CRISIL
INFRASTRUCTURE
ADVISORY

Tamilnadu Urban Infrastructure Financial Services Limited

Conversion of City Corporate Plan into Business Plan

Final Report - Avadi Municipality

February, 2009

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LIST OF ABBREVIATIONS

TNUIFSL	Tamilnadu Urban Infrastructure Financial Services Limited
TNUDP	Tamilnadu Urban Development Project
CCP	City Corporate Plan
BP	Business Plan
CMDA	Chennai Metropolitan Development Authority
TNPCB	Tamilnadu Pollution Control Board
PWD	Public Works Department
ESR	Elevated Service Reservoirs
GLSR	Ground Level Storage Reservoirs
MLD	Million Litres Per Day
CMWSSB	Chennai Metropolitan Water Supply and Sewerage Board
LPCD	Litres Per Day
FOP	Financial Operating Plan
O&M	Operation and Maintenance
ULB	Urban Local Body
TNUIFSL	Tamilnadu Urban Infrastructure and Financial Services Limited
LPA	Local Planning Authority
T&CPA	Town and Country Planning Act
MDR	Major District Road
ODR	Other District Road
ML	Million Litres
UGD	Underground Drainage
SWD	Storm Water Drain
SWM	Solid Waste Management
CAGR	Compounded Annual Growth Rate
ARV	Annual Rental Value
p.a.	Per Annum
CIP	Capital Investment Plan
LCS	Low Cost Sanitation
PC	Public Conveniences
TWAD	Tamilnadu Water Supply and Drainage
AMP	Asset Management Plan
WTP	Water Treatment Plant
STP	Sewage Treatment Plant
MoA	Memorandum of Association

EXECUTIVE SUMMARY

In the year 2002-03, Tamilnadu Urban Infrastructure & Financial Services Limited (TNUIFSL), an asset-management company, had led the preparation of city corporate plans (CCPs) for a group of towns in Tamilnadu. The objective of the exercise was to develop the vision and growth strategies for these towns. The CCP for each town included operational and financial assessment, capital investment programs and the required resources. However, the towns could not implement these capital investment programs due to inadequate finances and the absence of an action plan. TNUIFSL recently appointed CRISIL Infrastructure Advisory to provide assistance in converting the CCPs into workable business plans.

Scope of CRISIL Infrastructure Advisory's Assignment

There have been significant changes in the operational and financial position of these towns in Tamilnadu since 2002-03, when the CCPs had been drafted. Thus, CRISIL Infrastructure Advisory is required to develop firstly, a business plan to identify the current infrastructure requirements of these towns. Secondly, we have been mandated to develop a financing operating plan, identifying the measure and timing of funds required for implementing the investment program identified in the CCPs.

Methodology Adopted

CRISIL Infrastructure Advisory has envisaged the execution of this assignment in the following steps:

Step 1: Identifying the infrastructure gaps based on discussions with town officials, available secondary information and CCP reports

Step 2: Determining the investment requirements of the town through technical analysis

Step 3: Determining the investment capacity of the town by developing a financial operating plan under two scenarios viz. Business-As-Usual scenario and Improved Case scenario

Step 4: Highlighting the gap/surplus between the investment requirement and investment capacity, as the case maybe

Step 5: Specifying the financial and operational responsibilities of all stakeholders, i.e. TNUIFSL, lending agencies, municipality, developers and users

Avadi's Economy and Infrastructure

CRISIL Infrastructure Advisory broached the town visit with a study of Avadi's infrastructure. Avadi has substantial growth potential, primarily due to its vantage position; it is a commercial 'hub' with close proximity to Chennai and significant economic activities of trading and manufacturing.

On the infrastructure front, there is hardly any water supply system; almost one-fourth of the population lacks proper sanitation facilities. The coverage of roads and storm water drains is below the prescribed norms, with roads covering 87.6% of the town and storm water drains covering only 18.6% of it. Street lighting facilities and the solid waste collection system cover larger areas; streetlights facilities have

attained 75% coverage level, which is below the norms1, and the solid waste collections cover 82% of the area under the Avadi municipality's jurisdiction. However, service delivery with respect to other aspects of solid waste management (SWM) like transportation and disposal are inadequate.

Key functions and performance of Avadi Municipality

One of the first steps towards formulating a business plan was to study the functions and performance of the Avadi municipality, which would be the chief executor of the plan. The Avadi municipality covers an area of 65 sq. kms and is divided into 48 wards. Responsible for a providing a host of services, the municipality plays a number of functions including obligatory functions like the provision of water supply, and discretionary functions like the development of parks and playgrounds. The functions are distributed between different departments; each department has a Head who reports to the Commissioner.

