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**Scope and Practice of Privatisation
of
Urban Services in India**

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PREFACE

India's economic policies have undergone significant changes over the past few years. As a result of the macro economic reforms in the industrial, financial and trade sectors, a new era of growth has been ushered in. However, infrastructure and services bottlenecks have severely constrained the growth prospects of economic enterprises in the urban areas.

The availability and quality of municipal services in the urban areas have deteriorated over the years. The municipal governments, with their managerial, technical and financial constraints, have been unable to cope with the increasing demands of urban areas. A change in municipal functioning is being brought about by the Constitution (Seventy-Fourth) Amendment Act, 1992 on Municipalities. This Act gives constitutional recognition to a third-tier of government and presents a challenge for restructuring of municipal governments. It has also broadened the domain of activities of municipal governments, as indicated by the Twelfth Schedule of the Constitution.


The widening gap between demand and supply of municipal services in urban areas has resulted in a search for alternative institutional arrangements. Private sector participation in the provision of municipal services is one such option adopted by cities. While a number of arrangements regarding the private sector participation are available, the most commonly used form is the management/service contract. Studies in India have shown that cost savings of 15 to 70 per cent have been achieved through such contracts for different services. Private sector involvement should, however, be done under strict regulatory control of the government. The local government acts of many states have enabling provisions that allow for private sector participation, yet this provision has not been exploited.

Our aim in this study is to examine current practices in private sector involvement in municipal services in selected Indian cities and to look at the legislative and institutional framework for it. With growing experience of private sector involvement, it will be possible to evolve an efficient, economic and equitable solution to the impending crisis to urban services management.

It is hoped that the recommendations for involving private sector made in this study will help the selected cities, and also other cities in the country, in improving the level and quality of municipal services. A follow-up study that is being conducted at the Institute would provide additional information on contract procedures for private sector involvement. Infusion of private capital and managerial capacity for urban services would enable local governments to improve the quality of the services and increase their coverage to all urban residents. In a partnership mode of urban governance, the role of public agencies and municipal governments will have to shift from provision of services to regulating private sector activities in order to ensure that adequate and affordable services are made available to all. The process of restructuring of municipal governments which is underway, will have to take cognizance of this transformation of role.

I would like to thank the Ministry of Urban Affairs and Employment, Government of India, for entrusting this study to us. At the Institute, Ms. Usha P. Raghupathi, Associate Professor, has coordinated this study. She has been ably assisted in field work and data processing by E.B.V. Kumar, Promila Jain and Archana Roy. I would like place on record my appreciation for their effort.

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Scope and Practice of Privatization of Urban Services in India

Executive Summary

India, in keeping with global trends, is rapidly restructuring its economy through the process of liberalisation. As attempts are made to cut down the budgetary deficit, innovative means of financing new investments are being evolved. Infrastructure, which requires huge investments, is a sector where privatisation, public-private partnerships and joint ventures are being initiated in the country.

It has now been realised that rapid economic growth will require strong infrastructure support. While partnership ventures in infrastructure are gaining strength, urban services is a sector where private participation is as yet limited. In the changed economic circumstances an increasing number of public agencies at the national, the state as well as the local level, are considering public-private partnership arrangements for financing and managing urban services.

India is also witnessing a significant growth in its urban population. A large proportion of this population resides in large to very large cities. However, the growth in urban population is not matched by the provision of infrastructure and other basic services, resulting in appalling living conditions and a poor quality of the services delivered. Municipal governments, which are responsible for providing basic infrastructure and services in urban areas, are in a financial crisis. The finances at their disposal are barely sufficient for carrying out routine operations and maintenance. Therefore, local governments have to depend upon higher levels of government for capital investments. This method of financing is now being transformed through public-private partnerships.

It is also clear that the present mode of urban governance is ill-suited to meet the future challenges of rapid economic growth. The alternative mode of governance is one based on a partnership between the government and private enterprise.

There are several ways in which the public agencies can enter into partnership arrangements with the private sector. These include BOT, BOO, contracting out, cooperatives, franchising, leasing, affermage, vouchers etc. The private sector participation could be through formal or informal organisations or could even be through NGOs/community groups. However, the choice of the agency which should provide a given service will depend upon the nature of the service i.e. whether the goods and services in question are public goods, private goods or merit goods and whether there exists a natural monopoly, negative externalities etc. in the production/supply of these goods on services.

A number of examples of public-private partnerships exist in Indian cities. In New Bombay and Rajkot contracting out has been used successfully in many services. This has resulted in substantial cost savings. Apart from contracting out, there are also examples of involving the private sector through BOT, franchising, joint ventures, and partnerships with cooperative societies and NGOs in the different cities and towns of the country.

In the sampled cities of Pune, Indore, Baroda and Vishakhapatnam information collected from the respective local governments indicates that service levels are below the specified norms. Tariffs are low, and in most cases expenditure exceeds revenue. This situation leads to financial problems, resulting in a poor quality of the services delivered. In the sampled cities, examples of involvement of the private sector are mostly found in the management of solid waste. In Baroda and Vishakhapatnam the municipal bodies have hired the services of private contractors for collecting waste in a few specified localities. The Pune Municipal Corporation is negotiating with a private firm to set up a plant on BOT basis for producing gas and electricity. In the water supply sector, the Municipal Corporation of Vishakhapatnam is considering a major water supply scheme, with financial contributions from industries in the city.

The local governments in the country had, until recently, not seriously considered involving the private sector in the provision of urban services. However, with a change in the government's policy favoring privatisation, local governments have also initiated changes in their functioning. But, at the same time, the local governments are bound, in their functioning, by the Acts under which they are set up. An examination of the clauses dealing with service provision under the different sections of the Acts, indicate that in the activities related to water supply, disposal of sewage, and public streets/bridges and subways, the Commissioner has the authority to hire the services of any person for providing the service. Therefore, the local governments are legally in a position to involve the private sector in service provision. In the activities related to scavenging and cleansing, however, no such provision for hiring the private sector is specified. Therefore, for this service a special clause will need to be inserted in the relevant section of the Act(s) to empower the Commissioner to hire any person for providing the service, as is the case in the services mentioned above.

The Constitution (Seventy-fourth) Amendment Act, 1992 on Municipalities has added new functions to the existing functions of the local governments. Following this, local governments will require additional funds and staff. But considering the fact that the local governments at present are unable to perform even their existing functions satisfactorily, the addition of new tasks will only place an extra burden on them. This further emphasises the need to use public-private partnership arrangements in the provision of urban services.

In case of most urban services, the partnership arrangement that seems most practicable is Contracting Out. However, BOT, franchising and partnerships with NGOs/cooperatives are other arrangements that can be experimented with in the different services under consideration. In the maintenance of roads, a new arrangement of 'sale of advertisement rights' could be tried out.

In order to involve the private sector in service provision, the local government staff will need to be trained. Such training will have to focus on drafting proper contract agreements working out the cost of service provision, monitoring, evaluation etc.

Privatisation and public-private partnerships are not a panacea for all problems in the area. The main reason for considering these options is to facilitate the inflow of private finance for projects requiring huge capital investments and to bring in competition between the service providers in order to improve the efficiency, coverage and the quality of the services delivered.

Chapter I

Economic Liberalisation and Private Sector Participation

Context of the Present Study

One of the most significant public policy issues in the 1980s has been the increasing shift towards privatisation. The macro economic policies of developing countries have shown a move towards the market economy. This change means a reduction in the dependence on the government for infrastructure and other basic services. East Asian countries which have changed to market based economies, have registered impressive rates of economic growth. This has encouraged other countries in the region to change their macro economic policies so as to usher in an era of high economic growth.

India has also embarked upon an ambitious plan of economic transformation through a policy of liberalisation and deregulation. To achieve the new economic goals, the government has recognised the need to cut down its expenditure and reduce the budgetary deficit on the one hand, and on the other, encourage privatisation.

A reduction in government expenditure means a reduction in the grants available to the state and local governments for managing their activities. Therefore, the national and state governments are facilitating the entry of private sector firms in the infrastructure sector. While privatisation in the airlines, power, and the transport sectors has already taken place or has been set into motion, private sector involvement in the urban services sector has taken place only in a small way.

Change in Outlook

Until recently it was widely believed by many that the responsibility for infrastructure and related services should rest with the public agencies. The private sector, which functions for making profit, was not considered an appropriate choice for the provision of public services. However, with the change in the economic outlook of the country and the liberalisation policy of the government, this thinking has undergone a change. The policy of 'nationalisation', pursued for a few decades, has given way to 'privatisation' in the changed economic scenario. The private sector is also showing considerable interest in the development of infrastructure and other related urban services. The not-for-profit organisations as well as community groups are increasingly indicating their willingness to share this responsibility with the government sector.

The resources required for bridging the urban infrastructure gap are quite large and beyond the capacity of the state and local governments. The involvement of private sector enterprises in the provision of urban services is expected to increase the flow of resources to this sector, reduce the cost of service provision and bring about efficiency in service delivery. By allowing entry to the private sector, it is expected that some element of competition will be introduced, which will also induce public agencies to improve their performance.

The Urban Scene

By the turn of the century nearly a third of the country's population is expected to be living in areas designated as urban. It is estimated that the proportion of urban to total population is likely to increase to nearly forty per cent by the year 2025. Expectations are that a significant proportion of this population will live in cities with a population of over a million. Almost all the Indian cities face a serious crisis with respect to the availability of infrastructure and other services such as drinking water, sanitation, power, mass transportation, air and water pollution etc.

Today, most municipal governments in India are not in a position to provide basic services at acceptable levels to their population. Studies on municipal finances suggest that municipal bodies have an annual per capita revenue income of Rs.200. This low level of income is insufficient to finance improvements in services, let alone augment their supply. An estimate by NIUA suggests that it would require nearly Rs. 39,000 crores (at 1991 prices) in the next decade to augment municipal services. It is fairly clear that the Central and state governments do not have sufficient budgetary resources for such investments. Given this situation, the alternative left with municipal governments is to enter into partnerships with the private sector for the provision of infrastructure and related services.

That urban local governments are unable to augment infrastructure and related services has serious implications for the productivity of urban areas and the health of the urban populace. In the wake of economic liberalisation, urban centres are likely to experience an increase in the demand for urban services. High incomes in urban areas make it possible to provide some of these services on a commercial basis through private sector participation.

New Mode of Urban Governance

The present mode of urban governance is ill-suited to meet the future challenges of rapid economic growth. It is necessary to devise policies and programmes that would enable urban governments to improve the quality of life of their residents as well as sustain the important economic role that cities will play in the national and global economy.

The new mode of governance should be one of partnership between the government and private enterprise, as the government has limitations in providing these services. In the paradigm of

partnership, the government assumes the role of a facilitator. The private sector is expected to bring in its capital and managerial strengths and ensure efficiency, while the government is expected to ensure equity and welfare of the people.

Privatisation of urban services needs to be viewed in the context of the growing demand for urban services. This growth in demand is due to both demographic pressure as well as the rising incomes of households in urban areas. Given the inability of the municipal governments to raise the necessary resources, and the need to cut-back expenditures on operation and maintenance, partnership with private entrepreneurs appears to be a viable mode of urban governance (Mehta and Raghupathi, 1994).

Objectives and Scope of the Study

In the context of the above, the main objectives of the study are to:

- analyse the status with respect to provision of selected municipal services;
- study the existing institutional arrangements for the provision of the services;
- to critically examine the legal provisions under the various municipal acts for the provision of the services; and
- suggest alternative institutional arrangements for improving the provision of the services.

The study is restricted to four municipal services viz. water supply, sanitation, solid waste, and roads. Four cities have been selected for the study viz., Pune, Indore, Baroda and Vishakhapatnam.

Methodology

The study is based on data collected from the local governments of the selected cities and on the discussions held with senior officers of the concerned corporations. A proforma was prepared for collecting information on the service levels, financial performance and involvement of the private sector in the delivery of the selected services in these cities. The data were then processed and comparative analysis was done for each of the four selected services.

The study was conducted during the year 1993-94; data was collected for the years 1991-92 and 1992-93.

Structure of the Report

The report has been organised into five chapters.

Chapter I, as we have seen, gives the context of the study, the relevance of public-private partnerships in the country's changing economic environment, the objectives of the study, its scope, and methodology.

Chapter II discusses the concepts of privatisation and partnerships. It details out the different partnership arrangements in the urban infrastructure and services sector such as Contracting Out, BOT, BOO, etc. The chapter also discusses the concepts of public goods, private goods, merit goods and the most appropriate provider for each type of good.

Chapter III reviews the literature on the subject and brings out examples of public-private partnership arrangements in the provision of urban services in India. In the last few years a number of examples have come to light where private contractors/firms have been hired by local governments for the provision of municipal services.

Chapter IV draws out a service profile for each service in the selected cities and discusses the existing institutional arrangements for the delivery of these services. The chapter describes the status of each service, both in terms of access and adequacy. The financial status with respect to each service is analysed in this chapter.

Chapter V, the final chapter, looks at the various Acts under which the local government of each of the selected cities has been formed and examines if any legislative changes are required for involving the private sector. It finally gives recommendations on the types of public-private arrangements that the different city governments could opt for in order to improve the provision of different services.

Chapter II

Privatisation and Partnerships - Conceptual Issues

This chapter looks into the concepts of privatisation and partnerships. It also gives the details of various types of partnership arrangements. The various types of goods in an economic system and the most appropriate arrangement for providing each of these.

Privatisation

The term 'privatisation' has many interpretations. It can range from complete divestiture of state owned enterprises to involving local communities in the provision of urban services.

Generally stated, privatisation is a reduction in government activity or ownership within a given service or industry, as follows:

- Government activity is reduced when the private sector participates in service delivery.
- Government ownership is reduced when - a) government enterprises are divested to unregulated private ownership and b) government agencies are commercialised (reorganised into accountable and financially autonomous semi-private enterprises) (Cointreau-Levine, 1994).

According to Walker (1989) "Privatisation is said to take place when responsibility for a service or a particular aspect of service passes, wholly or partially, to the private sector and when market criteria such as profit or ability to pay are used to ration or distribute benefits and services."

Partnerships

"The concept of partnerships, however, differs from that of privatisation in more general terms. Partnership arrangements essentially attempt to provide opportunities for joint ventures where the strength of each sector is enhanced through support from the other sector. As partnerships require more complex arrangements, incentives, negotiations and a cooperative, accommodating attitude, they help to build up the capacity of the local governments as well as to identify the constraints which inhibit the full potential of the economy in infrastructure provision" (Mehta, 1993).

Broadly four groups can be identified as having a role in public-private partnerships:

- governments at the national, regional and local levels;
- the formal private sector;
- the informal private sector;
- the NGOs/community groups (Gidman, 1994).

While partnerships can be formed between the government and any of the above three partners, financing of large infrastructure projects is possible mainly through partnerships with the formal private sector.

Advantages of Partnership Arrangements

- Cost savings - The use of private contractors/ firms in municipal services leads to significant savings in cost for the public agency. Experience from different cities indicates savings of upto 50 per cent in some of the municipal services.
- Investments in infrastructure - Involving the private sector in infrastructure services would bring in the much needed capital to finance major projects. This can be done through arrangements such as BOT/ BOO or franchising etc., or by floating municipal bonds, getting private funds for important projects based on certain tax concessions etc.
- Increase in service coverage - Municipal authorities are often unable to provide services to the entire area within their jurisdiction. The use of private contractors/firms will help in increasing the service coverage.
- Improvements in efficiency - The private sector, with its flexibility to adapt to changing needs and working for profits will provide much more efficient service than public agencies. For this, however, there should be a carefully drawn out contract agreement. The private sector may also bring in modern technology which may further enhance its efficiency in providing the service.

Types of Partnership Arrangements

Arrangements with the private sector can be made in two ways : one, by fully divesting the public authority of the function; and two, by public-private partnerships where the two sectors agree to come together to provide a service or facility. The main types of partnership arrangements often prevalent in the area of urban infrastructure and services are discussed below.

1. Build-Own-Operate (BOO)

An arrangement whereby a private entity is responsible for the financing, construction and operation of an infrastructure facility and where the private entity retains the ownership of the facility.

2. Build-Operate-Transfer (BOT)

The same as BOO except that the facility is transferred to the government agency at the end of the specified period.

Variants to BOT are:

BTO :	Build-Transfer-Operate;
BRT :	Build-Rent-Transfer;
ROT :	Rehabilitate-Operate-Transfer;
LDT :	Lease-Develop-Transfer;
LDO :	Lease-Develop-Operate.

3. Build-Own-Operate-Transfer (BOOT)

Here the private company provides finance for construction, owns, operates and maintains the facility for a specified period and then transfers ownership to the urban government. The condition of the asset on transfer must be specified by the public agency.

4. Competitive-Tendering (CT)

The process of seeking a number of competing tenders for a defined service to be performed under contract.

5. Compulsory-Competitive-Tendering (CCT)

Same as CT, but is carried out through force of legislation or regulation.

6. Contracting Out

The local government contracts with private firms (profit and nonprofit) or other agencies to perform particular operating or maintenance functions for a fixed period and for a specified compensation.

