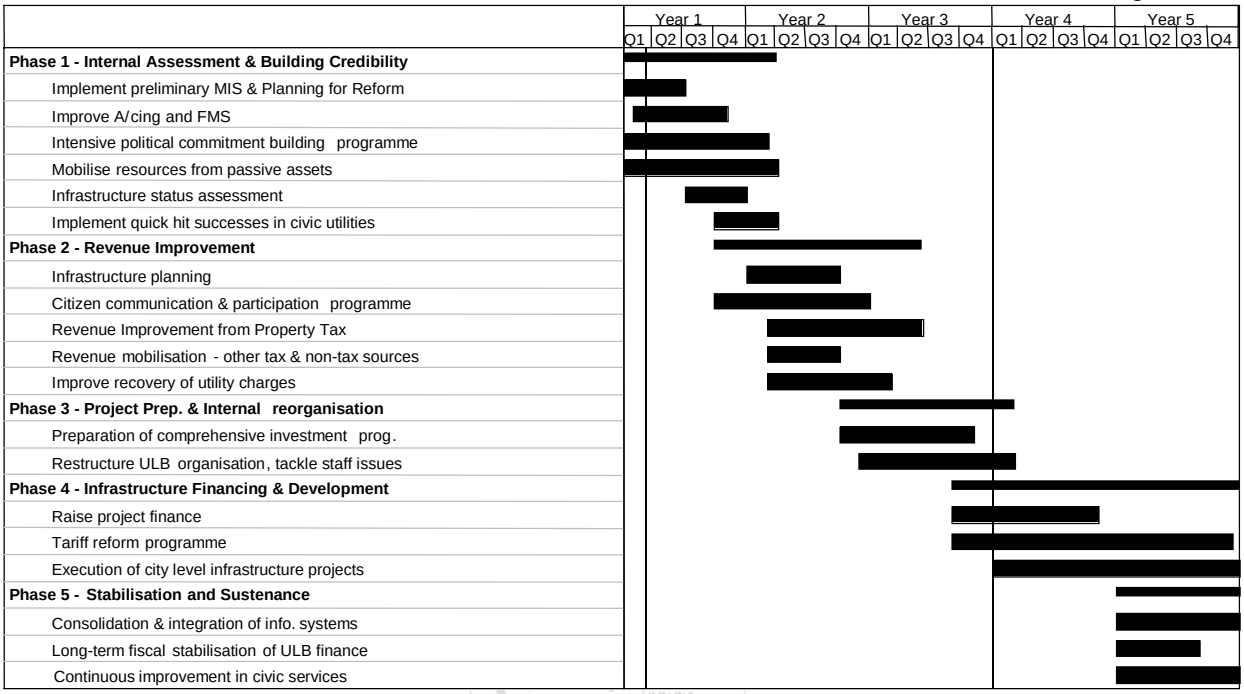


Figure IV.9



Application of the Road Map

There are very few ULBs in India, which have successfully followed a structured reform process. In most of the cases the reforms have been triggered by certain event/s, rather than by a conscious effort to understand and tackle the complex web of issues facing the ULB. The reforms initiated by some of the ULBs and the trigger for the reforms are highlighted below:

- Surat - Post plague recovery - Need to improve solid waste management
- Mirzapur and Kanpur - Prevent pollution of Ganga and its sustainable environmental management. In the above cases, as the ULB tackled the key issues it faced, other interlinked issues also came to light which were then addressed.

There are only a few cases like Ahmedabad where a series of reforms were taken-up in a structured manner. Box IV.1 on the following page documents the experience of Ahmedabad Municipal Corporation (AMC). It highlights the initiatives taken by AMC to come out of the financial distress and within 5-6 years emerge as one the best municipal corporations in the country. It also shows the extent to which the activities followed by AMC reflect the Road Map discussed earlier.

The case study proves that the series of steps taken by AMC helped achieve excellent results. Moreover, the schedule of activities undertaken by AMC broadly reflects the road map illustrated earlier.

In order to kick start the reform process, it is recommended that one of the ULBs should be taken up as a pilot and therein phase 1 initiatives be implemented. The learning from this exercise would be extremely useful in rolling out the reform Road Map to other ULBs in Chhattisgarh.

Some of the initiatives such as development of an appropriate accounting system could be taken up on a state-wide basis, as the requirements of all municipal corporations are likely to be similar. The accounting system should be developed in a manner that it could also be implemented in municipalities and Nagar Panchayats with moderate modifications.