The roles of each department were examined and the findings about the functioning and the lacunae are detailed below.

Revenue department: The revenue department raises demands for key revenue items like property tax and water charges, follows up on outstanding payments and prepares demand collection balance (DCB) statements. Our study revealed that the demand notice for property tax is not raised on time, which adversely affects the working capital cycle. Also, though targets have been identified for the bill collector, there are no significant checks to ensure that the targets are met. Finally, neither incentives nor disincentives are used to expedite payments from the users.

Accounts department: This department maintains all income and expenditure statements, prepares and implements the budget, pays works and supply bills and disburses salaries. However, due to the accrual based accounting system, the demand is being projected as the collection, which has been modified for projecting the cash flows in our engagement. This would provide a more accurate financial position of the town

Engineering department: This department is responsible for the execution of projects related to roads, street lighting, water supply and sewerage. Besides, it has to maintain these assets for optimum service delivery. We found that the department suffers from inadequate infrastructure and lack of scientific maintenance procedures.

Health department: This department attends to SWM, issues licences for non-hazardous and non-polluting businesses, and organises health camps and other government immunisation programmes. It also manages the municipal hospitals and other health centres. However, this department is still unable to provide proper sanitation facilities to significant segments of the population. Also, the SWM system is poor, excepting its collection component. Sewer is discharged in the open without any treatment.

Information technology department: This department maintains computerised updates of all municipality-related information, updates the database for collection of various taxes and provides management information system (MIS) reports. However, this department is constrained by inadequate trained staff as well as insufficient maintenance of software and hardware.

[1] As per TNUDP II

Financial performance of Avadi municipality

Avadi municipality has maintained a healthy financial profile in the last five years, generating an average annual revenue surplus of 48% of its revenue. Fairly high tax rates, accounting for 24% of annual rental value, constitute the chief reason for its buoyant performance. The municipality has generated a surplus of Rs. 8.27 crores (for 2007-08). This favourable financial performance has been offset by the municipality's outstanding liability of Rs. 3.75 crores. Almost half of the property tax demand raised is arrears, which implies a poor collection level over the years and is a cause of concern.

Investment plan

Based on detail study of Avadi's infrastructure requirements and the strengths and weaknesses of the Avadi municipality and discussion with the stakeholders, the following plans for the town's growth are suggested herein.

Asset Management Plan

An asset management plan has been suggested following the assessment of the impact the O&M expenses have on the finances of the municipality. This plan would help the municipality to identify its revenue generating assets as well as those that are draining its revenues.

Capital Investment Program

The Capital Investment Program (CIP) identifies the investment requirements of the town through demand-gap analysis. We estimate Avadi's total investment requirement to be of the order of Rs 354 crores; 50% of this investment would be required for commissioning of the underground drainage and up gradation of sanitation systems, and 25% for improved water supply. The estimated investments required for different sectors are shown in the table below.

Investment requirement in different service sectors (All figures in Rs. crores)

Sectors	Total
Water Supply	87.57
Sewerage & Sanitation	177.09
Roads & Urban Transport	36.30
Drains	30.20
Street Lights	10.37
Solid Waste Management	3.68
Others	8.93
Total	**354.13**

Financial Operating Plan

Avadi town being an urban agglomeration of Chennai Corporation gets covered under the Jawaharlal Nehru National Urban Renewal Mission (JnNURM). The funding pattern under this program is 35% grant from Government of India, 15% from State Government the balance need to be contributed by the ULB through its own sources or through external borrowing.

The Financial Operating Plan (FOP) assesses the financial strength of Avadi and the financial feasibility of the identified investment projects. The assessment is carried out under two scenarios viz. Base Case and Improved Case. In the Business-As-Usual scenario it is assumed that Avadi would not have access to any grants from JnNURM and would not undertake any reforms; the growth pattern would as the

present case. While in the latter case, it is assumed that the city would undertake reforms and hence would have access to JnNURM grants.

The investment sustenance capacity varies under the base case and improved case scenario were estimated to be 30% to 75% of the total required investment respectively.

Summary of expected outcome

The implementation of the business plan also required efforts from all spectrum of society. These efforts are in terms of state initiative, council resolution and administration efforts in implementation. The investment planned would lead to provision of basis services like water supply and sanitation, which the town is currently deprived. At the end of the five years, Avadi municipality would be able to achieve full service coverage and would also maintain a sustainable financial position. Under the JnNURM initiative the town will also build a strong governance framework to establish a citywide planning and governance framework and ensure modern financial management, effective e-governance and transparency in its functions.