7. Co-operatives

Self governing voluntary organisations designed to serve the interests of their members.

8. Franchising

A private partner takes over the responsibility for operating a service and collecting charges and possibly for funding new investments in fixed assets (mostly within a defined geographical area).

9. Concession

An arrangement whereby a private party leases assets for service provision from a public authority for an extended period and is also responsible for financing specified, new fixed investments during the period; these new assets then revert to the public sector at the expiry of the contract.

10. Affermage

The public authority controls the construction, owns the fixed assets, but contracts out operations, maintenance and billing.

11. Leasing

An arrangement whereby a private party (lessee) contracts with a public authority for the right to operate a facility (and the right to flow of revenues from providing a specific service) for a specified period of time. The facility continues to be owned by the public authority. Unlike in a concession, the lessee does not have the responsibility for investments in fixed assets. (A lease may sometimes be called a "service concession", and a BOT is sometimes called a "public works concession").

12. Management Buy Out (MBO)

The management of well run internal functions negotiate the purchase of that function and becomes a private venture.

13. Privatisation

The entire public service is sold to a private company.

14. Vouchers

Vouchers enable consumers to obtain goods or services free or at a reduced cost while retaining the power to choose between competing suppliers.

15. Management Contract

An arrangement whereby a private contractor assumes the responsibility for a full range of operation and maintenance functions, with the authority to make day-to-day management decisions. Compensation may be based partially on the services rendered (as for service contracts) and partially on the performance achieved (as in profit sharing).

Public Goods and Private Goods

Public goods are those goods and services which have to be provided to a group as a whole and cannot be subdivided for the benefit of particular individuals. These are goods where non-payers cannot be excluded. Street lighting, for instance, is such a service. If a street has public lighting then everyone residing in the street will benefit from the service whether they pay for it or not. In such services there will be 'free riders' i.e. those who use the service without paying for it. Such services are generally provided by public agencies.

Private goods, on the other hand, are those goods and services where non-payers can be excluded. Water supply is a service that can be classified as a private good. If a user having a private water supply connection does not pay for the water his supply can be disconnected. A user cannot have access to a private good if he does not have the ability to pay.

Opting for the Right Choice - Public Provision or Private Provision?

The question of who should be responsible for providing infrastructure and other basic services requires careful consideration. According to Gabriel Roth (1987): "Economists have conventionally analysed the choice between the public and private provision of goods and services on the basis of the potential 'market failure'. Broadly speaking, private markets are said to function effectively if they provide the pattern of goods and services that consumers most prefer, given their levels of income. Production is also considered efficient if there is no slack in the economy by which more or better goods could be produced to make everyone better off. If these desirable properties do not hold it is said that markets do not function effectively".

Economic literature, according to Roth, describes five situations in which private markets cannot necessarily be relied upon to provide the most efficient and appropriate pattern of service:

Where natural monopolies exist;
Where increased production is associated with decreasing costs;
Where substantial externalities exist and are not reflected in the accounts of private suppliers;
Where it is difficult to charge for a service or to exclude those who do not pay;
Where merit goods are involved.

Natural Monopoly

This situation is said to exist when an economic activity is carried out most efficiently by a single producer. In these circumstances, the private producer will not be subject to direct competition and would therefore be in a position to exploit consumers. Hence, there would be advantages if the service is provided by a public agency that is politically responsible to the beneficiaries. However, the public agency may incur higher costs due to systemic inefficiencies and political factors. If private monopolies are promoted, the regulatory role of the government becomes crucial. Regulations regarding the quality of the service provided and the price at which these services are provided by the private monopolist have to be enforced vigilently.

Decreasing Costs

The efficiency of a productive enterprise can often be increased by enlarging the scale of production. On a larger scale of production it becomes possible for an enterprise to use specialised equipment that cannot be used when production is on a small scale, also, inputs can be bought more cheaply in large quantities. If economies of scale are so great that the industry can support only a few firms or only a single firm, there is a danger of monopoly power. Under such circumstances, a public-private arrangement may be better suited than full privatisation.

Externalities

Externalities arise when the exchange of goods and services creates costs and benefits for people not directly involved in the exchange. For example, since the supply of safe drinking water is beneficial to health, an improved water supply can benefit even those not directly involved in providing or receiving water (positive externalities). However, diseases can spread due to the entire community due to inadequate sewerage (negative externalities). Economists argue that in the absence of government action, goods or services involving negative externalities would be overproduced and those involving positive externalities underproduced.

Inability to Exclude Non-Payers

Some goods and services have to be provided to a group as a whole and cannot be subdivided for the benefit of particular individuals e.g., street lighting. These goods are known as "pure public goods." Whatever may be the level of service provided it is available to everybody regardless of the extent to which each individual chooses to utilise the service. Furthermore, there is no way in which individual users can be charged or in which non-users can be excluded from payment. Because of the impossibility of charging or excluding non-payers, the private market does not find it profitable to supply "pure public goods." Hence their provision is regarded as a responsibility of the government, or innovative fiscal arrangements need to be devised to enable the private operator to recover the costs of service provision.

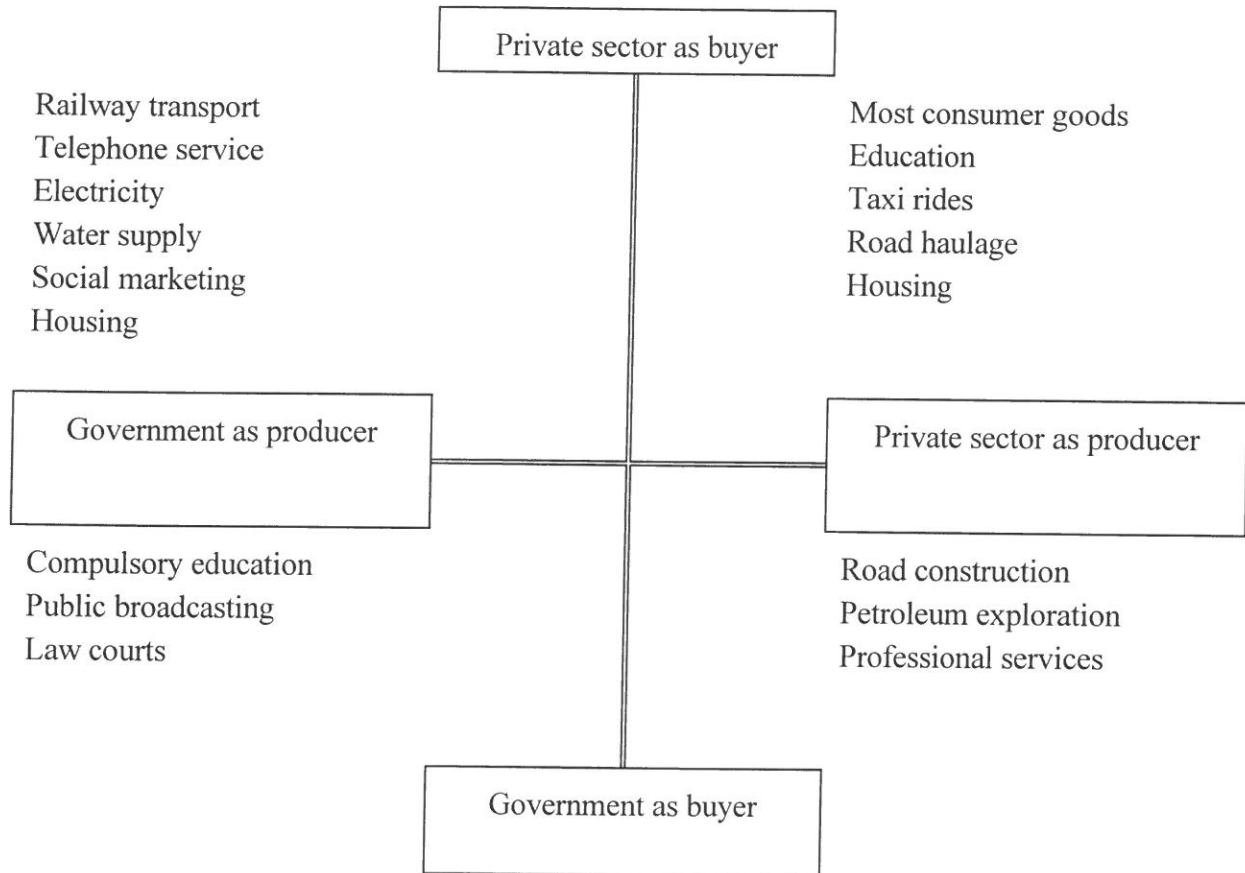
Merit Goods

The term "merit goods" is applied to those goods and services that society considers to have a special merit but that might be produced in insufficient quantity if left to private markets e.g., health and education. Because people would not voluntarily buy enough merit goods, the government can either provide them free or finance or subsidise their provision through the private market.

These are some of the situations in which private markets alone may not provide goods and services satisfactorily. In practice, many of these situations are amenable to public-private arrangements that are likely to produce better results. Such arrangements require a clear understanding of the role of each partner in service provision.

The following matrix indicates that the government and private sector can both be buyers and sellers of various goods and services. The services in the four quadrants may change according to the context. A service can also move from one quadrant to another depending on the policy changes in the country. The matrix shows that except in the top right hand quadrant, where the private sector is the producer as well as the buyer, in all the other quadrants the government is either the buyer or producer or both. Contracting out and management contracts fall in this quadrant.

Government and Private Sector as Buyer and Producer of Public Services



Source: Roth (1987)

Chapter III

Public-Private Partnerships - Examples from India

Managing urban infrastructure, services and facilities using the private sector is not a recent phenomenon. Private provision of urban services has been in existence for some time. Examples from all over the world show that certain types of infrastructure, such as telecommunications and power attract the private sector. These goods and services are more in the nature of private goods. Among the municipal services, there exist a number of examples of private companies supplying water, particularly in Africa and also in France.

This chapter gives examples of private sector involvement in urban services, especially in the municipal sector, in India.

Contracting Out

This is one of the most common forms of involving the private sector in the provision of urban services. In this arrangement, the government enters into contracts with private firms/agencies/contractors/cooperatives to provide goods and services or perform certain activities. The following list provides examples of the use of "contracting" for the provision of urban services in different cities of the country.

Management Contracts for Services in Indian Cities 1993

Services/Tasks	City
<u>Sanitation and Public health:</u>	
* Conservancy/ drain cleaning/ sanitation/ maintenance of STP	Guwahati, Bangalore, Jodhpur, New Bombay, Ludhiana
* Construction and maintenance of toilets	Faridabad, Delhi, Hubli- Dharwad, Aurangabad, Kalyan, Jaipur
* Mosquito control	Cochin

Solid Waste Management:

- * Garbage collection/disposal/
street cleaning
Guwahati, Ahmedabad,
Rajkot, Baroda, Bangalore
Cochin, Bombay, Pune,
Jalandhar, Amritsar,
Ludhiana, Jaipur
- * Compost plant, solid waste
conversion
Baroda, Kalyan

Roads and Streets:

- * Road construction
Ahmedabad, Cochin
- * Road maintenance
Bangalore, Cochin, Jaipur
- * Street lighting
Ranchi, Rajkot, Faridabad,
Jodhpur, New Bombay

Water Supply:

- * Maintenance of water supply
system
New Bombay

Tax Collection etc.:

- * Collection of entry tax, other
local taxes/charges
Guwahati, New Bombay
- * Parking lots/ collection of
charges
Guwahati, Pune

Gardens and Parks etc.:

- * Development and maintenance of
garden parks/ playgrounds/ sports
complex/ swimming pool/ planet-
arium/ traffic islands
Rajkot, Baroda, Bombay,
Faridabad, Hubli-Dharwad,
Bangalore, Cochin, Ranchi,
Aurangabad, New Bombay,
Kalyan, Pune, Amritsar,
Ludhiana, Jalandhar, Jaipur
- * Social forestry, tree planting
Baroda, Rajkot

Others:

* Bus terminus/ shelter	Ranchi, Cochin
* Ward security	Ahmedabad, Rajkot
* Market development	Ahmedabad, Kalyan
* Maintenance of vehicles	Rajkot
* Land development	Faridabad
* Maintenance of libraries etc.	Faridabad
* Milk market	Hubli-Dharwad

Source: Meera Mehta (1993)

Other Forms of Partnerships

Apart from contracting out, other forms of public-private partnerships have also been used in different Indian cities. Some examples are given below:

Partnerships in Urban Services/Infrastructure : Selected Examples

State/City	Service/Facility	Form of partnership
<u>Maharashtra</u>		
Nasik	Octroi post	Auction
Panvel	Bypass	Turnkey
Pune	Solid waste (Resource recovery)	BOT
Jaisingpur	Bypass	Franchise
<u>Gujarat</u>		
Baroda	Solid waste	BOT Cooperative Societies

<u>Tamil Nadu</u>		
Madras	Solid waste	NGO involvement (EXNORA)
	Waste water recycling (in industry)	Private Company
Tirrupur	Water supply	Private financing
<u>Andhra Pradesh</u>		
Hyderabad	Light rail transit system	Joint Stock Company
Vishakhapatnam	Water supply	Large private financing
<u>Madhya Pradesh</u>		
Indore (Rau)	Link road (Rau Pithampura)	BOT
<u>Delhi</u>		
Delhi-Noida	Link bridge Transport	BOT Privatization of routes

CIDCO's Experience With Partnerships

The City and Industrial Development Corporation of Maharashtra Limited (CIDCO), which is a development authority responsible for the development of New Bombay, has had considerable experience in using the private sector in the provision of urban services. Most of the work on operations, repair and maintenance of infrastructure services in New Bombay is being carried out through private contractors on an annual contract basis. The services include maintenance and cleaning of roads, and storm water drains, street lighting; removal and disposal of garbage; maintenance of sewerage system and sewage treatment plants; maintenance of water supply pipelines, running and maintenance of pumps; maintenance of parks and gardens, maintenance of railway stations, and collection of service charges. Contracting out has resulted in cost saving and better performance through competition, and also saving the cost of permanent staff maintaining such services.

CIDCO has used a non-conventional method for financing its urban rail corridor project. The cost of financing the Rs.287 crores (1988-89 prices) 18 Km. long Mankhurd-Belapur railway line has been jointly borne by the Government of Maharashtra, through CIDCO, and the Ministry of Railways, in the proportion of 67 per cent and 33 per cent, respectively. Out of the Rs.287 crores, CIDCO's share amounted to Rs.193 crores (approx.). CIDCO has been authorised to raise the necessary funds through issuance of rail bonds outside the plan finances. This formula has been replicated in case of the other rails corridors in New Bombay. CIDCO is also actively considering a proposal to establish a company in the joint sector for the proper development and operation of the commuter rail system in the New Bombay area.

CIDCO has also used the services of private individuals and firms in other sectors such as housing and land development.

Rajkot Municipal Corporation's Experience With Partnerships

The Rajkot Municipal Corporation (RMC) has had considerable success in its efforts to privatise municipal services. As an innovative measure, privatisation was taken up by RMC on a small scale in 1990-91. Encouraged by its success and the realised advantages partnership options are now being used in many more sectors. The services in which such options have been used are - street lighting, solid waste removal, gardens and afforestation, entertainment projects and schemes, security, maintenance of swimming pool, and operation and maintenance of sewage treatment plants.

The RMC's experience with partnerships was advantageous favourable because manpower management became easy and effective; it was financially beneficial; there was no long term liability; there was higher productivity; and finally, there was time bound execution of the work.