Box IV.1: Ahmedabad Municipal Corporation

AMC was in a state of financial strain between 1992-93. There were enormous leakages in property tax and octroi revenues. There were accumulated losses to the extent of Rs. 35 crores and outstanding bank overdrafts to the tune of Rs. 22 crores. The various series of measures taken by AMC to address the above issues include:

Property tax

- Disconnection of water supply and drainage connection for defaulters
- Attachment and confiscation of property
- Auction of property for tax recovery

Property tax revenues in 1994-95 increased by over 72% compared to 1993-94

Octroi

- Better law enforcement - arresting anti social elements
- Increased supervision and vigil in check posts
- Use of CAs and CWAs for valuation of goods

Octroi revenue increased by over 20% compared to 93-94

Credibility building

- Commitment of the elected body and administrators to adopt stern measures
- Improving law enforcement
- Improving recovery of Property Tax
- Enforcing stricter discipline among staff
- Involvement of NGOs and CBOs

Improvement of systems

- Computerisation of municipal accounting system
- Wireless communication devices for Octroi administration
- Methodology for valuation of goods for Octroi
- Use of market research for improved valuation
- Introduction of long range planning system

Long term planning

- Preparation of comprehensive Corporate Plan for upgrading service levels
- Preparation of infrastructure financing plan
- Identifying private sector initiatives
- Need to access capital markets
- Introduction of public private partnerships

Organisation structuring

- Lateral recruitment of MBAs and CAs
- Merit based recruitment and promotion system
- Reassessment of job specifications and qualifications
- Adoption of zonal management structure
- Decentralisation of public grievance redressal

City level projects

- Identification of city level projects
- Special project cell to supervise and monitor completion of projects
- Adoption of CIDCO model of out-sourcing for planning, designing, monitoring and execution of projects
- Innovative financing and operational mechanism through public-private partnerships

Public Private Partnerships

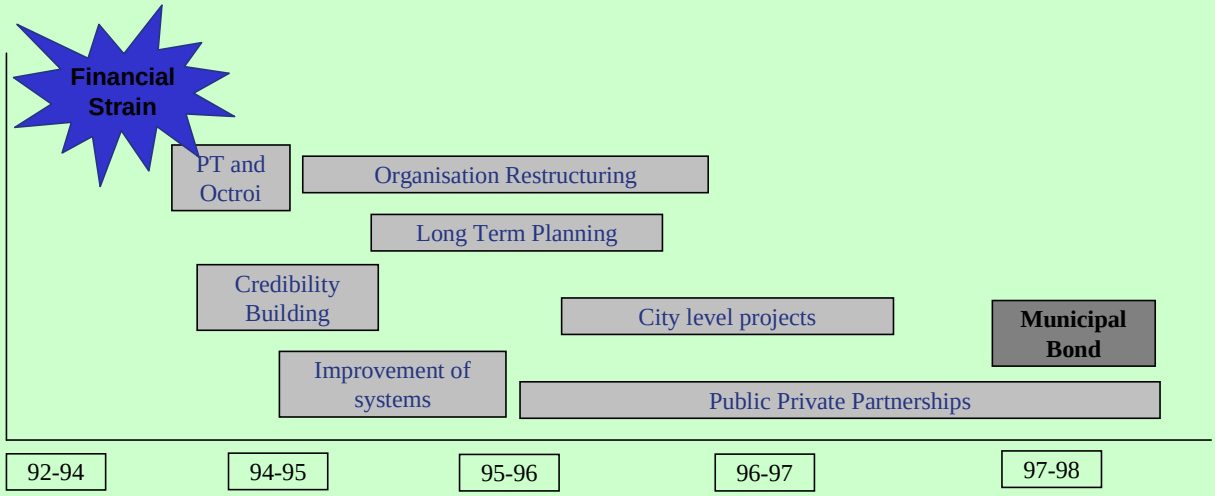
- Adoption of city streets by corporate sector- Revenue recovery from advertising and parking fees
- Urban forestry through NGOs and CBOs - Community allowed to undertake remunerative activities
- Transforming quality of life in slums through private sector and NGOs participation
- Solid Waste Management
  - Use of NGOs for conducting awareness campaigns for waste segregation by households
  - Use of NGOs and rag pickers for organising primary collection
  - Improving logistics and collection systems
  - Use of private sector for operating landfill site

Box IV.1: Ahmedabad Municipal Corporation (Contd.)