1 BACKGROUND

Tamilnadu Urban Infrastructure Financial Services Limited (TNUIFSL) was involved in the preparation of City Corporate Plans (CCP) for a set of towns in Tamilnadu as part of the Tamilnadu Urban Development Project II (TNUDP II). The objective of the CCPs was to develop a vision and strategies for municipalities in the state of Tamilnadu. The CCP included appropriate investment strategies, capital investment programs and resource mobilisation measures to be adopted by municipalities in the delivery of efficient services. However, the Urban Local Bodies (ULBs) are not in a position to implement the identified capital investment programs due to several reasons, the primary being inadequate finances. In addition, there is no action plan that would enable the implementation of the corporate plan towards achieving the set objectives of service delivery. Hence, it was imperative to develop a Business Plan (BP) to define the strategies and tasks for the timing of fund with respect to programs identified in the CCP.

CRISIL Infrastructure Advisory has been appointed as consultants to TNUIFSL in providing assistance to convert the CCPs of seven towns (Cuddalore, Nammakal, Tiruchengode, Kodaikanal, Tirunelveli, Nagercoil and Avadi) to individual business plans.

1.1 Objectives and scope

The objective of this assignment is to formulate a strategic plan for the conversion of the CCP into BP by assessing the ULB's financial capability to undertake capital investments. This would enable the ULB to accomplish the objectives specified in the CCP

The scope of work includes the following activities:

- Assess the finances of the ULBs - An assessment of the finances (of the past five years) in terms of sources and uses of funds, base and basis of levy, rate revision history and impact, state assignments and transfers - base and basis of transfer and its predictability, outstanding liabilities (loans, power dues, pension etc), levels of service, coverage and quality of municipal services, staffing and management arrangements in delivery of services
- Outline issues in revenue realizations, quality of existing assets in relation to service levels and coverage and institutional constraints
- Develop quick indicators of performance, based on current coverage and additional population in the medium term (10 years) and unit costs
- Indicate city level investment requirement for up gradation of infrastructure
- Improve service coverage and asset quality by:
  - Prepare a comprehensive Asset Management Plan and use fiscal notes and policy analysis to assist in making informed investment choices to achieve sector/ city goals
  - Define priority assets and indicative costs of rehabilitation
  - Conduct fiscal impact analysis of investments: life- cycle O&M costs, revenues from project, and costs/ impacts on finances and of not doing the project
  - Explore funding options for rehabilitation of facilities
- Prepare a Financial and Operating Plan (FOP). The FOP is a medium term framework of the ULB, and shall present the following

A. Additional data to be collected:

- Break-up of energy cost on UG, WS etc.
- Salary for all the departments including staff and payments to private operators
- The benchmark cost i.e. at ideal condition, what would be the cost of the identified investments, a table indicating the investment plan for the next five years with identified source of finance