Some Illustrations of Contracting Out Public Services in New Bombay

Civic Functions (1)	Nature of work/Activities (2)	Area covered (3)	Brief of work done through Private Agencies (4)	Advantages (5)
Public Health	Road Sweeping, Removal of debris, Garbage collection, disposal, maintenance of S. W. drains, Spraying of insecticides etc.	All the 7 Nodes in New Bombay.	The work is allotted to different contractors for a group of sectors on yearly basis at competitively fixed rate. The work done by the contractor is supervised by the Sanitary Inspectors of CIDCO. There are 15 contracts in all the 7 townships. This system has been functioning for last 8 years.	<p>(1) The streets are well maintained.</p> <p>(2) It is economical. The total cost of all contractors in 7 townships is Rs.58.00 lacs per year. If this work is done by CIDCO departmentally there would be at least 400-500 sweepers +20 trucks. The all inclusive maintenance costs including salary etc. would be around Rs.100.00 lacs. As against this, the work is done quite satisfactory through private contractors at half the cost and with no performance liability of maintenance department.</p> <p>(3) Through privatisation work is done on all days of the week.</p> <p>(4) More efficient than the work done departmentally through control on contracts.</p> <p>(5) No strike, work to rule, no additional staff.</p> <p>(6) The system will help the Municipal Corporation to adopt the same as and when they take over.</p>

<p>Maintenance of STP, Sewerage Pump House, etc.</p>	<p>There are at least one STP and 4-6 Sewerage Pump Houses in each Node. The daily maintenance of these pump houses and STP were initially done departmentally. But during last 2 and half years the daily maintenance works have been entrusted to private agencies either on monthly or yearly basis contract. The system is functioning very well.</p>	<p>In all the Nodes</p>	<p>In the case of Sewerage Pump House maintenance, the work is entrusted to private parties by calling tenders on yearly basis. The latest quotation is Rs.1.30,000 per P.H. The STP maintenance is given on monthly basis for Rs.60,000 per month.</p>	<p>(1) The system is working well and it is efficiently managed. (2) Cost saving as compared with the work done departmentally. (3) No need for large number of maintenance staff. (4) Overall economy as the work is entrusted to the party through tender system. (5) CIDCO's responsibility is restricted to only payment of energy bill and replacement of major parts. Minor parts replacements are part of the contract.</p>
<p>Collection of CIDCO's dues (services charges, water charge, EMI etc.)</p>	<p>It is done on experimental basis in two townships namely in Belapur and in selected sectors of Vashi Node. Now it is proposed to extend this to other Nodes. Though the contract provides recovery of all types of dues but at present entrusted with collection of water charges only.</p>	<p>Vashi & Belapur and it is proposed to extend to other Nodes.</p>	<p>A prominent social organisation viz. Senior Citizen's Club of retired Government Servants in Vashi was entrusted with the work of distribution of bills and collection of dues from residents from 1-4-91. In Belapur Node this work is entrusted to Lions Club. The performance of these Agencies is highly satisfactory. CIDCO has provided office space in the community centre and also paying commission at 1% of collection.</p>	<p>(1) Almost 100% collection achieved. During the 1st year (1991-92) in Vashi alone (selected sectors) the total collection was Rs.160 lakhs. Collection on an average is Rs.25 lakhs per month. (2) These organisations provide good customer service with complete satisfaction. (3) Residents are very happy as they do not have to stand in a big que in Banks as per earlier arrangement. Some informal arrangements are making the difference. (4) It ensured more accountability. Cash has to be immediately deposited in CIDCO's account. (5) Reduction in cost of collection as CIDCO paid only 1% of the collection (in all paid about Rs.2 lakhs so far plus office accommodation & some furniture in community centre).</p>

<p>Maintenance of Water Supply System</p>	<p>The bulk water received from MIDC is stored in MBRs, CSRs & ESR and supplied to the residents through network of pipe lines. There are 5-10 ESRs/GSRs. It requires maintenance staff round the clock for pumping the water and other maintenance.</p>	<p>In all the Nodes.</p>	<p>The entire water distribution system such as operation of water supply pumps attached to each ESR/GSR, emergency repairs to pumps, motors, transformers, meter reading, data preparation, preparing computerised bills, distribution of bills, collection of water charges are done through private agencies at an annual cost of Rs.40.00 lakhs. The water supply department has only 12 staff under the supervision of one Addl. Chief Engineer.</p>	<p>(1) There is cost saving. The total maintenance cost is about Rs.40 lakhs whereas if the system is managed departmentally, the cost would have been more than double. (2) The privatisation has improved the collections. During 1991-92 the total collection of water charges in all Nodes was to the tune of Rs.8.80 crores. This has shown substantial improvement as compared to the previous year (nearly 4 times). (3) Privatisation improved the consumer satisfaction. (4) Through privatisation of maintenance work, the loss of water, leakage, etc. substantially reduced. (5) The overall performance has improved and contractors are made accountable. Poor performance may lead to termination of contracts with just 7 days notice.</p>
<p>Development of Parks & Gardens</p>	<p>CIDCO is required to develop large number of parks/gardens/open spaces etc. all over New Bombay.</p>	<p>In all the Nodes.</p>	<p>Instead of developing the parks/gardens, CIDCO offered some of the parks/gardens to private companies/institutions/social organisations for development at their own cost. Traffic islands and roadside landscaping are also entrusted to local companies. (2) In addition, many of the gardens, developed by CIDCO in the past are maintained through private contractors/companies.</p>	<p>(1) Cost saving - CIDCO was required to spend on an average Rs.10-15 lakhs per garden/park plus maintenance over years. There are clear savings and better upkeep. (2) Gardens/Parks developed by private sector are more attractive aesthetically. (3) Entrusting the work of maintenance of parks & gardens to private contractors ensure better maintenance, prevent departmental overstaffing and increase the functional efficiency/control.</p>

Educational Facilities	<p>Providing Educational Facilities is one the functions of the New Bombay Development (in 1970s). In Vashi, CIDCO constructed one school and also managed it. Later on it was decided no school should be run by CIDCO but to hand over to reputed Educational Institutions with good track record. The cost of the school building is recovered in easy instalments over 20 years. The entire education system pre-primary, primary & secondary in New Bombay is functioning on this basis. The response from reputed educational institutions has been good.</p>	<p>There are present 41 schools in New Bombay of which 39 are constructed by CIDCO and handed over to private agencies for running the school.</p>	<p>There are more than 30 reported Educational Institutions which are managing the primary and secondary educational needs of the population in New Bombay.</p>	<p>(1) Cost saving - if run by CIDCO lot of teachers and staff will have to be employed. (2) The quality of education in New Bombay is better than even Bombay. Lot of children from Bombay come for education to New Bombay. (3) Privately managed educational institutions can more efficiently manage educational activities as they have more access to expertise and have flexibility in their working. (4) No strike. (5) Competitive spirit is developed among different institutions resulting in better performance and quality.</p>
Street Lighting	<p>Repair & Maintenance through 20 contractors</p>	<p>All Nodes in New Bombay.</p>	<p>The agencies are expected to operate, undertake minor repair and arrange manpower for repairs. They are subject to penalty if proportion of non-working lights is more than 5%.</p>	<p>There are over 10000 street lights in Nodes in New Bombay of which 79% are Sodium Vapour Lamps. The cost per fixture excluding energy charges is Rs.730/- per year of which labour component is only Rs.71/- per year. So cost effective and saving on large establishment.</p>

Source: A. Bhattacharya, Some Thoughts on Policy Aspects for Sustainable urban development and management, AIHDA Journal, Ninth Annual Convention Special Issue, Feb. 1993.

Cost Savings from Use of Partnership Arrangements

The use of public-private partnerships has resulted in cost savings for most public agencies which have used such arrangements. The extent of savings achieved varies by cities as it depends upon the ability of the public agency to accurately calculate the cost of provision of any given service as well as its ability to invite a sufficient number of private operators for providing the service. Cost savings from the provision of basic services through the private sector are as follows:

Financial Benefits from Using Private Sector

NEW BOMBAY (1992-93)

Water Supply

Maintenance of water distribution system:

CIDCO's cost	Rs. 600 per day
Private contractor's cost	Rs. 175 per day
Net savings	Rs. 425 per day

Solid Waste Management

CIDCO's cost	Rs. 99.0 lakhs/year
Private contractor's cost	Rs. 42.6 lakhs/year
Net saving	Rs. 56.4 lakhs/year

RAJKOT (1991-92)

Primary Solid Waste Removal

RMC's cost	Rs. 16.95 lakhs
When privatised	Rs. 14.36 lakhs
Net gain	Rs. 2.61 lakhs

Secondary Solid Waste Removal

RMC's cost	Rs. 260 per tonne
When privatised	Rs. 200 per tonne
Net gain	Rs. 60 per tonne (calculations include establishment cost)

Street Lighting

RMC's cost	Rs. 14.86 lakhs
When privatised	Rs. 11.89 lakhs
Net gain	Rs. 2.97 lakhs

Source : CIDCO and RMC.

The role of NGOs and Communities

A good example of NGOs involvement in solid waste removal is that of EXNORA - an NGO based in Madras. This organisation has motivated people to participate in solid waste removal from their residential areas. EXNORA appoints "rag pickers", renamed "street beautifiers", who visit individual households and collect waste which is then taken to nearby transfer stations, from here the Madras Corporation's pick-up trucks do the secondary collection. Each household makes a nominal payment of Rs. 10 to 20 per month for the service rendered.

Another good example of NGOs involvement in basic services is that of the Baroda Citizens Council's (BCC) involvement in community development programmes. BCC is a partnership between the Baroda Municipal Corporation, the local industries and the M.S. University.

Under the community development programme BCC's activities include, among others, water supply and sanitation. BCC has started a community based solid waste collection system that covers 1200 households. BCC helps the Residents' Association of the society to employ part-time sweepers/rag pickers to collect garbage from the households everyday. Each household pays for the service; the sweepers transport the garbage to the nearest municipal dumps; BCC in turn, interacts with BMC for the collection of garbage from these dumps.

Chapter IV

Profile of Services in Selected Cities and Privatisation Efforts

As already mentioned, the cities selected for the study are Pune, Indore, Baroda and Vishakhapatnam. These cities have been selected on the basis of their population size and location. Pune and Baroda are located in high income states that have a high level of industrialisation. Indore is located in a medium income state and is one of the important industrial cities of Madhya Pradesh. Vishakhapatnam is amongst the fast growing cities of the country and has a large industrial base.

Demographic Profile of Sampled Cities

Pune, in Maharashtra, has a population of about 1.6 million (1991) and an area of about 146 sq.km. In 1961 the city had a population of a little over six lakhs. During each of the decades 1961-71 and 1971-81 the city's population grew at the rate of about 41 per cent. However, between 1981-91 the rate of growth of the population fell to about 30 per cent. Between 1961 and 1991 the area of the city grew marginally - by 14 sq.km. - from 132 sq. km. to 146 sq.km.

Indore, in Madhya Pradesh, has a population of 1.1 million (1991) and an area of 130 sq.km. In 1961 the city had a population of about four lakhs. During the decade 1971-81 Indore experienced a growth rate of almost 48 per cent. However, during 1981-91 the growth rate came down to 33 per cent. The area of the city has more than doubled between 1961 and 1991 -from 56 sq.km. to 130 sq.km.

Baroda, in Gujarat has population of 1 million (1991) and an area of 108 sq.km. In 1961, it had a population of three lakhs. It experienced a high growth rate of 57 per cent during 1971-81 which came down to 40 per cent during 1981-91. The city's area has increased three-fold since 1961 from 34 sq.km. to 108 sq.km. (1991).

Vishakhapatnam, in Andhra Pradesh, has a population of 7.5 lakhs (1991) and an area of 78 sq.km. The city experienced a very high rate of growth of 95.47 per cent between 1951-61, which came down to 67 per cent and 60 per cent respectively in the subsequent decades. During 1981-91 it registered a growth rate of 33 per cent. Its area has grown two-and-a-half times since 1961 - from 29 sq.km. to 78 sq.km. (1991) (See Table 1).

Table 1

Area and Population of Sampled Cities

Pune	Status	Area (sq.km.)	Population	% Decadal Variation
1961	M. Corp	132.09	606,777	+ 24.23
1971	M. Corp	138.85	856,105	+ 41.09
1981	M. Corp	138.76	1,203,351	+ 40.56
1991	M. Corp	146.00	1,559,558	+ 29.60

Indore	Status	Area (sq.km.)	Population	% Decadal Variation
1961	M. Corp.	55.84	394,941	+ 27.05
1971	M. Corp.	58.72	560,936	+ 42.03
1981	M. Corp.	113.52	829,327	+ 47.85
1991	M. Corp.	130.17	1,104,065	+ 33.12

Baroda	Status	Area (sq.km.)	Population	% Decadal Variation
1961	M	34.42	309,716	+ 46.50
1971	M. Corp.	78.13	467,487	+ 50.94
1981	M. Corp.	108.26	734,473	+ 57.11
1991	M. Corp.	108.26	1,031,346	+ 40.42

Vishakha - patnam	Status	Area (sq.km.)	Population	% Decadal Variation
1961	M	29.14	211,190	+ 95.47
1971	M	76.32	352,504	+ 66.91
1981	M. Corp.	78.33	565,321	+ 60.37
1991	M. Corp.	78.33	750,024	+ 32.67

Source : Census of India, 1981 and 1991. M - Municipality M. Corp. - Municipal Corporation

Profile of Selected Services

Municipal services in most Indian cities are inadequate, inefficient and inaccessible to a substantially large segment of the population. However, within such broad generalizations there are examples of cities and services which are well provided for. The following section draws a profile of the selected services (viz. water supply, sewerage, solid waste, and roads) in the sampled cities and indicates the privatisation efforts in these services, wherever such attempts have been made.

Solid Waste Management

The statutory responsibility for solid waste management in the sampled cities rests with the municipal bodies. However, they are often unable to cover the entire population and area within their jurisdiction. While in Pune and Vishakhapatnam the municipal authorities claimed to service the entire area, in Baroda and Indore this service is provided to only 80 and 75 per cent of the municipal area, respectively (Table 2).

Generation, Collection and Transportation

The per capita per day generation of waste in the sampled cities ranges between 339 grams in Baroda to 490 grams in Vishakhapatnam. The total solid waste generation varies between 350 tons per day in Baroda to 700 tons per day in Pune. The collection efficiency, however, is very poor in Indore, with only less than half the waste generated being collected. The collection efficiency is very high in Pune where nearly all the solid waste generated in the city is collected.

Table 2
Solid Waste Generation and Collection : 1992-93

City	Coverage (%)	Total generation (Tons/day)	Per capita generation* (grams/day)	Total collection (Tons/day)	Collection (%)	Collection vehicles (Number)
Pune	100	650 – 700	416-448	650-700	100	50
Indore	75	450	407	220	49	30
Baroda	80	350	339	300	86	40
Vishak.	100	368	490	270	73	50

* Total generation divided by 1991 population

Source: Based on data obtained from respective Municipal Corporations.

Waste is transported to the final dumping ground with the help of tractor trolleys, vans, lorries, bullock carts and tippers. On an average the vehicles, make at least two trips a day but if required, they even make additional trips.

Disposal and Resource Recovery

The final disposal of solid waste is mostly done by landfilling and composting, though in some of the cities waste is dumped wherever space is available. Mechanical composting has been tried out in some of the cities such as Vishakhapatnam, but without much success. The reason is often that as many of the consumers are farmers who hail from far away cities, the cost of production exceeds the price the consumers are willing to pay for the compost.

Resource recovery from waste is being tried out on a small scale in some of the cities and is under consideration in others. For instance, in Pune a private company has come forward to instal a plant for generating gas and electricity from municipal wastes. There is a suggestion, in Indore, to put up two incineration plants for generating electricity.

Solid waste management is a labour intensive service and the norm is 28 workers per 10,000 population. However, as against this norm, none of the cities were found to employ the specified number of workers. Indore has 20 workers per 10,000 population while Vishakhapatnam has 18 workers per 10,000 population. This situation can be remedied only if more workers are inducted or specified areas are given over to private contractors for primary collection and transportation of waste (Tables 3 and 4).

Table 3

Sanitary Workers : 1992-93

City	Workers		
	Regular	Daily/Ad hoc	Total
Pune	947	400	1347
Indore	2233	19	2252
Baroda	1978	-	1978
Vishak.	1285	88	1373

Source: Based on data obtained from respective Municipal Corporations.

Table 4**Shortfall in Sanitary Workers : 1992-93**

City	Actual number of workers	No. of workers per 10,000 population*	Minimum required as per norm**	Additional staff required to fulfil norm
Pune	1347	1347	4367	3020
Indore	2252	2252	3091	836
Baroda	1978	1978	2888	910
Vishak.	1373	1373	2100	727

* As per population of 1991

**Norm: 28 workers/10,000 population (Committee on Solid Wastes, 1973)

Source: Based on data obtained from respective Municipal Corporations.

Revenue and Expenditure

The main sources of revenue for the service are sanitation tax/cess and income generated from the sale of the compost. A specified percentage of sanitation cess is earmarked for solid waste management (See Annex 1). The revenue from this service in 1992-93 varied between Rs.0.20 million in Baroda to Rs.15 million in Indore of which Rs.7 million was from arrear collection. However, the expenditure on the service far exceeded the revenue generated, ranging between Rs.48 million in Vishakhapatnam and Indore to Rs.56 million in Pune and Baroda, in 1992-93. Revenue as a percentage of expenditure on the service was insignificant in Baroda and Vishakhapatnam while in Indore and Pune it averaged about one-fourth or above in 1991-92 and 1992-93. In Baroda, revenue was derived only from the sale of compost as no sanitation cess was levied by the corporation. In Vishakhapatnam the revenue was low as only a fourth of the sanitation cess was allocated to solid waste management and no revenue was generated from any other source. In Indore and Pune sanitation tax accounted for the bulk of the revenue (Table 5).

Expenditure on the service as a percentage of the total municipal expenditure was 10 percent in Vishakhapatnam and 14 per cent in Indore, in 1992-93. The main items of expenditure were salaries and wages, followed by power and fuel. Salaries and wages accounted for nearly 97 per cent of the total expenditure on the service in Indore, in 1992-93, while in Baroda the corresponding figure was 78 per cent. It is thus evident that this service is a labour intensive service. Also, only a small sum is being spent on the maintenance of equipment and vehicles etc. This is one of the causes for the deterioration of the service in most cities. Without proper maintenance the efficiency of vehicles comes down significantly and the problem of waste disposal in cities becomes more acute. (For detailed data on the services see Annex 1).