The above initiatives helped transform the financial situation of AMC. The following table provides a snap shot of AMC's financial position between 1992-98.

Financial Summary - AMC (Rs. Cr)				
Year	**Octroi**	**Property Tax**	**Non-Tax Income**	**Grants**
91-92	97.25	35.79	16.11	25.51
93-94	129.58	44.2	14.76	31.23
94-95	156.14	73.14	20.31	35.88
97-98	242.54	100.94	30.13	47.12
CAGR				
91-94	**15%**	**11%**	**-4%**	**11%**
94-98	**17%**	**23%**	**20%**	**11%**

AMC also successfully raised a bond issue worth Rs. 100 crores in 1997. The issue was rated as AA by CRISIL indicating high a degree of safety. At the time of issue, AMC had Rs. 60 crores of operating surplus. The figure below maps the course charted by AMC between 1992-98.



Note: The timeframes are indicative and based on documented experience.

Source: PwC Research

Private Sector Participation

Private Sector Participation (PSP) is a viable alternative to the provision of urban services by ULBs. In the current context, private sector includes Non-Governmental Organisations (NGOs), Community Based Organisations (CBOs), resident welfare associations, etc., apart from private business entities and profit-oriented institutions.

PSP has become a reality with the unbundling of infrastructure services, wherein the private sector has a clear cost and efficiency advantage in performing certain activities relating to service delivery. Unbundling and packaging of services also increases the commercial viability of projects.

On one hand PSP provides additional finance, thereby reducing the burden on government funding and on the other, it enables consumers to benefit from superior management skills available in the private sector. Box IV.2 presents the example of costs savings realised by Rajkot Municipal Corporation through PSP in urban services.

Box IV.2: PSP in Rajkot

In 1991-92, Rajkot had a population of about 6 lakh spread over an area of 69 sq.km. The cost of maintaining urban services were constantly increasing while revenues remained relatively static over the years. With a view to raising efficiency and efficacy of the services provided, PSP was introduced in civic services to supplement the existing services. The cost savings through PSP are given below:

Service Cost Savings

1. Street lighting 20%
2. Primary garbage removal 15%
3. Secondary garbage removal 23%
4. Cleaning of public toilets 67%
5. Maintenance of gardens 73%

Source: NIUA

There are various models of PSP depending upon the extent of involvement of private sector. PSP could be broadly categorised into two distinct categories.

- Ownership of asset remains with the government or public
- Ownership of assets is transferred (partially or completely) to the private sector (permanently or temporarily)

Table IV.14 illustrates the variants in each of the categories.

Service contracts normally exist for a shorter duration say, 1-2 years

Table IV.14

PSP options

	Ownership	Financing	Management
Category 1 - Government/ public ownership			
Service contract	Public	Public	Public & Private
Management contract	Public	Public	Private
Lease	Public	Private	Private
Concession (BOT)	Public	Private	Private
Category 2 - Private ownership (partly or fully)			
BOOT	Private then Public	Private	Private
Joint sector	Public & Private	Public & Private	Public & Private
Outright sale	Private	Private	Private

Source: PwC Research

compared to management contracts which are for 3 years or more. Another key difference is that while most of the management contracts allow for a share in the profits by the private party, service contracts are usually based on lumpsum or fixed payment. Concession agreements could extend upto 30 years or more while lease contracts are for much shorter duration. Under concession agreement, capital investments as well as working capital is funded by the private party while under lease working capital requirements is funded by the private party. Service contracts are the most common form of PSP as these do not involve any investments and the efficiency gains are immediately realised. In the water sector, concessions are the most common form of PSP. Concessions are attractive to governments because they place full operational and investment responsibilities as well as the associated commercial and investment risk with the private sector while maximising potential benefits from efficiency gains and access to private sector financing. But concessions also require significant government commitment and efforts to create a credible regulatory environment for private investment.

Box IV.3 presents a case study on PSP in the water sector in India. Bhilai town also has a vibrant industrial base and is currently facing enormous water shortage. The possibility of developing a water supply project that caters to industrial as well as domestic demand should be explored. Mix of industrial and domestic consumers would make the project viable on commercial lines as industrial consumers have higher capacity to pay.