Table 5**Revenue and Expenditure on Solid Waste Management**
(Rs '000)

City/Year	Revenue		Expenditure	
	1991-92	1992-93	1991-92	1992-93
Pune	10,643	11,271	46,490	56,266
Indore	12,649	15,042	44,702	48,177
Baroda	167	200	53,629	56,452
Vishakhapatnam	N.A	1,600	N.A	48,714

Source: Based on data obtained from respective Municipal Corporations.

Efforts at Involving the Private Sector

Solid waste management is one service where local governments have shown great interest in involving the private sector. In many cities private individuals or NGO's at their own initiative have taken up the task of waste collection from different localities. However, in this section only those examples have been cited where the local government has made efforts at privatisation.

While contracts with small contractors for collection of garbage have become common in many cities, efforts have also been made to involve the private sector in the transportation of waste and in resource recovery.

In Vishakhapatnam a small beginning has been made by the Corporation by entrusting the task of collecting solid waste from a few residential localities, a wholesale vegetable market, and a museum, to private contractors.

In Baroda, the Municipal Corporation and a private entrepreneur set up a plant to make fuel pellets from municipal waste. Since Baroda has a major petro-chemical complex, the municipal waste was mixed with petroleum waste to make fuel pellets. This was a successful venture and the company purchased the waste from the Corporation. However, recently some problems have arisen with the company and the plant has been closed down. In another major initiative the Corporation, in conjunction with an NGO (Baroda Citizens Council), has passed on the task of waste collection in a few localities to the residents themselves. The residents, who earlier complained of poor service, have now employed their own waste collectors; This arrangement has worked satisfactorily, though initially there were some problems.

In Pune, the Corporation has permitted a private company to put up a plant to generate gas and electricity from municipal wastes. The company will be given land on lease by the Corporation;

the Corporation will also transport the waste to the plant site. In turn, the private company will finance construct and operate the unit on a build- operate-transfer (BOT) basis.

In Indore, the Corporation commissioned a private consultancy firm to study the solid waste situation in order to recommend ways of dealing with the problem. The consultant's report has suggested the setting up of two incineration plants. If these recommendations are accepted, the Corporation could use public-private partnership options for operating the plants.

Water Supply

Water supply, in the selected cities, is mainly provided by the respective municipal corporations. In Indore, however, apart from the Indore Municipal Corporation, which is responsible for the revenue and expenditure functions, production, maintenance and distribution is done by the Narmada Project Public Health Department and the Public Health Engineering Department.

Quantity

The main sources of water supply in the selected cities are river, lake, canal and tube wells. The quantity of water obtained from the different sources ranges between 28 MGD in Vishakhapatnam to 120 MGD in Pune. The per capita per day supply (lpcd) varies between 95 litres in Vishakhapatnam to 180 litres in Pune. The shortfall, as compared to the norm of 202.5 lpcd, was the highest in Vishakhapatnam, followed by Indore and Baroda. Pune had a shortfall of only 22 lpcd (Tables 6 and 7).

Coverage

Pune, due to its relatively comfortable position with respect to water supply, has been able to supply water to the entire population falling within its jurisdiction. Vishakhapatnam, on the other hand, has been able to supply water to only 79 per cent of the population. Indore and Baroda have managed to cover 90 to 93 per cent of the population falling within their jurisdiction (Table 6).

Table 6
Water Supply : 1992-93

City	Population covered (%)	Water Obtained (MGD)	Source
Pune	100	120	1. Canal (120 MGD)
Indore	93	43	1. Narmada (34 MGD) 2. Yashwant Sagar Lake (5 MGD) 3. Bilwali Tank and Tube Wells (4 MGD)
Baroda	100	45.5	1. Ajwa Sarovar (10 MGD) 2. Mahi River - French Wells (27.5 MGD) 3. Tube Wells (8 MGD)
Vishak.	79	28	1. Canal (4 MGD) 2. Lake (20 MGD) 3. Wells (4 MGD)

Note : MGD - Million Gallons Daily

Source: Based on data obtained from respective Municipal Corporations.

Table 7
Shortage of Water : 1992-93

City	Water supply (LPCD)	Norm (LPCD)	Shortage (LPCD)
Pune	180	202.5	22.5
Indore	135	202.5	67.5
Baroda	137	202.5	65.5
Vishak.	95	202.5	107.5

Note: LPCD - Litres per capita daily Zakaria Committee Norms: 1 to 5 lakh population - 157.5 LPCD

5 lakh & above population - 202.5 LPCD

Source: Based on data obtained from respective Municipal Corporations.

Connections

Metering of domestic connections is not very common in many of the cities. Indore does not have any metered connections for domestic users, while Vishakhapatnam and Baroda have very few metered domestic connections. Pune, on the other hand, has over half its domestic connections metered. The duration of water supply in Vishakhapatnam is so short - 1 to 2 hours daily, that metering of the water supply may not increase revenue considerably. However, most of the commercial and industrial connections in all the cities are metered (Table 8).

Table 8

Number of Connections

City	Domestic		Commercial		Industrial		Standposts
	Metered	Unmetered	Metered	Unmetered	Metered	Unmetered	
Pune	48,170	40,000	8,371				5,000
Indore	-	1,07,089	415		1,176		7,263
Baroda	Metered - 43,000 Unmetered - 1,51,000						604
Vishak.	100	21,000	300	-	18	-	2,100

Source: Based on data obtained from respective Municipal Corporations.

Tariff

The water tariff water in the cities covered by the study varies according to the use to which the water is put such as domestic, commercial, industrial etc. Domestic users are highly subsidised by the commercial and industrial users. Often domestic rates are one-fourth to one-fifth the commercial and industrial rates. For instance, in Pune the domestic rate (metered) is Rs. 2.00 per 1000 litres (KL) of water whereas the industrial rate is Rs. 10 per 1000 litres.

In Indore the difference in tariff is most pronounced with the domestic rate (metered) being Rs.1.00 per KL while the industrial rate is Rs. 11.00 per KL. Unmetered connections are charged at a fixed monthly or annual rate, which vary between Rs. 150 per annum in Baroda to Rs. 480 in Vishakhapatnam. In Pune the unmetered connection charges are based on the rateable value of the property (Table 9).

Table 9

Water Tariff : 1992-93

City	Domestic		Commercial		Industrial		Standposts
	Metered (Rs/KL)	Unmetered	Metered Rs/KL)	Unmetered	Metered (Rs/KL)	Unmetered	
Pune	City: Rs. 2.00 Cantt Rs. 2.50	On rateable value of property	Rs. 10.00	On rateable value of property: 1 to 2999- Rs.525.00 per year 3000 onwards- 17.5% of RV	Rs. 10.00	On rateable value of property: 1 to 2999- Rs.525.00 per year 3000 onwards - 17.5% of RV	Free of cost For those with private connection in slums – Rs. 175.00 per year
Indore	Re. 1.00	Rs. 30.00 per month	Rs. 5.25	-	Rs. 11.00	-	Free of cost
Baroda	Rs. 1.50	Rs. 150.00 per year	Rs. 5.40	Rs. 1260.00 per year	Rs. 5.40	Rs. 1260.00 per year	Flat rate
Vishak	Rs. 5.00	Rs.40.00 per month	Rs. 5.00 or a minimum of Rs. 150.00 per month	-	Rs. 12.00 for treated water Rs. 4.40 for raw water	-	Free of cost

Note : KL = 1000 litres

Source: Based on data obtained from respective Municipal Corporations.

Revenue and Expenditure

The revenue from supplying water comes by way of water charges for domestic, commercial, and industrial supply, connection charges, water tax etc. The main heads of expenditure are establishment charges, electricity charges, maintenance of pipe lines, consumables, etc. In the sampled cities the expenditure on electricity formed 50 to 60 per cent of the total expenditure on water supply while the expenditure on salaries and wages accounted for about 20 to 30 per cent (Annex 1).

Among the sampled cities Vishakhapatnam showed a profit in water supply. In 1992-93 the Corporation's water supply division showed an excess of revenue over expenditure of nearly Rs.25 million. The revenue was, in fact, 146 per cent of the expenditure. In Pune, the revenue from water supply accounted for only about 90 per cent of the expenditure on the service. However, in Baroda the percentage of revenue to expenditure was less than 50 per cent in 1992-93, while it was less than 20 per cent in Indore during the same year.

In Vishakhapatnam, an average of ten per cent of the Corporation's total expenditure was on water supply while it earned an average of 15 per cent of the total revenue from water supply. In Indore, however, the expenditure on the service formed 30 to 35 per cent of the total expenditure of the Corporation, whereas the revenue from water supply formed only about 7 to 8 per cent of the total revenue of the Corporation in 1991-92 and 1992-93 (Table 10).

Table 10
Revenue and Expenditure on Water Supply

(Rs. million)

City	Revenue		Expenditure	
	1991-92	1992-93	1991-92	1992-93
Pune	154.90	214.40	174.10	236.70
Indore	21.73	22.79	79.09	123.92
Baroda	55.10	64.69	92.50	140.82
Vishakhapatnam	78.84	78.21	53.93	53.60

Source: Based on data obtained from respective Municipal Corporations.

The main problems with respect to water supply in the sampled cities relate to the aging distribution network and leakages. The water supply also needs to be augmented so as to meet the rising demands of the cities.

Efforts at Involving the Private Sector

Water supply is a sector in which the private sector has not played a major role in India. While water supply is very basic to survival, and should remain with the public sector, the private sector has and can play a role, particularly if the service is unbundled (broken down into different components/activities). For instance, laying down of pipelines, major repairs, operation and maintenance of water treatment plants, meter reading and billing etc. are activities in which private contractors can be involved.

In Vishakhapatnam, potable water was being supplied through tankers by using public as well as private tanker trucks. The use of private trucks, though was profitable, was discontinued a few years ago because of certain policy changes in the Corporation.

The Vishakhapatnam Municipal Corporation is considering a major water supply augmentation scheme, the estimated cost of which is Rs. 189 crores, (1994 figures) of which Rs. 100 crores is to be contributed by industrial establishments. This is the first major water supply scheme being considered using private sector funds.

In the other sampled cities no noteworthy examples of private sector involvement in water supply were found.

Sewerage

In the sampled cities, the municipal authorities have the sole responsibility for sewage disposal for the area within their jurisdiction. However, the entire area and population has not been covered by the municipal authorities. Amongst the sampled cities, in Pune 70 per cent of the area has been covered by the sewerage system, in Baroda 60 per cent and in Indore and Vishakhapatnam less than one-third of the area is covered by the sewerage system. The population residing in the areas not covered by the municipal authority generally has septic tanks, soak pits or uses open drains.

Only a part of the sewage generated in the cities of Baroda and Indore is treated. In Pune the entire sewage that is generated is treated before being discharged. In Vishakhapatnam there is no sewage treatment plant and the untreated sewage is directly disposed off into the sea. However, an underground sewerage system and a treatment plant are under construction in the city (Tables 11 and 12).

Table 11

Quantity of Sewage Generated : 1992-93

City	Coverage of population (%)	Quantity generated (MLD)
Pune	70	90
Indore	30	153
Baroda	60	140
Vishakhapatnam	10	100.8

Source: Based on data obtained from respective Municipal Corporations.

Table 12**Sewage Treatment Plants : 1992-93**

City	No. of plants	Capacity
Pune	2	i. Naidu hospital STP - 90 MLD ii. Bhairoba pumping station - 120 MLD
Indore	1	i. Kabitkhedi STP - 13.5 MLD
Baroda	3	i. Tarsali STP - 9 MLD ii. Gajrawadi STP- 45 MLD iii. Atladara – 27 MLD
Vishakhapatnam	-	-

Note : MLD = Million litres daily

Source: Based on data obtained from respective Municipal Corporations.

Revenue and Expenditure

The main source of revenue for the sewerage service is the sanitation cess/tax, which forms a percentage of the property tax. This tax varies between 2 per cent in Vishakhapatnam and 11 per cent in Pune. Some revenue is also generated by cleaning septic tanks of individual houses, but this service is provided on demand only. In Pune, revenue is also generated by an additional Sewerage Benefit Tax. Therefore, Pune's revenue from providing sewerage service exceeds the expenditure incurred on this service. (See Table 13).

Table 13**Revenue and Expenditure on Sanitation**

(Rs. million)

City	Revenue		Expenditure	
	1991-92	1992-93	1991-92	1992-93
Pune	65.10	81.86	45.41	53.97
Indore	3.67	2.41	13.85	13.70
Baroda	28.50	41.73	18.23	19.99
Vishakhapatnam	1.60	N.A.	48.71	50.00 (Approx.)

Source: Based on data obtained from respective Municipal Corporations.

There has been no involvement of the private sector in the provision of sewerage services. While there is scope for involving the private sector in areas such as operation and maintenance of sewage pumping stations, and cleaning of septic tanks, this has not yet been adopted in the sampled towns.

Roads

Construction and maintenance of roads within the municipal boundaries is a municipal function. However, if a State or a National Highway passes through any city it comes under the control of the respective state or the Central government and is therefore maintained by it.

The length of roads varied considerably between cities. Amongst the sampled cities, Baroda had the maximum road length of per 100 sq.km., while Pune, where information was available only for asphalt roads, had the lowest road length per 100 sq.km. (Table 14).

Table 14

Roads

City	Area (sq. km.)	Length of Pucca* roads (km.)	Pucca Road length/ 100 sq.km.
Pune	146.00	450	308**
Indore	130.17	834	641
Baroda	108.26	1490	1376
Vishak.	78.32	580	740

* Includes asphalt, cement concrete, metal, semi-grouted, bitumen etc. ** Only asphalt roads
Source: Based on data obtained from respective Municipal Corporations.

The local governments often hire private contractors for the construction and maintenance of roads on contract. However, there is still a large scope for using the private sector in road maintenance, particularly in the maintenance of roads and pavements in lieu of advertisement rights.

Chapter V

Public-Private Partnership Options: The Policy Context and Action

The changing economic scenario in the country has necessitated a change in the present institutional arrangements for the provision of urban services. Reduction in government expenditure, as well as the pressing need to augment and improve infrastructure services, is forcing local governments to find new ways of financing and managing these services. The governments, therefore, are looking to the private sector for capital funding and improving service efficiency.

However, involving the private sector in the provision of these services should not be considered a panacea for all urban problems. There are situations when the public authority must keep the delivery of infrastructure services with itself. This may be necessary where equity has to be ensured and also where a basic minimum level of the service needs to be provided to all residents. The government, therefore, has an important role to play in partnership arrangements by supervising, monitoring and evaluating the performance of the private partner. It will also be responsible for making policy and developing legal and regulatory frameworks.

Preconditions for Using Public-Private Partnership Options

The implications and limitations of using different partnership options need to be analysed thoroughly before any particular option is selected. The legal aspects of partnership arrangements are of great importance. Before involving the private sector in the provision of municipal services local governments have to examine their legal position, and see if any legislative changes are necessary.

The provision of basic services in urban areas is the statutory responsibility of urban local governments. These governments are set up under specific Acts and are governed in their functioning by the powers that are conferred on them by these Acts. The Acts under which the sampled city governments have been set up are given below:

City	Act Under Which Local Government was Set Up
Pune	The Bombay Provincial Municipal Corporation Act, 1949
Vishakhapatnam	The Hyderabad Municipal Corporation Act, 1955 Hyderabad Act No. 11 of 1956
Baroda	The Bombay Provincial Municipal Corporation Act, 1949
Indore	The Madhya Pradesh Municipal Corporation Act, 1956

These Acts list out the obligatory and discretionary duties of the concerned local governments. In general, water supply, public health, waste management, drainage, sewerage, street lighting, parks and gardens, roads and bridges etc. come within the ambit of obligatory duties of urban local governments. The discretionary functions that are mentioned in the acts are generally to be taken up by the local governments after they have discharged their obligatory duties. (See Annex 2 for details).

Specific Provisions for Involving the Private Sector

It is generally held that the local bodies have not seriously considered private sector participation in the provision of urban services because there are no "enabling" legal provisions that facilitate the use of the non-government sector. The notion that the Acts under which the various local governments have been set up are a deterrent to private sector participation needs to be examined carefully. While the Acts do not use the words "private sector", a careful reading of the legal provisions indicate that the Acts do permit the use of any person for delivering specific services.

Annex 3 lists the specific provisions mentioned in the concerned Acts which enable private sector participation in municipal services. It is evident that there are clauses which clearly state that the services of persons other than those belonging to the local government can be hired for providing the services.

Water supply

With respect to water supply The Hyderabad Municipal Corporation Act, 1955, Hyderabad Act No. 11 of 1956 (the Act under which the Municipal Corporation of Vishakhapatnam was set up), clearly states that:

"the Commissioner when authorised by the Corporation can enter into an arrangement with any person for supply of water" (Sec. 342).

This could include construction and maintenance of water works, purchasing or taking on lease any water works, storing and conveyance of water etc. Similar clauses are found in the respective Acts of the other selected cities.

Disposal of Sewage

With regard to the disposal of sewage The Bombay Provincial Municipal Corporation Act, 1949 provides that:

"The Commissioner may.....enter into any arrangement with any person for any period not exceeding twenty years for the removal or disposal of sewage within or without the city" (Sec. 177).

This clearly indicates that there are provisions by which the local bodies can enter into long term contracts with the private sector. The respective Acts of the other cities also contain similar statements, with the period indicated varying between three to twenty years.

Public Streets/ Bridges and Subways

Provisions related to subways and bridges/ public streets in The Hyderabad Municipal Corporation Act, 1955, Hyderabad Act No. 11 of 1956, state that:

"The Commissioner when authorised by the Corporation in this behalf, may agree with any person

- (a) to adopt and maintain any existing or projected sub-way, bridge.....
- (b) for the construction or alteration of any such sub-way, bridge....." (Section 378).

These clauses indicate that the local governments have the legal powers to involve the private sector, but have not used these powers to improve the quality and quantity of services provided by them.

Scavenging and Cleansing

With respect to scavenging and cleansing The Bombay Provincial Municipal Corporation Act, 1949, states under Section 290 that:

"For the purpose of securing the efficient scavenging and cleansing of all streets and the premises, the Commissioner shall take measures for securing -

- a) the daily surface cleansing of all streets in the city and removal of the sweeping therefrom;
- b) the removal of the contents of all receptacles and depots and the accumulations at all places provided or appointed by him under the provision of this Act for the temporary deposit of

dust, ashes, refuse, rubbish, trade refuse, carcasses of dead animals and excrementitious and polluted matter".

It is important to note that scavenging and cleansing is one service in which there is no explicit provision for involving the private sector. And paradoxically this is also one area in which local governments are most keen to involve the private sector. Thus specific clauses need to be inserted in the local government acts which would enable the entry of the private sector into this service. This could be done by making provisions similar to those available in services such as water supply or disposal of sewage where the acts state that - the Commissioner may enter into an arrangement with any person for any period not exceeding for surface cleansing of all streets and removal of sweepings therefrom.

The Constitution (Seventy-Fourth) Amendment Act, 1992 on Municipalities

The 74th Amendment to the Constitution has given a constitutional status to municipal bodies of the country. A number of significant changes are being brought about in the functioning of local governments through this Act, which is expected to have far reaching consequences. The Act has enlarged the role of the local governments from just providing basic services to planning for development and growth. The Twelfth Schedule of the Act specifically mentions "urban planning including town planning; regulation of land-use and construction of buildings; planning for economic and social development; urban forestry, protection of the environment and promotion of ecological aspects; and urban poverty alleviation" among others as functions to be performed by the local governments.

As is evident from the tasks mentioned in the Twelfth Schedule, the local governments will, henceforth, have to perform many more and new functions. Since most of the local governments in the country have been unable to perform even those functions that were assigned to them earlier, the enlarged role of the local governments is likely to put considerable pressure on them. Using the private sector is one of the options available to the local governments in this context. Use of public-private partnerships to finance and manage services will enable the local governments to redeploy their staff to perform the additional duties that are expected from them.

Amendments to the Municipal Acts

In order to improve the quality and the quantity of service provided by the local governments, clauses relating to the use of non-public sector individuals and agencies need to be introduced in the municipal acts in the Sections relating to the performance of functions.

With the passing of the 74th Amendment Act, all the states are expected to make amendments to their respective municipal and municipal corporation acts, incorporating the necessary changes. This has already been done in states such as Maharashtra. Amendments have been made to The Bombay Municipal Corporation Act (Bom.III of 1888) by inserting Section 63A after Section 63 (which relates to the performance of functions by agencies). Section 63A states:

" Where any duty has been imposed on, or any function has been assigned to, the Corporation under this Act or any other law for the time being in force, or the Corporation has been entrusted with the implementation of a scheme, -

- (a) the Corporation may either discharge such duties or perform such functions or implement such scheme by itself; or
- (b) subject to such directions as may be issued and the terms and conditions as may be determined by the State Government, cause them to be discharged, performed or implemented by any agency:

Provided that the Corporation may also specify terms and conditions, not inconsistent with the terms and conditions determined by the State Government, for such agency arrangements."

Inserting specific clauses enabling the involvement of the private sector will go a long way in improving the service levels in the urban areas of the country.

Contracting

One of the preconditions for involving the private sector in the provision of urban services is a proper contract document. "Contracting", which is one of the most commonly used partnership arrangements in the urban services sector, requires that the contract specifications be very clear with respect to all relevant clauses on performance and default. The contract document must contain all the terms and conditions of work and payment and must clearly define the sanctions to be imposed for non-performance. The length of the contract must be clear and should be such that it enables the private contractor to operate with a reasonable profit. Any ambiguity in the contract

specifications may lead to poor delivery of the service. A good contract, indicating measurable outputs, also enables the private sector to perform better. Contract monitoring is important and the local governments should ensure that contract specifications are enforced.

Partnership Options for Selected Services

The following section gives options for using partnerships in selected services. Specific examples given in Chapter 3 indicate the advantages from using partnership options. However, the selection of any particular option will have to be based on the activity to be handed over to the private sector as well as on the socio-political characteristics of the specific city.

While involving the private sector it must be ensured that the previous monopoly by the public sector is not replaced by private monopoly. Services which are "natural monopolies" favour a single provider. However, if services are unbundled then this monopoly can be avoided and competition ensured. There may be arguments against unbundling of services as it may raise the cost of service provision because of loss of economies of scale. However, in order to retain the control over basic services it is desirable to unbundle services and give only certain specific activities to the private sector.

Water Supply

Water supply is a sector in which "natural monopolies" are likely to exist, if the complete system is handed over to the private sector. However, if there is unbundling of activities in this sector, a number of private operators can be brought in through competitive tendering. A number of opportunities for public-private partnerships exist in the provision of water supply in urban areas. Source development, construction as well as operation and maintenance of treatment plants, maintenance of pipelines, operation and maintenance of pumping stations, meter reading, billing and collections are some of the activities related to water supply where there is scope for involving the private sector. The partnership option to be selected would, however, depend on the activity to be entrusted to the private partner. The following options can be considered for involving the private sector in water supply:

Build-Operate-Transfer (BOT) and Build-Own-Operate (BOO)

Where large investments are required for new infrastructure or expanding an existing infrastructure, joint ventures could be an attractive option. This could take the form of Build- Operate-Transfer (BOT) or Build-Own-Operate (BOO). In this arrangement the private sector finances, constructs and operates the infrastructure and at the end of the stipulated period transfers the infrastructure to the public authority. BOT arrangement can be used for activities such as source development, and for construction and maintenance of water treatment plants.

A major water supply scheme for Hyderabad is being considered on BOT basis. In this case the private sector will convey water from the river Krishna till Hyderabad and sell it at a fixed rate to the public agency. It will do so at its own cost and on the expiry of 25 years the asset will be transferred to the public agency. Joint ventures could also be formed where the capital investment in a scheme is shared between the public and private partners. In Vishakhapatnam, a water supply scheme is under consideration, where out of an estimated cost of Rs. 189 crores (estimates of 1994), the industries in the area have agreed to contribute Rs. 100 crores.

Contracting

This is one of the more common forms of using the private sector because water supply involves a number of operations. Each specific activity/operation can be given to a private contractor/ agency through competitive bidding. Contracts are made out for a specific period and clearly state the tasks to be performed, performance standards, and penalty clauses for not performing according to stipulations.

Service Contracts

Under a service contract, an individual or a firm is engaged by the water supplying authority to provide a specific service such as meter reading, billing and collection. Such contracts require no fixed investment by the private firm and therefore the duration of the contracts can be short. This would subject the contractors to more frequent competition. In large cities several contractors can be involved to deliver the same service in different areas. This would enable the water supplying authority to compare costs, and performance on a regular basis.

Management Contracts

In a management contract, the contractor assumes the responsibility for the operation and maintenance of a major part of the water supply system, such as production facilities. In this arrangement too, the contractor is not required to make large investments and therefore, the contract period could range from three to five years, or more, in some cases.

Lease Contracts

In a lease contract arrangement, a private or mixed enterprise leases facilities from a public authority and assumes the responsibility for their operation and maintenance. The lease contractor assumes greater risk than a management contractor because he must typically finance the working capital and replacement of certain components. The duration of a lease contract is about 10 years, but may be longer depending on the life of replacements. In return for the greater risk borne by him a lease contractor has more autonomy, in particular more control over working capital and all aspects of staffing and personnel management.

Contracting out of activities such as pipeline maintenance, leakage detection, meter reading and billing, and collection of dues can considerably improve the quality of service. Contracting out the operation and maintenance of water pumping stations can also bring about cost savings to the local authority.

Solid Waste Management

Among all the municipal services, solid waste management is one service where the involvement of the private sector is the greatest. The most prevalent methods of private sector participation in solid waste management are contracting, franchising, and concessions (BOOT and BOO).

Contracting

Most of the opportunities for involving a number of private contractors in this service are in waste collection. The contractors can be small, as investments are low and the technology simple. It is therefore possible for local firms/contractors with modest financial resources to enter into this area of operation. The contracts, depending on the jobs specified, are often given for a year. Involving private contractors in waste collection operations is profitable to the local government which is able to effect cost savings in this high expenditure, low revenue, service. Contracting is also well suited for waste transportation and disposal operations. Private contractors can be involved in the transportation of waste to landfill sites and can also operate sanitary landfills.

Franchise

The franchise system allows private firms to operate within a defined geographical area and allows them to collect user charges from each household and establishment in that area. It is possible to use this form of private sector involvement in high income areas, where the capacity to pay of the residents is high. The firm pays a license fee to the local government for operating in the area. Significant improvements in the level of cleanliness can be achieved by using this option.

The franchise system can be used to collect waste from large generators such as large commercial establishments (hotels, department stores) and large industries.

Build-Own-Operate-Transfer (BOOT) and Build-Own-Operate (BOO)

BOOT and BOO are ways of involving private companies in financing, constructing and operating infrastructure facilities. The main advantage of these arrangements is in resource recovery, where private firms invest in the unit to recover gas or electricity from municipal waste. Incineration plants or compost plants could also be set up with such arrangements. The local government, which usually lacks financial resources to deal with municipal waste, may find such arrangements of great benefit. In BOOT arrangement, the private firm invests, builds and operates a unit and after a specified period (sufficient to depreciate investments and to provide a reasonable return to the equity investors) transfers the infrastructure to the local government. In return, the local government agrees to provide the waste to the firm at a designated site and pay a tipping fee.

In India examples of using BOT for resource recovery are increasingly finding favour with local governments. In the new economic scenario of liberalisation local governments are expressing their willingness to enter into agreements with private firms to deal with the problem of solid waste, that has remained unsolved, until recently.

NGOs and Cooperatives

In India there are an increasing number of examples of NGOs involvement with waste collection. NGOs employ waste collectors to collect waste from household premises and the households pay a monthly charge for such a service. The local government may, on the other hand, enter into an agreement with the residents' cooperatives for collection of waste. This is similar to the contractual arrangement agreed upon with private contractors.

Sewerage

The private sector's involvement in the sewerage system could be in a number of areas such as construction and maintenance of sewerage pipelines, operation and maintenance of sewerage pumping stations, waste water recycling, and resource recovery from waste water.

Build-Operate-Transfer (BOT)

The BOT option can be used for waste water recycling, treatment plants and resource recovery activities. The private sector could finance and construct the waste water recycling plant or the resource recovery plant. It could sell the recycled water or the recovered resource and recoup its investment. At the end of the concession period the facility would be transferred to the public agency. Land would be leased out the private investor by the local government along with a guaranteed quantity of sewage per day.

Contracting Out

The private operators could be involved through contracting, in the operation and maintenance of treatment plants, and in the laying down and maintenance of pipelines.

Roads

Partnership arrangements in this sector can be in the areas of construction and improvement works, maintenance, and street furniture. The most appropriate partnership options in this sector would be turnkey contracting, BOT, contracting out and advertisement rights.

Turnkey Contracts and Build-Operate-Transfer (BOT)

Major construction works such as flyovers, bridges, etc. are operations that can attract private companies. These can be done on competitive tendering (turnkey) basis for construction only or on BOT basis for construction, operation and maintenance for a specified number of years. In case of construction of a bridge or a bypass the private operator would charge a toll from the users to recover the cost.

Advertisement Rights

Local governments are increasingly considering involving the private sector in road maintenance. In this arrangement, in lieu of advertisement rights, certain stretches of the road will have to be given to private companies who would maintain the stretch of road and pavement for a period specified in the agreement. This would relieve the local governments of the financial burden of road maintenance on busy roads to a large extent. The revenue generated through advertisements on busy roads may, in most cases, be less than the cost of maintenance of those roads.

The above are the various types of options available to local governments to involve the private sector in the provision of urban services.

Illustrative Recommendations for Involving the Private Sector in the Sampled Cities

Pune

In Pune, at present, there are almost no partnership arrangements between the Pune Municipal Corporation (PMC) and the private sector in the provision of basic services. However, the PMC can improve its efficiency of provision as well as increase its coverage by involving the private sector in managing its services.

Water Supply

In the water supply sector, PMC could consider using the private sector for augmentation of source. At present, Pune has a supply of 180 lpcd as against the recommended norm of 202.5 lpcd. This gap could be covered by augmenting water supply through private bulk water supply arrangements. Initially, the private sector could develop the source and sell the water in bulk to the corporation. In the second phase, private operators could be used for meter reading, billing and collection of dues. The Corporation, at present, collects an average of 80 per cent of the dues in water supply. This could be increased by using private agencies for revenue collection from areas where the collections are low. It could be done on the CIDCO model where the collection of service charges in one node of New Bombay - in the Vashi township has been given to an association of Senior Citizens, yielding very good results.

Solid Waste Management

In the solid waste collection service the PMC could, in the first phase, contract out waste collection from the areas which are not serviced on a regular basis. In the second phase, PMC could also experiment with using franchising option in high income localities for waste collection. In this arrangement the franchisee would perform the waste collection function in a defined geographical area and collect charges from users residing in that area. This system could also be used for large establishments. The PMC has already signed an agreement with a private company to put up a plant on BOT basis for resource recovery from waste. The PMC has allocated a site to the private company on lease and has agreed to supply waste on the allotted site at its own cost. The private firm, on its part, will design, finance, construct, operate and maintain the plant for a specified period (20 to 25 years). After the expiry of this period it will transfer the plant to the PMC. The private firm will produce gas and electricity from municipal organic waste through the anaerobic process. The construction of the plant has not yet started.

Roads

Maintenance of major roads in Pune could be handed over to private firms in lieu of advertisement rights. Stretches of one or two kilometers, on major thoroughfares, could be handed to different private firms who, in lieu of advertisement rights in the stretch, would maintain the defined stretch of road and also the pavements. This would reduce the road maintenance expenditure of PMC considerably. The savings thus effected could be used to improve roads in other areas.

PUNE

Service	Activity	Partnership Option
Water Supply	1. Pipeline maintenance 2. Leakage detection 3. Meter reading 4. Billing 5. Collection of dues	Contracting Out
Solid Waste Management	1. Primary collection 2. Transportation	Contracting Out
	1. Primary collection 2. Transportation	Franchise
	1. Resource recovery*	BOT
Roads	1. Maintenance of roads and pavements	Advertisement Rights

Note : * Already initiated.

Indore

In Indore, the Municipal Corporation has not used partnership arrangements in the provision of municipal services. However, there are a number of activities in which private participation could be encouraged.

Water Supply

In the water supply sector, in the first phase, private contractors could be hired for billing and collection of water charges. Computerisation of billing should be undertaken and this could be done on a contract basis and collection of water charges could be done on a commission basis. In the second phase, pipeline maintenance and leakage detection could be done with the help of private contractors. These measures are likely to increase the revenue from water supply for the Corporation and improve the quality of service as well.

At present, Indore has only two filtration plants filtering less than fifteen per cent of the total water supplied to the city. New filtration plants could be constructed on BOT basis. This would enable the Corporation to improve the quality of water supplied to the city.

Sanitation

Indore has only one primary sewage treatment plant which is also not in a proper working condition. The Corporation could give the operation and maintenance of the plant to a private agency on contract basis. Another treatment plant could also be put up for secondary treatment on BOT basis where the private firm could treat and sell the water to industries and other bulk users requiring non-potable water.

Solid Waste Management

In the solid waste management sector, Indore needs to improve the service on all fronts. At present, only 75 per cent of the municipal area is covered by the Corporation while 25 per cent of the area is not attended to due to shortage of labour and vehicles. The Corporation could use private contractors to service these areas. Private contractors could be hired not only for waste collection but also for waste transportation. For transportation of waste, possession of vehicles that are in a reasonably good condition and access to labour would be the necessary pre-conditions for involving private contractors.

The final disposal of waste in Indore is done by landfill method. However, there is scope for recovering resource from waste. The Corporation could enter into an agreement with private firms having expertise in generating gas/electricity from organic waste or generating electricity by incinerating inorganic waste. These plants could be commissioned on BOT basis where the private firm makes all the required investments and, in turn, the local government allocates land to the firm on lease basis and unloads the waste at the premises of the firm.

Roads

In the road sector, a major bypass has already been initiated connecting Indore to Rau on BOT basis. The internal roads of the city, especially the major roads where traffic is heavy, can be maintained on the basis of selling advertisement rights for a given stretch, as is being suggested for Pune.