Apart from the above services, PSP could play a major role in urban development, especially in the development of new townships. This has been discussed in detail in the following sub-section

New Approaches to Urban Development

With the formation of the new State, there is need to look at large scale development of urban centres. The Government of Chhattisgarh is already considering setting up a new capital township with modern amenities. Such a huge project requires enormous funds and strong project management skills. This sub-section presents some of the innovative mechanisms for mobilising resources from urban land. It also presents some of the successful approaches followed by other cities in India and other countries.

Resource Generation through Urban Land

Escalating value of urban land in view of high demand could be an important source of generating funds for urban development. The most common instruments used in India for revenue mobilisation from urban land include:

- Sale or lease of land

Box IV.3: Tirupur Water Supply Project

Tirupur is an industrial town near Coimbatore in Tamil Nadu and exports over $ 1 billion worth of cotton garments across the world. The total water requirements for the industry, the Tirupur Municipality and the adjoining village, is of the order of 185 MLD, (comprising of 100 MLD for Industry, 50 MLD for Tirupur and 35 MLD for adjoining villages). A water supply and sewerage project was developed by IL&FS, Tirupur Exporters Association (TEA) and Tamil Nadu Corporation for Infrastructure Development (TANCID), at an estimated cost of about Rs. 1300 crore. A special purpose company, the New Tirupur Area Development Corporation Ltd (NTADCL) was incorporated in 1995 to act as the concessionaire. The project has been structured as Build-Own-Operate-Transfer (BOOT) with NTADCL having ownership of assets during the thirty-year concession period. The project is to be executed through a debt-equity ratio of 2.2:1 with equity being contributed by TEA, IL&FS, Central and State Government. and Mahindra-Bechtel (the EPC contractor). Debt component is being funded out of World Bank line of credit to IL&FS and also through financial institutions. A unique feature of the project is that NTADCL has been allocated about 155 hectares of land by the State Government to develop a model industrial, commercial and housing project. Surplus generated from the project would be used to subsidise the water users and also act as quasi-equity to reduce the debt component.

The biggest beneficiary of the Tirupur project will be the industries in Tirupur, since the improvement in quality and availability of water would lead to greater export competitiveness. This benefit becomes even more significant given the fact that GoTN plans to implement legislation banning the use of ground water in the region, a source upon which the industries are heavily dependent.

Source: Habitat, PwC Newsletter, September 1999

- Development charges
- Betterment levy
- Slum improvement cess

Development charges, based on the unit area of land, are levied on new areas that are being developed by urban development authorities or city improvement trusts in order to recover the capital cost of land and infrastructure development. Rates are often prescribed in legislation and have no bearing on the actual cost of development. As a result, these charges recover only a small proportion of the capital investment. Betterment charges are then levied to capture enhancement in land value due to land readjustment and reconstitution of plots. These charges are widely implemented in Gujarat and Maharashtra.
Apart from the above, there are several mechanisms by which land could be used for generating funds for urban infrastructure development. Some of these are explained below:

- *Land Value Increment Tax:* This tax is levied to prevent land from being kept idle for speculative purposes. It is implemented in countries like Korea and Taiwan. In Korea, this tax is levied every three years and is calculated at the rate of 50% of the land value increment over and above the national average increment during the three-year period. This tax has had a tremendous impact on the land market in urban areas and has proved effective in reducing speculative ownership of land.
- *Development Impact Extraction (DIE):* DIE is assessed for financing additional city level infrastructure services and facilities. The impact of development is measured in terms of pre-determined standards of service. This tool is primarily used in North America and England.
- *Valorisation:* Valorisation charges are used to finance schemes like street improvement, sewer extensions and other similar services through a system of taxation wherein cost of public works is allocated to the affected properties in proportion to the benefits conferred.

Models for large scale urban development

Planned urban development has assumed significant importance in light of increasing urbanisation of Indian cities. In the past, specialised government agencies like urban development authorities and city improvement trusts were responsible for land acquisition and development. Capital investment was recovered through sale of developed plots and other charges like betterment levy and development charges. It should be noted that in most cases, the cost of creating infrastructure like sewerage, service roads, streetlights, etc. could not be recovered through revenues realised from the sale of plots and other charges. As a result, there is a need to look at alternative models for large-scale urban development.

Maharashtra - CIDCO

One of the most successful examples of development of new townships is the City and Industrial Development Corporation of Maharashtra (CIDCO) model. CIDCO was incorporated in 1970 with the objective of developing Navi Mumbai, to reduce population pressure within the old city of Mumbai. Apart from

Navi Mumbai, CIDCO has been involved in executing infrastructure projects in other parts of Maharashtra (Box IV.4).