INDORE

Service	Activity	Partnership Option
Water Supply	1. Computerisation of billing 2. Billing 3. Collection of dues 4. Pipeline maintenance 5. Leakage detection	Contracting Out
	1. Filtration plant	BOT
Sanitation	1. O&M of existing treatment plants	Contracting Out
	1. New treatment plant	BOT
Solid Waste Management	1. Primary collection 2. Transportation	Contracting Out
	1. Resource recovery	BOT
Road	1. Bypass* 2. Major bridges	BOT
	1. Maintenance of roads and pavements	Advertisement Rights

Note : * Already initiated.

Baroda

The Baroda Municipal Corporation (BMC) already has experience in using public-private partnership arrangements in the provision of municipal services. The further use of these arrangements is likely to improve and extend these services to the entire city wherever these services do not reach the entire population.

Water Supply

In the water supply sector private contractors could be involved in leakage detection. The additional water, which would be available, would generate additional revenue for the BMC. Meter reading and billing is another activity in which involving private agencies may increase the efficiency of operations. This could be done on an annual contract basis.

BARODA

Service	Activity	Partnership Option
Water Supply	1. Leakage detection 2. Meter reading 3. Billing	Contracting Out
	1. Treatment plant	BOT
Solid Waste Management	1. Primary collection* 2. Transportation	Contracting Out
	1. Primary collection 2. Transportation	Franchise
Sanitation	1. Energy generation	BOT
Road	1. Maintenance of roads and pavements	Advertisement Rights

Note : * Already initiated.

Vishakhapatnam

In Vishakhapatnam, the local body has some experience of involving the private sector in the provision of municipal services. The Municipal Corporation of Vishakhapatnam (MCV) is a local body which has shown interest in using partnership options in managing services.

Water Supply

The water supply situation in the city of Vishakhapatnam is unsatisfactory and the average supply is for one hour a day. To remedy this the MCV has initiated a scheme of bringing additional water to the city at the cost of Rs. 189 crores. The scheme is likely to be funded by the industrial sector (interest free deposits to the tune of Rs. 100 crores) and the A.P.I.C., MCV, Gajuwaka Municipality, and the State Government (together Rs. 89 crores).

Baroda could consider setting up of additional water treatment plants on BOT basis. In this arrangement the private firm finances, constructs and operates the plant and sells treated water to BMC. This would save BMC substantial capital investment for providing treated water to its population.

Solid Waste Management

In solid waste management BMC has already contracted out selected areas to private contractors for waste collection. However, this arrangement has run into some problems. To overcome these the BMC could give the waste collection services in high income localities to private operators on a franchise basis. The labour thus released could then be redeployed to service the other areas which are not serviced regularly.

The BMC, has allowed a private firm to manufacture petro-coal from combustible garbage on a lease agreement. This arrangement has run into some problems and the plant is currently not under operation. The BMC can enter into other agreements for gas and electricity production from municipal waste with other firms having expertise in this area. This could be done on BOT basis.

Sanitation

The sewage generated in the city can also be used for energy generation. Agreement(s) could be signed with private firms that possess the expertise in this area on BOO or BOT basis. Such an arrangement would help BMC deal with waste water without making major capital investments.

Roads

Maintenance of roads is an expensive activity. The expenditure on laying new roads and maintaining the existing ones almost always exceeds the revenue generated from the sector. One way of reducing this expenditure is through public-private partnership options in this sector. This could include road maintenance through sale of advertisement rights on important roads for specified stretches of road length, as suggested for the city of Pune.

The maintenance of pipelines and leakage detection are other activities in which private agencies can be involved. The private agencies could be those which have sophisticated equipment for such operations. The work could be given to them on a contract basis.

Solid Waste Management

In solid waste management the MCV has already made a start by handing over the waste collection activities in a few localities to a private contractor. In the next phase, the MCV could contract out this activity in the newly developing areas, where the Corporation has not been able to provide the service on a regular basis. The MCV could also experiment with franchising the waste collection activities in one or two high income localities. It is expected that the residents of high income localities would be willing to pay in order to keep their localities clean.

The MCV is negotiating with a private company for setting up a plant for resource recovery from municipal wastes on BOT basis. The benefit to the Corporation in such an arrangement is that it can effectively deal with the final disposal of municipal waste without making major investments.

Roads

The roads within the MCV jurisdiction are maintained by the MCV. The income accruing from roads to the local government is meagre compared to the expenditure on maintaining roads. The MCV could also involve the private firms in the maintenance of roads through sale of advertisement rights, as suggested for Pune.

The above are some of the options available to the selected cities to employ public-private partnerships. The conditions prevailing in each city, political will, as well as the administrative capabilities of each local government will finally determine whether the different local governments are able to exercise these partnership options.

VISHAKHAPATNAM

Service	Activity	Partnership Option
Water Supply	1. Source augmentation*	Joint Venture
	1. Maintenance of pipelines 2. Leakage detection	Contracting Out
Solid Waste Management	1. Primary collection* 2. Transportation	Contracting Out
	1. Primary collection 2. Transportation	Franchise
	1. Resource recovery*	BOT
Roads	1. Maintenance of roads and pavements	Advertisement Rights

Note : * Already initiated.

Capacity Building

One of the prerequisites, in terms of managing this change in the provision of municipal services, is the administrative capacity of the local government personnel. The officials and the staff will need training in understanding and developing partnership arrangements. Training in areas such as calculating the cost of provision of individual services, drawing up contracts, tendering procedures, negotiating BOT or BOO arrangements etc. will be necessary in order to use the different partnership options. Visits to cities which have successfully used these options should form a part of the training programme. However, cases from cities which have been unsuccessful in exercising these options should also be studied in order to understand the reasons behind their failure and the precautions that need to be taken.

As mentioned earlier, using private sector in the provision of urban services should not be considered a panacea for all problems. Private sector involvement should be considered when the local government is either unable to finance capital projects, or is unable to provide services to the entire area/population within its jurisdiction. This would also generate competition between the public and private provision of the service which should lead to the overall improvement of the services provided. According to Gidman (1994) "If a public authority is able to show that it can deliver a service to an acceptable quality, to acceptable standards, and within an acceptable cost ceiling better than a private sector provider then the choice should be the public sector provider. If, however, this is not so then the delivery of the service could be partly or wholly transferred to the private sector."

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ANNEX 1

Service Profile of Sampled Cities

PUNE (1993)

Solid Waste

Legislative Basis:	The Bombay Provincial Municipal Corporation Act, 1949	
Institution Responsible:	Pune Municipal Corporation	
Quantity:	Generation	- 650 - 700 T /day
	Collection	- 650 - 700 T/day
	Disposal	- 650 - 700 T/day
Coverage:	100% of Municipal Area	
Staff:	<u>Category</u>	<u>No.of Employees</u>
	A.M.O.	1
	Superintendent	1
	Sanitary Inspector	6
	Supervisors	100
	Class IV Employees	1347
Vehicle & Equipment:	Premier Road Master	- 20
	Tata Tippers	- 12
	A. Leyland Vans	- 8
	Small Tata Vans	- 29
	Vehicles operating/day	- 50
Operating system:	i. Sweeping & collection of garbage from dustbins & emptied into street dustbins.	
	ii. Collection of garbage by M.C.men from concrete dustbins and finally to dispose site.	
Final Treatment:	Composting	
Service Standard:	i. The garbage is collected everyday.	
	ii. Working hours	
	6 a.m.	- 2 p.m.
	2 p.m.	- 8 p.m.
	8 p.m.	- 6 a.m.
Fees & Charges:	Part of property tax. (2% out of 13%)	

Financial Information :

<u>Revenue</u>	<u>1991-92</u>	<u>1992-93</u>
Sanitation Cess	Rs. 1,00,36,228	Rs. 1,11,58,973
From Disposal	Rs. 6,07,039	Rs. 1,12,655
Total	Rs. 1,06,43,267	Rs. 1,12,71,628
<u>Expenditure</u>	<u>1991-92</u>	<u>1992-93</u>
Salaries & Wages	Rs. 4,43,27,807	Rs. 5,13,69,024
Power, fuel & maintenance	Rs. 21,63,179	Rs. 48,97,923
Total	Rs. 4,64,90,986	Rs. 5,62,66,947

PUNE (1993)

Water Supply

Legislative Basis:	The Bombay Provincial Municipal Corporation Act, 1949	
Institution Responsible:	Pune Municipal Corporation	
Quantity Obtained :	120.00 MGD Canal	
Water Supply:	57.33 MGD Domestic 10.00 MGD Stand Posts 11.11 MGD Industrial & Commercial 4.00 MGD Others 37.56 MGD Unaccounted Water	
Coverage:	100% of Municipal Area + 2 Cantonment Areas + Fringes	
No. of Connections :	Domestic Metered - 48,170 Domestic Unmetered - 40,000 Non-Domestic - 8,371 Standposts - 5,000 Tankers - 15/day (Avg)	
Treatment Plant:	<u>Treatment Plant</u>	<u>Capacity</u>
	i. Parvathi Hill	100 MGD
	ii. Cantonment W.T.P	25 MGD
	iii. Kirki W.T.P	5 MGD
	iv. Pasan W.T.P	1 MGD
Service Standard:	Daily Water Supply to all areas.	
Fees & Charges:	<u>Metered</u> Domestic - City Rs. 2.00 per KL - Cant Rs. 2.50 per KL Non-domestic - Rs.10.00 per KL	
	<u>Unmetered</u> Domestic - On Ratable value of property Non-Domestic - 1 to 2999 KL Rs. 525/year 3,000 K.lit onwards 17.5% of R.V. Rs. 175/year Individual connections in slums.	

Financial Information:

<u>Revenue</u>	<u>1991-92</u>	<u>1992-93</u>
Domestic	Rs. 2,48,00,000	Rs. 2,75,00,000
Non-Domestic	Rs.11,46,00,000	Rs.14,71,00,000
Direct charges,connection charges and others	Rs. 1,55,00,000	Rs. 3,98,00,000
Total	Rs.15,49,00,000	Rs.21,44,00,000
<u>Capital Income</u>	<u>1991-92</u>	
From Government	Rs. 1,00,00,000	
<u>Expenditure</u>	<u>1991-92</u>	<u>1992-93</u>
Salaries,Wages & Debt Service	Rs. 5,01,00,000	Rs. 5,62,00,000
O & M and others	Rs. 2,93,00,000	Rs. 4,65,00,000
Electricity	Rs. 8,24,00,000	Rs.10,51,00,000
On Production	Rs. 75,00,000	Rs. 2,30,00,000
Treatment	Rs. 48,00,000	Rs. 59,00,000
Total	Rs.17,41,00,000	Rs.23,67,00,000
<u>Capital Expenditure</u>	<u>1991-92</u>	<u>1992-93</u>
Land Acquisition, Water Supply Machinery, Laying of Main Lines	Rs. 8,43,00,000	Rs.12,73,00,000

PUNE (1993)

Sewerage

Legislative Basis:	The Bombay Provincial Municipal Corporation Act, 1949	
Institution Responsible:	Pune Municipal Corporation	
Quantity of Sewage Generated:	90 M.L.D.	
Type of system:	Combined system	
Coverage:	70% of Municipal Area	
Operation Systems:	i. Cleaning of drains ii. Secondary treatment iii. Dispose off into canal	
Treatment Plants:	<u>Treatment Plant</u>	<u>Capacity</u>
	i. Naidu Hospital S.T.P.	90 MLD
	ii. Bhairoba S.T.P.	120 MLD
Final Treatment:	After secondary treatment dispose off into canal.	
Service standard:	Drains cleaning everyday	
Fees & Charges:	Part of property tax, 11%.	
Financial Information:		
<u>Revenue</u>	<u>1991-92</u>	<u>1992-93</u>
Sanitation Cess	Rs. 5,44,04,845	Rs. 6,55,11,795
Sewerage Benefit Tax (Additional)	Rs. 1,06,99,546	Rs. 1,63,48,667
Total	Rs. 6,51,04,391	Rs. 8,18,60,462
<u>Expenditure</u>	<u>1991-92</u>	<u>1992-93</u>
Salary & Wages	Rs. 2,27,32,288	Rs. 2,58,13,357
Power & Fuel	Rs. 36,65,760	Rs. 67,03,758
O & M	Rs. 27,71,431	Rs. 38,86,229
Others	Rs. 1,62,42,312	Rs. 1,75,62,522
Total	Rs. 4,54,11,791	Rs. 5,39,65,866
<u>Capital Expenditure</u>	<u>1991-92</u>	<u>1992-93</u>
Construction of Drainage Lines & Pumping Station	Rs. 2,21,35,208	Rs. 4,38,32,171

PUNE (1993)

Roads

Legislative Basis: The Bombay Provincial Municipal Corporation Act, 1949

Institution Responsible: Pune Municipal Corporation

City Roads:

<u>Type of Roads</u>	<u>Length</u>
Asphalt Roads	450 km

Financial Information:

Revenue

-

Expenditure

1991-92

1992-93

Salaries & Wages	Rs. 1,98,80,000	Rs. 2,29,36,309
Materials (Tools & Parts)	Rs. 50,000	Rs. 1,00,000
Mobile Party	Rs. 95,00,000	Rs. 90,00,000

Total Rs. 2,94,30,100 Rs. 3,20,36,309

Capital Expenditure

1991-92

1992-93

Rs. 9,33,69,000 Rs. 11,22,31,000

INDORE (1993)

Solid waste

Legislative Basis:	The M.P. Municipal Corporation Act, 1954																		
Institution Responsible:	Indore Municipal Corporation																		
Quantity:	Generation - 450 Tonnes/day (approx) Collection - 220 Tonnes/day (approx) Disposal - 220 Tonnes/day																		
Coverage:	75% of Municipal Area.																		
Staff:	<table><thead><tr><th><u>Category</u></th><th><u>No. of Employees</u></th></tr></thead><tbody><tr><td>Medical Officer</td><td>1</td></tr><tr><td>A.M.O.</td><td>4</td></tr><tr><td>Inspectors</td><td>24</td></tr><tr><td>Sub-Inspectors</td><td>21</td></tr><tr><td>Supervisors</td><td>24</td></tr><tr><td>Drivers</td><td>68</td></tr><tr><td>Workers</td><td>2233</td></tr><tr><td>Daily workers</td><td>19</td></tr></tbody></table>	<u>Category</u>	<u>No. of Employees</u>	Medical Officer	1	A.M.O.	4	Inspectors	24	Sub-Inspectors	21	Supervisors	24	Drivers	68	Workers	2233	Daily workers	19
<u>Category</u>	<u>No. of Employees</u>																		
Medical Officer	1																		
A.M.O.	4																		
Inspectors	24																		
Sub-Inspectors	21																		
Supervisors	24																		
Drivers	68																		
Workers	2233																		
Daily workers	19																		
Vehicle & Equipment:	Total vehicles 30 Vehicles operating/day 25																		
Operation System:	i. Sweeping & collection of garbage from dustbins and emptying into street dustbins ii. Collection of garbage from concrete dustbins and transporting it for final disposal site																		
Final Treatment:	Dumping on the ground Landfilling Composting																		
Service Standards:	i. The garbage is collected everyday. ii. Working hours 6 a.m. - 10 a.m. 3 p.m. - 6 p.m.																		
Fees & Charges:	5% of property valuations																		

Financial Information :

<u>Revenue</u>	<u>1991-91</u>	<u>1992-93</u>
Sanitation Tax/Cess	Rs. 65,70,355	Rs. 80,54,810
Arrears	Rs. 60,77,368	Rs. 69,87,599
Composting	Rs. 1,325	-
Total	Rs. 1,26,49,048	Rs. 1,50,42,409
<u>Expenditure</u>	<u>1991-92</u>	<u>1992-93</u>
Salary & Wages	Rs. 4,35,60,427	Rs. 4,68,68,997
Maintenance	Rs. 11,41,728	Rs. 13,08,697
Total	Rs. 4,47,02,155	Rs. 4,81,77,694

INDORE

Water Supply

Legislative Basis:	The M.P. Municipal Corporation Act, 1956						
Institution Responsible:	Indore Municipal Corporation, and Narmada Project Public Health Department (Production, Distribution & Maintenance by Narmada Project, P.H.E. Department; Revenue & Expenditure by Indore Municipal Corporation)						
Quantity Obtained :	34 MGD Narmada River 5 MGD Yashwant Sagar Lake 4 MGD Bilwali Tank & Tubewells						
Water Supply:	37 MGD Domestic 6 MGD Standposts, Commercial & Industrial consumption						
Coverage:	93% of Municipal area.						
No. of connections:	<u>Domestic</u> Unmetered - 1,07,089 Commercial - 415 Industrial - 1,176 Stand Posts - 7,263						
Treatment Plant:	<table><thead><tr><th><u>Treatment Plant</u></th><th><u>Capacity</u></th></tr></thead><tbody><tr><td>i. Yashwant Sagar Filtration Plant</td><td>5 MGD</td></tr><tr><td>ii. Bilaoili Filtration Plant</td><td>1 MGD</td></tr></tbody></table>	<u>Treatment Plant</u>	<u>Capacity</u>	i. Yashwant Sagar Filtration Plant	5 MGD	ii. Bilaoili Filtration Plant	1 MGD
<u>Treatment Plant</u>	<u>Capacity</u>						
i. Yashwant Sagar Filtration Plant	5 MGD						
ii. Bilaoili Filtration Plant	1 MGD						
Service Standard :	Daily water supply to all areas						
Fees & Charges :	<u>Metered</u> Domestic Re. 1 per KL Commercial Rs. 5.25 per KL Industrial Rs. 11 per KL <u>Unmetered</u> Domestic Rs. 30 per month for 1/2" connection						

Financial Information:

<u>Revenue</u>	<u>1991-92</u>	<u>1992-93</u>
Water charges (Domestic and non-domestic)	Rs. 2,04,90,169	Rs. 2,13,21,755
Connection Fee	Rs. 11,99,841	Rs. 14,04,562
Others	Rs. 43,268	Rs. 63,459
Total	Rs. 2,17,33,278	Rs. 2,27,89,776
<u>Expenditure</u>	<u>1991-92</u>	<u>1992-93</u>
Salary and Wages	Rs. 1,27,12,229	Rs. 1,34,35,032
Electricity	Rs. 3,79,83,590	Rs. 7,41,26,266
O & M	Rs. 2,77,91,486	Rs. 3,57,65,110
Others	Rs. 5,99,028	Rs. 5,94,361
Total	Rs. 7,90,86,333	Rs. 12,39,20,759

INDORE

Sewerage

Legislative Basis: The M.P. Municipal Corporation Act, 1956

Institution Responsible: Indore Municipal Corporation

Quantity of Sewage Generated: 153 MLD

Type of System: N.A.