Haryana - Townships

Another successful example of PSP in land development is seen in Haryana. Haryana is the only state where private developers have been allowed to engage in large-scale urban development projects. Developers are responsible for providing on-site infrastructure, while the Haryana Urban Development Authority and other government run agencies provide the off-site infrastructure. Private developers are permitted to negotiate the price for land development from landowners. Identification of landowners is left to private developers, who are able to do it more efficiently than government agencies. The land acquisition process is also completed in a shorter time span as compared to the time taken for land acquisition by the government run agencies.

Uttar Pradesh - GNIDA

The Greater Noida Industrial Development Authority (GNIDA) has adopted a slightly different approach for involving private developers in land development. GNIDA has allotted parcels of land measuring upto 60 hectares to private developers. The private developers provide on-site infrastructure and dispose off the developed plots. GNIDA levies a development charge on the developers for recovering the cost of off-site infrastructure.

Box IV.4: CIDCO model

CIDCO developed certain innovative methods of land acquisition to facilitate land development. These include Transferable Development Rights (TDR) and Development Rights Certificate (DRC) In TDR, the owner of a plot of land, which is reserved for public purpose is eligible for the award of transferable development rights in the form of Floor Space Index (FSI) equal to the gross area of the reserved plot to be surrendered. Such FSI is made available to the landowner in the form of a DRC. DRC is a negotiable instrument that can be used by the owner or transferred to other persons. Owners would be more forthcoming to surrender their land, as the development rights would still be available to the owners, to be used or traded in the market. Bombay Municipal Corporation has also adopted this model and other ULBs in Maharashtra are also interested in implementing TDR.

CIDCO has also pioneered the use of PSP for in developing land and housing colonies in areas developed by it. In Navi Mumbai, CIDC used private architects, engineers and professionals to design, construct and manage housing development. Prequalified developers were invited to quote on a turnkey basis for their own design and construction of housing units. Professional engineering firms known as Project Management Consultants, supervise the work. This relieves CIDCO from the responsibility of day-to-day supervision and quality control. This model enabled CIDCO to undertake large construction projects with fewer staff.

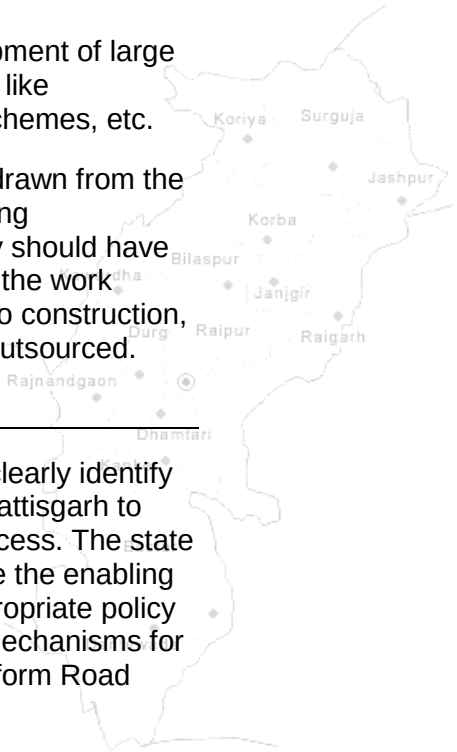
Source: Compiled from NIUA, Project Notes of FIRE (D), International Seminar on Financing and Pricing Urban Infrastructure, 1999.

State level agency

Government of Chhattisgarh should consider setting-up a state level agency for planning and co-ordinated development of urban area. The mandate for this agency could include, inter alia:

- Preparation of master plans for semi-urban and fringe areas that are likely to come under city limits.
- Integration of master plan with spatial and regional plans
- Land acquisition and land assembly for large scale urban development
- Planning for inter regional infrastructure linkages
- Managing the development of large infrastructure projects like townships, housing schemes, etc.

Requisite skills could be drawn from the Town and Country Planning Organisation. The agency should have minimal staff and most of the work especially those relating to construction, designing, etc. could be outsourced.



Conclusion

The above sub-sections clearly identify the need for ULBs in Chhattisgarh to implement the reform process. The state government should create the enabling environment through appropriate policy initiatives and incentive mechanisms for ULBs to undertake the reform Road Map.