Coverage: 30% of municipal area.

Operation System: i. Cleaning of drains
ii. Primary treatment
iii. Final disposal is in Khan river.

Treatment Plant: One - Capacity: 13.5 MLD

Final Disposal: After primary treatment disposal into Khan river

Service Standards: Drains cleaning everyday.

Fees & Charges: It is a part of property tax. 5% of the tax.

Financial Information:

<u>Revenue</u>	<u>1991-92</u>	<u>1992-93</u>
Sanitation Cess/Tax	Rs. 2,85,921	-
Arrears	Rs. 29,20,496	RS. 21,19,176
Others	Rs. 4,68,253	Rs. 2,89,291
Total	Rs. 36,74,670	Rs. 24,08,467
<u>Expenditure</u>	<u>1991-92</u>	<u>1992-93</u>
Salary and Wages	Rs. 50,14,727	Rs. 53,42,496
Power and fuel	Rs. 2,24,293	Rs. 4,24,924
Maintenance	Rs. 86,15,612	Rs. 79,29,423
Total	Rs. 1,38,54,632	Rs. 1,36,96,843

INDORE

Roads

Legislative Basis: The M.P. Municipal Corporation Act, 1956

Institution Responsible: Indore Municipal Corporation

City Roads:	<u>Type of Roads</u>	<u>Length</u>
	Cement Concrete	28 km.
	Asphalt Roads	496 km.
	Metal Roads	310 km.
	Kachha Roads	40 km.
	Paved Roads	89 km.

Financial Information:

<u>Income</u>	<u>1991-92</u>	<u>1992-93</u>
Grants	Rs. 30,00,000	Rs. 1,00,00,000
<u>Expenditure</u>	<u>1992-93</u>	
Salary & Wages	Rs. 1,44,81,231	
Materials	Rs. 6,85,17,506	
Total	Rs. 8,29,98,737	

Capital Expenditure Items:

- i. Asphaltting of Roads
- ii. Construction of W.B.M. Roads

BARODA

Solid Waste

Legislative Basis:	The Bombay Provincial Municipal Corporation Act, 1949	
Institution Responsible:	Baroda Municipal Corporation	
Quantity:	Generation - 350 T/day Collection - 300 T/day Disposal - 300 T/day	
Coverage:	80% of Municipal area	
Staff:	<u>Category</u>	<u>No. of. Employees</u>
	Sr. Inspectors	11
	Inspectors	10
	Sub-Inspector	18
	Supervisors	80
	Mukudams	47
	Sweepers	1978
Vehicle & Equipment:	Dumpers	20
	Pickup vans	10
	Dumper places	15
	Vehicles operation/day 40	
Operation System:	i. Sweeping and collection of garbage from dustbins and emptied into street concrete dustbins. ii. Collection of garbage by M.C. men from concrete dustbins and finally to dispose site.	
Final Treatment:	Land Fill - 325 T (40 acre of land)	
	Recycling - 25 T	
Service Standard:	i. The garbage is collected everyday ii. Working hours 6.30 a.m. to 11 a.m. 2.30 p.m. to 6 p.m.	
Fees & Charges:	No fee.	

Financial Information:

<u>Revenue</u>	<u>1991-92</u>	<u>1992-93</u>
Composting	Rs. 1,67,000	Rs. 2,00,000
<u>Expenditure</u>	<u>1991-91</u>	<u>1992-93</u>
Salary & wages	Rs. 4,19,27,479	Rs. 4,41,34,188
Power & Fuel	Rs. 68,96,428	Rs. 72,59,398
O & M	Rs. 48,05,519	Rs. 50,58,441
Total	Rs. 5,36,29,426	Rs. 5,64,52,027

BARODA

Water Supply

Legislative Basis:	The Bombay Provincial Municipal Corporation Act, 1949	
Institution Responsible:	Baroda Municipal Corporation	
Quantity Obtained:	27.5 MGD Mahi River 10.0 MGD Ajwa Sarovar 8.0 MGD Tube Wells	
Water Supply:	31.2 MGD Domestic 8.8 MGD Commercial & Industrial	
Coverage:	100 % of Municipal area	
No. of connections:	Metered - 43,000 Unmetered - 1,51,000 Standposts - 604	
Treatment Plants:	<u>Treatment Plant</u>	<u>Capacity</u>
	Ajwa Sarovar	12 mgd.
Service Standard:	Daily water supply to all areas.	
Fees & Charges:	<u>Metered</u> Domestic - Rs. 1.5 per KL Commercial & Industrial - Rs. 5.40 per KL <u>Unmetered</u> Domestic - Rs. 150 per year Industrial & Commercial - Rs. 1260 per year	
Financial Information:		
<u>Revenue</u>	<u>1991-92</u>	<u>1992-93</u>
Domestic - Unmetered	Rs. 5,12,19,755	Rs. 4,81,12,187
Domestic - Metered	Rs. 21,25,378	Rs. 1,51,01,287
Connection fees	Rs. 8,48,408	Rs. 7,69,011
Metered Rent	Rs. 61,656	Rs. 41,301
Reconnection charges	Rs. 8,49,494	Rs. 6,65,003
Total	Rs. 5,51,04,691	Rs. 6,46,88,789

<u>Expenditure</u>	<u>1991-92</u>	<u>1992-93</u>
Salary & Wages	Rs. 2,28,00,000	Rs. 2,57,00,000
O & M	Rs. 1,32,08,000	Rs. 1,46,25,000
Electricity	Rs. 5,64,13,000	Rs. 7,13,50,000
Repayment of loan	Rs. 84,000	Rs. 8,50,000
Others (Debt Service)	-	Rs. 2,83,05,000
Total	Rs. 9,25,05,000	Rs.14,08,20,000
<u>Capital Expenditure</u>	<u>1991-92</u>	<u>1992-93</u>
Construction of Water Tanks & Laying of Pipelines	Rs. 2,96,01,000	Rs. 3,94,00,000

BARODA

Sewerage

Legislative Basis:	The Bombay Provincial Municipal Corporation Act, 1949	
Institution Responsible:	Baroda Municipal Corporation	
Quantity of Sewage Generated:	140 MLD	
Type of System:	Separate system.	
Coverage:	60% of Municipal Area	
Staff:	<u>Category</u>	<u>No. of Employees</u>
	A.E.E.	1
	Dy.A.E.E.	1
	Addl.A.E.	7
	Sr. Technicians	10
	Jr. Technicians	34
	Operators	138
	Labour	227
	Sweepers	53
	Supervisors	3
	Field Assts.	3
Operation System:	i. Secondary treatment ii. Final disposal from Tarasali Treatment plant to River Jambuva iii. From Gajrawadi to Irrigation and to river Jambuva. iv. From Atladara to river Viswamitri.	
Treatment Plants:	<u>Treatment Plant</u>	<u>Capacity</u>
	i. Tarsali STP	9 MLD
	ii. Gajrawadi STP	45 MLD
	iii. Atladara STP	27 MLD
Final Disposal:	After secondary Treatment mainly dispose off to river Jambuva or Viswamitri.	
Service Standards:	Drains are cleaning every day.	

Fees & Charges:

Domestic - 5% of Assessment value
 Commercial - 18% of Assessment value
 Industrial - Below 50 workers
 15% of Assessment value.
 More than 50 workers-20%

Financial Information:

<u>Revenue</u>	<u>1991-92</u>	<u>1992-93</u>
Sanitation Cess		
Residential	Rs. 67,000	Rs. 74,000
Commercial	Rs. 2,67,34,000	Rs. 3,93,68,000
Industrial	Rs. 8,19,000	Rs. 7,61,000
Others	Rs. 8,85,000	Rs. 15,28,000
Total	Rs. 2,85,05,000	Rs. 4,17,31,000
 <u>Expenditure</u>	 <u>1991-92</u>	 <u>1992-93</u>
Salary & Wages	Rs. 88,15,000	Rs. 99,87,000
Power & Fuel	Rs. 68,00,000	Rs. 71,92,000
O & M	Rs. 26,15,000	Rs. 28,19,000
Total	Rs. 1,82,30,000	Rs. 1,99,98,000
 <u>Capital Expenditure</u>	 <u>1991-92</u>	 <u>1992-93</u>
	Rs. 15,36,000	Rs. 21,64,000

BARODA

Roads

Legislative Basis: The Bombay Provincial Municipal Corporation Act, 1949.

Institution Responsible: Baroda Municipal Corporation

City Roads:

<u>Type of Roads</u>	<u>Length</u>
Asphalt and Semi Grouted Roads	1240 km.
Katcha Roads	250 Km.

Staff:

<u>Category</u>	<u>No. of Employees</u>
E.E.	1
Dy. E.E.	3
Addl. A.E.	10
Supervisors	12
Labour	250

Financial Information:

<u>Revenue</u>	<u>1991-92</u>	<u>1992-93</u>
Road Tax	Rs. 9,99,000	Rs. 13,57,000
<u>Expenditure</u>	<u>1991-92</u>	<u>1992-93</u>
Salary & Wages	Rs. 65,25,000	Rs. 65,44,000
Materials	Rs. 33,60,000	Rs. 40,19,000
O & M	Rs. 1,21,06,000	Rs. 1,36,41,000
Total	Rs. 2,19,91,000	Rs. 2,42,04,000
<u>Capital Expenditure</u>	<u>1991-92</u>	<u>1992-93</u>
Laying of Roads	Rs. 18,14,000	Rs. 11,61,000

VISHAKHAPATNAM

Solid Waste

Legislative Basis:	The Hyderabad Municipal Corporation Act, 1955.	
Institution Responsible:	Visakhapatnam Municipal Corporation	
Quantity:	Generation -	367.5 T/day
	Collection -	270.0 T/day
	Disposal -	270.0 T/day
Coverage:	100% of Municipal Area	
Staff:	<u>Category</u>	<u>No. of Employees</u>
	P.H. Sweepers	678
	Drain Cleaners	327
	Tractor workers	280
	Tractor workers	88
	Thoties	51
	Drivers	65
	Supervisors	74
	Sanitary Inspectors	52
Vehicles & Equipment :	Tractors	33
	Vans	34
	Lorries	2
	Bullock-carts	5
	Vehicle operation /day	50
Operation System:	i. Sweeping & Collection of garbage from small baskets and emptied in to street cement concrete dust-bins. ii. Collection of garbage from dust-bins by trucks and finally dumped in dumping yard.	
Final Treatment:	Composting	
Service Standard:	i. The garbage is collected everyday (regularly) in 80% area. ii. The garbage is collected two days in a week in 20% area. iii. Cleaning of streets, roads and drains everyday. iv. The working hours are 7 a.m. to 1 p.m. and sometimes in the afternoon also.	

Fees & Charges: It is a part of Property Tax
(1/4 of 25%)

Financial Information:

<u>Revenue</u>	<u>1992-93</u>
Sanitary Cess	Rs. 16,00,000
<u>Expenditure</u>	<u>1992-93</u>
Salary & Wages	Rs. 4,34,31,819
Power & Fuel	Rs. 27,79,643
O & M	Rs. 12,78,827
Drivers salary	Rs. 12,24,701
Total	Rs. 4,87,14,990

VISAKHAPATNAM

Water Supply

Legislative Basis:	The Hyderabad Municipal Corporation Act, 1955	
Institution Responsible:	Visakhapatnam Municipal Corporation	
Quantity Obtained:	4.0 MGD	Canal
	20.0 MGD	Lake
	4.0 MGD	Wells
Water Supply :	11.5 MGD	Domestic
	1.5 MGD	Standposts
	0.5 MGD	Commercial
	14.0 MGD	Industrial
	0.5 MGD	Unaccounted
Coverage :	79% Municipal area	
No. of connections:	Domestic Metered	- 100
	Domestic Unmetered	- 21,000
	Commercial	- 300
	Industrial	- 18
	Standposts	- 2,100
	Tankers	- 1 2 0
		trips/day
Treatment Plants:	<u>Treatment Plant</u>	<u>Capacity</u>
	i. Krishnapuram T.P	- 10 MGD
	ii. Gostani	- 4 MGD
	(Infiltration Galleries)	
	iii.MGR Filtration Plant	- 5.5 MGD
Service Standard:	Daily water supply to all areas.	
Charges:	<u>Metered</u>	
	Domestic	- Rs. 5 per KL
	Commercial	- Rs. 5 per KL
		to a min. of Rs.120
		per month
	Industrial	- Rs.12 per KL for
		treated water and
		Rs.4.40 per KL for
		raw water.
	<u>Unmetered</u>	
	Domestic	Rs.40 per month/tap

Financial Information :

<u>Revenue</u>	<u>1991-92</u>	<u>1992-93</u>
Domestic (unmetered)	Rs. 7,92,120	Rs. 29,57,329
Non-Domestic (metered)	Rs. 6,82,61,894	Rs. 6,67,31,313
Commercial (")	Rs. 1,20,000	Rs. 3,75,840
Semi Bank (")	Rs. 24,89,126	Rs. 17,34,608
Water Tax	Rs. 71,72,382	Rs. 64,09,890
Total	Rs. 7,88,35,522	Rs. 7,82,08,980
<u>Expenditure</u>	<u>1991-92</u>	<u>1992-93</u>
Establishment Charges	Rs. 1,09,55,916	Rs. 1,11,29,308
Electricity Charges	Rs. 3,25,00,000	Rs. 3,45,00,000
Telephone charges	Rs. 3,25,000	Rs. 3,40,000
O & M other charges	Rs. 1,01,46,989	Rs. 86,29,442
Total	Rs. 5,39,27,905	Rs. 5,35,98,750

VISHAKHAPATNAM

Sewerage

Legislative Basis:	The Hyderabad Municipal Corporation Act, 1955.	
Institution Responsible:	Visakhapatnam Municipal Corporation	
Quantity of Sewage Generated:	100.8 MLD	
Type of system:	Open drain system under ground Drainage (at construction stage)	
Coverage:	10% Municipal Area	
Staff:	<u>Category</u>	<u>No. of Employees</u>
	Drain cleaners	327
	Sanitary Inspectors	52
Operation systems:	i. Cleaning of drains ii. Secondary Treatment iii. Dispose off into sea	
Treatment Plant:	Capacity - 25 M.L.D. (under construction)	
Final Treatment:	After secondary treatment dispose off into the sea.	
Service Standard:	i. The cleaning of drains every day. ii. Working Hours : 7 a.m. to 1 p.m.	
Fees & Charges:	It is part of property tax : 2	
Financial Information:		
<u>Revenue</u>	<u>1992-93</u>	
Sanitary Cess	Rs.	16,00,000
<u>Expenditure</u>		
Salary & Wages	Rs.	4,34,31,819
Power & Fuel	Rs.	27,79,643
O & M	Rs.	12,78,827
Drivers salary	Rs.	12,24,701
Total	Rs.	4,87,14,990

- Works under progress:
- i. underground drainage system at an estimated cost of Rs.100 crores. At present 28% of total work is under progress at @14.2 crores. In this 70% (i.e. 9.95 crores) loan from HUDCO and 4.26 crores from Corporation funds.
 - ii. 25 M.L.D. capacity of treatment plant is also proposed at Appughar area.

VI SHAKHAPATNAM

Roads

Legislative Basis: The Hyderabad Municipal Corporation Act, 1955

Institution Responsible: Visakhapatnam Municipal Corporation

City Roads:	<u>Type of Roads</u>	<u>Length</u>
	B.T. Roads	430 km
	C.C. Roads	150 km
	WBM Roads	90 km
	Gravel & Kutcha Roads	50 km.

Staff:	<u>Category</u>	<u>No. of Employees</u>
	Chief Engineer	1
	S.E.	1
	E.E.	4
	D.E.E.	9
	A.E./A.E.E.	22
	Road Gang Mazdoors	258

Financial Information:

<u>Revenue</u>	<u>1992-93</u>
MVT Compensation	Rs. 1,59,000

<u>Capital Grants</u>	<u>1992-93</u>
State Grants	Rs. 30,00,000
CERP Works	Rs. 2,00,00,000

<u>Expenditure</u>	<u>1992-93</u>
Salary & Wages	Rs. 1,14,14,000
Operation Costs	Rs. 7,00,000
Maintenance	Rs. 1,50,00,000

Total: Rs. 2,71,14,000

<u>Capital Expenditure</u>	<u>1993-94</u>
On Roads	Rs. 1,30,50,000

ANNEX 2

Obligatory and Discretionary Functions

The Hyderabad Municipal Corporation Act, 1955

Hyderabad Act No. 11 of 1956

(for Vishakhapatnam)

Duties

Obligatory

Discretionary

Sec.112 The Corporation shall make adequate provision for the following matters, namely :-

Sec.115 The Corporation may provide from time to time either wholly or partly, for all or any of the following matters, namely :-

- (a) the watering, scavenging and cleaning of all public streets and places in the city and the removal of all sweeping therefrom;
- (b) the collection, removal, treatment and disposal of sewage, offensive matters and rubbish and the preparation of compost manure from such sewage, offensive matter and rubbish;
- (c) the construction, maintenance and cleaning of drains and drainage works and of public latrines, water-closets, urinals and similar conveniences;
- (d) the lighting of public buildings vested in the Corporation, public streets and municipal markets;
- (e) the construction and maintenance of public markets and slaughter-houses and the regulation of all markets;
- (f) the construction, maintenance, alteration and improvement of streets, bridges, subways, culverts, etc.;
- (g) the management and maintenance of all municipal water works and the construction or acquisition of new works necessary for a sufficient supply of water for public and private purposes;
- (h) the provision of public parks, gardens, playgrounds;
- (i) the fulfilment of any obligation imposed by or under this act or any other law for the time being in force;

- (a) swimming pools, public wash houses, bathing places and other institutions designed for the improvement of public health;
- (b) the construction and maintenance in public streets or places of drinking fountains for human beings and water troughs and animals;
- (c) the construction, establishment and maintenance of theatres places of entertainment, rest houses and other public buildings;
- (d) establishing and maintaining a farm or factory for the disposal of sewage;
- (e) supplying, constructing and maintaining in accordance with the general system approved by the Corporation, receptacles, fittings, pipes and other appliances whatsoever on or for the use of premises for receiving and conducting the sewage thereof into drains under the control of the Corporation;
- (f) maintaining, aiding and suitably accomodating schools for primary education;
- (g) the taking of any measurer not hereinbefore specifically named, likely to promote public safety, health convenience or instruction.

For c,d and f - No explicit statement
a,b,and e - clearly given.

Except (h) all the above clauses are given clearly.

M.P. Municipal Corporation Act, 1956
(for Indore)

Duties

Obligatory

Discretionary

Sec.66 The Corporation shall make adequate provision, by any means or measures which it may lawfully use or take, for each of the following matters, namely -

Sec.67 In addition to the power and duties (Sec.66) conferred or imposed on it by or under this Act or any other law for the time being in force, the Corporation may in its discretion provide from time to time either wholly or partly for all or any of the following matters -

- (a) Lighting public streets, places and buildings;
 - (b) cleaning public streets, places and sewers and all spaces not being private property, which are open to the enjoyment of public, whether such spaces are vested in the Corporation or not; removing noxious vegetation and abating all public nuisances;
 - (c) disposing of nightsoil and rubbish and if so deemed desirable, preparation of compost manure from night-soil and rubbish;
 - (d) constructing, altering and maintaining public streets, culverts, markets, latrines, urinals, drains, sewers, and providing public facilities and drinking water, watering public streets and places;
 - (e) the management and maintenance of all Municipal water-works and the construction and maintenance of new work and means for providing a sufficient supply of suitable water for public and private purposes;
 - (f) the construction and maintenance of public markets and slaughter -houses and the regulation of all the slaughter houses and markets;
 - (g) establishing and maintaining primary schools;
 - (h) the maintenances of public parks, gardens, public places and open spaces in existence and vested in the Corporation;
 - (i) fulfilling any obligation imposed by this Act or any other law for the time-being in force.
- (a) constructing or maintaining public parks, gardens, libraries, museums, stadiums, rest-houses and other public buildings;
 - (b) supplying, constructing and maintaining pipe and fittings for the supply of water to private premises and water-works maintained by the Corporation;
 - (c) supplying and maintaining receptacles, fittings, pipes and other appliances or for the use of private premises for receiving and conducting the sewage thereof into sewers under the control of Corporation;
 - (d) construction and maintenance in the public streets of drinking fountains for human beings and water-troughs for animals;
 - (e) establishing and maintaining a farm or factory for disposal of sewage;
 - (f) establishing and maintaining pre-primary schools;
 - (g) establishing and maintaining public-hospitals, dispensaries and carrying out other means necessary for public relief.

The Bombay Provincial Municipal Corporations Act, 1949

(For Baroda and Pune)

Duties

Obligatory

Discretionary

Sec.63 It shall be incumbent on the Corporation to make reasonable and adequate provision by any means or measures which it is lawfully competent to it to use or to take for each of the following matters -

- (a) the watering, scavenging and clearing of all public streets and places in the city and the removal of all sweepings therefrom;
- (b) the collection, removal, treatment and disposal of sewage, offensive matter and rubbish and if so required by the state govt., the preparation of compost manure from such sewage, offensive matter and rubbish;
- (c) the construction, maintenance and clearing of drains and drainage works and of public latrines, water closets, urinals and similar convenience;
- (d) the lighting of public streets, municipal markets and public buildings vested in the Corporation;
- (e) the construction or acquisition and maintenance of public markets and slaughter-houses; and the regulation of all markets and slaughter-houses;
- (f) maintaining, aiding and suitably accommodating schools for primary education;
- (g) the construction, maintenance and improvement of public-streets, bridges, sub-way, culverts, and like;
- (h) the management and maintenance of all municipal water works and construction or acquisition of new works necessary for a sufficient supply of water for public and private works;
- (i) Fulfilment of any obligation imposed by or under this Act or any other law for the time being in force;

Sec.66 The Corporation may, in its discretion, provide from time to time, either wholly or partly, for all or any of the following matters, namely -

- (a) swimming pools, public wash houses, bathing places and other institutions designed for the improvement of public health;
- (b) the construction and maintenance in public streets or places of drinking fountains for human beings and water-troughs for animals;
- (c) the provision of public parks, gardens, playgrounds and recreation grounds;
- (d) the construction, maintenance and establishment of rest-houses, theatres and other public buildings;
- (e) management and maintenance of infant welfare houses and maternity centres;
- (f) establishing and maintaining a farm or factory for the disposal of sewage;
- (g) supplying, constructing and maintaining in accordance with the general system approved by the Corporation, receptacles, fitting, pipes and other appliances whatsoever on or for the use of premises for receiving and conducting the sewage thereof into drains under the control of the Corporation;
- (h) any measures not hereinbefore specifically named likely to promote public safety, health, convenience or instruction.

ANNEX 3

Provisions for Public and Private Participation in the Acts

The Hyderabad Municipal Corporation Act, 1955
Hyderabad Act No. 11 of 1956

Services

Public

Private

Sec. 342
Water
Supply

For the purpose of providing the city with a supply of water proper and sufficient for public and private purposes, the Commissioner when authorised by the Corporation in this behalf, may -

- | | |
|--|---|
| (a) construct and maintain water works, either within or without the city, and do any other necessary acts; | (c) <u>enter into an arrangement with any person</u> for supply of water. |
| (b) purchase or take on lease any water works or any water or right to store or to take and convey water, either within or without the city; | |

Sec. 320
Disposal
of
Sewage

For the purpose of receiving, storing disinfecting, distributing or otherwise disposing of sewage, the Commissioner may, when authorised by the Corporation in this behalf -

- | | |
|--|--|
| (a) construct any work within or without the city; | (c) <u>enter into an arrangement with any person</u> for period not exceeding twenty years for the removal or disposal of sewage within or without the city. |
| (b) purchase or take on lease any land, building, engine, material or apparatus either within or without the city; | |

Sec. 378
Subway &
Bridges

Construct or alter any sub-way bridges..... The Commissioner when authorised by the Corporation in this behalf, may agree with any person -

- (a) to adopt and maintain any existing or projected sub-way, bridge, viaduct or arch and the approaches thereto and many accordingly adopt and maintain such sub-way, bridge, viaduct or arch and approaches as parts of public streets or as property vesting in the Corporation, or

- (b) for the construction or alteration of any such sub-way, bridge, viaduct or arch or for the purchase or acquisition of any adjoining land required for the foundations and support thereto, either entirely at the expense or such person or partly at the expense of such person and partly at the expense of the Corporation.

Sec. 480 For the purpose of securing the efficient scavenging and
Scaveng- cleansing of all streets and premises, the Commissioner
ing & shall take measure for securing.
cleansing

- (a) The daily surface cleansing of all streets in the city and the removal of the sweeping therefrom;

- (b) the removal of the contents of all receptacles and depots of the accumulations at all places provided or appointed by him under section 484 or

485 for the
temporary
deposit of any
of the matters
specified in
the said
sections.

Sec. 481 All matters collected by municipal servants contractors in pursuance of the last proceeding section and of section 484 shall be the property of the Corporation.

Sec. 482 The Commissioner shall provide or appoint in proper and convenient situation public receptacles, depots and places for the temporary deposit or final disposal of -

- (a) Dust, ashes,
refuse and
rubbish;
- (b) trade refuse;
- (c) Carcass of dead
animals, and
e x c r e -
mentitious and
p o l l u t e d
m a t t e r s :
Provided that -
 - (i) The said matters shall not be finally placed or manner in which the same have not heretofore been so disposed of, without the sanction of the Corporation or in any place or manner which the government think fit to disallow;
 - (ii) any power conferred by this section shall be exercised in such manner as to create the least practicable nuisance.

The Bombay Provincial Municipal Corporation Act, 1949

Services

Public

Private

Sec. 189
Water
Supply

When the Commissioner has given public notice that the Corporation has arranged to supply water to any portion of the city from municipal water-works by means of private water connections or of public stand posts or by any other means, it shall be incumbent on him to take all such measures as may be practicable to ensure that a sufficient supply is available for meeting the reasonable requirements of the residents of such portion city.

For the purpose of providing the city with a supply of water proper and sufficient for public and private purposes, the Commissioner may with the approval of the Corporation -

- (a) construct, maintain in good repair, alter, improve and extend water-works either within or without the city, and do any other necessary acts;
- (b) purchase or take on lease any water-work, or any water or right to store or to take and convey water either within or without the city;

Sec. 205
Public
Streets

The Commissioner when authorised by the Corporation in this behalf, may at any time -

- (a) Lay out and make a new public street;
- (b) agree with any person for making of a street for public use through the land of such person, either entirely at the expense of such person or partly at the expense of the Corporation, and that such streets shall become, on completion, a public street which vest in the Corporation.
- (c) construct bridges and and sub-ways;
- (d) divert or turn an existing public street vested in the Corporation or a portion thereof.

Sec. 207
Sub-way
&
Bridges

The Commissioner when authorised by the Corporation this behalf, may agree with any person -

(a) to adopt and maintain any existing or projected sub-way, bridges, viaduct or arch and the approach thereto, and may accordingly adopt and maintain such sub-way, bridges, viaduct or arch and approaches as part of public streets or as property vested in the Corporation, or

(b) For the construction or alteration of any such above project or for the purchase or acquisition of any adjoining land required for the foundations and support thereof or for the approaches thereto, either entirely at the expense of such person or partly at the expense of Corporation.

Sec. 177
Disposal
of
Sewage

The Commissioner may, for the purpose of receiving, treating, storing, disinfecting, distributing or otherwise disposing of sewage, construct any work within or without the city or purchase or take on lease any land, building, engine, material or apparatus either within or without the city or enter into any arrangement with any person for any period not exceeding twenty years for the removal or disposal of sewage within or without the city.

Sec. 290
Scaveng-
ing and
cleansing

For the purpose of securing the efficient scavenging and cleansing of all streets and the premises; the commissioner shall take measures for securing -

- (a) the daily surface -
cleansing of all streets
in the city and removal
of the sweeping therefrom;
- (b) the removal of the contents
of all receptacles and
depots and the accumulations
at all places provided or
appointed by him under the
provision of this Act for the
temporary deposit of dust,
ashes, refuse rubbish, trade
refuse, carcass of dead
animals and excrementitious
and pollution matter.

Sec. 291 Refuse, etc. to be the property of the Corporation -
All matters deposited in public receptacles depots and
places provided or appointed under Section 292 and all
matters collected by municipal servants or contractors in
pursuance of sections 290 and 293 shall be the property
of the Corporation.

Sec. 292 Provision & appointment of receptacles depots and places
for refuse

The Commissioner shall provide or appoint in proper and
convenient situations public receptacles depots, and
places for the temporary deposit or final disposal of -

- (a) dust, ashes, refuse
and rubbish
- (b) trade refuse,
- (c) Car cases of dead
animals;
- (d) excrementitious
and polluted matter.

Provided that the said matters shall not be finally
disposed of in any place or manner in which the same have
not heretofore been so disposed of without the sanction
of the corporation or in any place or manner which the
Govt. thinks fit to disallow.

The Madhya Pradesh Municipal Corporation Act, 1956

Services

Public

Private

Sec. 220 For the purpose of providing a supply of water proper and sufficient for public and private purpose, the Commissioner may, either within or without the city -

Water Supply

(a) Construct and maintain water works and do all acts which may be necessary or expedient in connection with such construction or maintenance;

(c) enter into any arrangement with any person for the supply of water.

(b) purchase or take on lease any water works or any water right to store water or to take and convey water; or

Sec. 192 For the purpose of receiving, storage, disinfecting, treating, purifying, distributing or otherwise disposing of sewage, the Commissioner may -

Sewerage

(a) Construct any work within or without, the limits of the Corporation;

(c) enter into an arrangement with any person, for a period not exceeding three years, for the removal or disposal of sewage within or without the limits of the Corporation.

(b) purchase or take on lease any land, building, engine, material or apparatus, either within or without the limits of the Corporation; and

Sec. 331 The Commissioner when authorised by the Corporation in this behalf may agree -

Construction of Public Bridge

(a) For the construction or alteration of any such bridge, viaduct or arch or any adjoining land required for

(b) with any person to adopt and maintain any existing or proposed bridge, viaduct or arch and

the foundation and support thereof, or for the approaches thereto, either entirely at the expense of such person or partly at the expense of the Corporation; and

approaches as part of public street, or as property vested in the Corporation.

Sec. 213 Deposit of rubbish, offensive, matter, sewage and carcass -

(i) The Commissioner shall provide or appoint in proper convenient situations, public receptacles, depots and places for the temporary deposit or final disposal of rubbish, offensive matter, sewage and carcass of dead animals accumulating in the city.

(ii) All things deposited in receptacles, depots or places provided or appointed under this section shall be the property of the Corporation.

Sec. 214 The Commissioner may give public notice that the collection and removal of sewage, offensive matter and rubbish from the lands and buildings in any part of the city will be undertaken in municipal agency, he shall then forthwith take measures for the due collection and removal of such matter from any lands and buildings situated in the said part of the city.

**Collec-
tion and
removal
of sewage**

NIUA'S PUBLICATIONS OF RELATED INTEREST

- | | |
|---|--|
| <p>Pricing of Urban Services.
Research Study Series No.48, 1990.</p> | <p>This study attempts to ascertain the procedures and techniques of pricing two important services - water supply and solid waste disposal and the ability of municipal bodies to recover the costs of providing these services from the users. This study is based on field data collected from nine cities of different sizes and functional specialisation in the country.</p> |
| <p>Privatisation of Land Development and Urban Services : A Case Study of CIDCO.
Research Study Series No.57, 1994.</p> | <p>This report documents the innovative experiences of CIDCO with privatisation of land development and urban services in New Bombay. The study highlights the use of land as a resource for urban development.</p> |
| <p>Public-Private Provision of Urban Services.
Research Study Series No.50, 1991.</p> | <p>This study examines the share of the public and private sectors in the provision of four urban services viz water supply, sanitation, transportation and health care. The study covers three cities - Gurgaon, Varanasi and Vishakhapatnam. It brings out the existing institutional arrangements and analyses the efficiency of provision of these services.</p> |
| <p>Public-Private Partnership in the Delivery of Serviced Land in Delhi.
(Forthcoming).</p> | <p>This study provides a formula for public-private partnership in land development and housing in Delhi, and defines the facilitative role to be played by the Delhi Development Authority (DDA).</p> |