B. Indicative areas of reduction in expenditure:

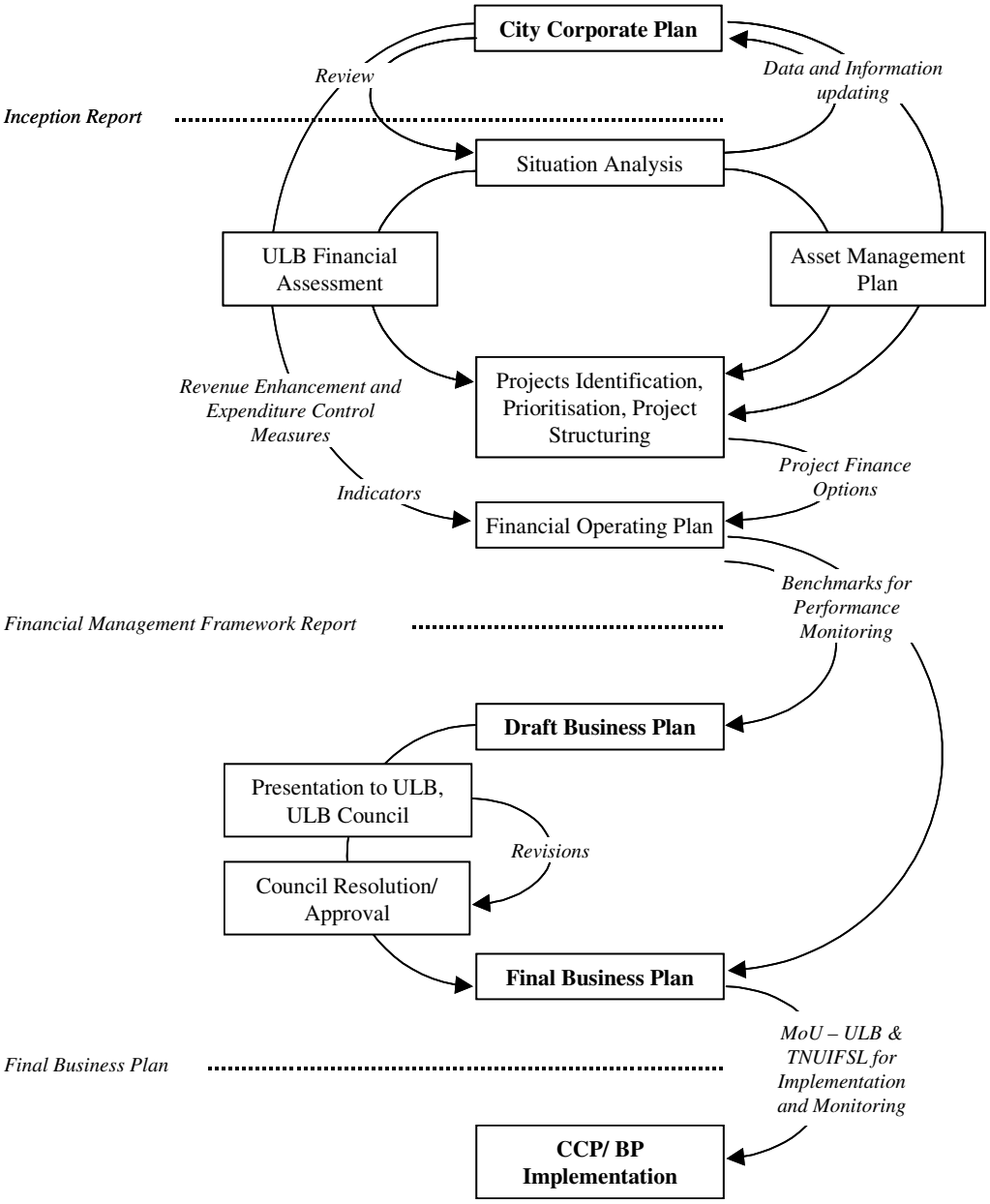
- Optimisation of financial, collection, operational and service delivery efficiencies
- Efficient operation and maintenance system
- Improvement and up gradation in the existing system
- New financing methods like leasing
- Cost reduction measures without additional investment, with minimum additional investment and with major additional investment
- Charging or levying of new taxes/charges
- Effective utilization of existing resources and untapped non-conventional resources
- Energy audit resulting in savings in energy
- Leak detection resulting either in connections or in the tariff (or) maintaining the same supply and achieving a reduction in energy cost
- Privatising the MSW collection and identifying a BOT operator for eliminating, composting etc. items of revenue can be identified
- Laying of cement concrete road / Fly ash and savings on maintenance cost resulting in increasing operating surplus
- Water recycling / reuse
- Rejuvenation of tanks and reduction of cost / litres of water produced
- Privatisation and options for revenue rising
- Better inventory control and management
- Fleet management
- Potential for scrap disposal

C. Options for increasing the revenues through non-traditional methods

- Land development for raising revenue (not the traditional commercial complexes)
- Suggestion for improvement of revenues and the latter would entail:

1. Prepare a draft Memorandum of Understanding (MoU) between ULB and TNUIFSL for effective implementation and monitoring of the BP. The MoU would outline the base line (based on the situation analysis) and the performance benchmarks to be monitored, apart from other financial and loan covenants. The targets would be based on service development targets and outputs of the financial and operating plan.
2. Initiate consultations with council and local stakeholders on the priorities; redefine priorities (rerun FOP if required) and work with the council to resolve on adoption of the city's FOP and CCP actions.
3. Finalise business action plan for the city, with a resolution from the council on the priorities and commitment to implement revenue and management improvement measures.
4. Identify the obligations on the part of the ULB/TNUIFSL/TNUDF/Government for successful implementation of the business plan.

1.2 Approach to CCP and BP



1.3 Report Structure

Chapter 1: Background

Chapter 2: Review of the CCP – city profile

Chapter 3: Review of the CCP – Municipal assessment: Infrastructure and Organisation

Chapter 4: Review of municipal finances

Chapter 5: Capital Investment Program (CIP)

Chapter 6: Financial Operating Plan (FOP)

Chapter 7: Asset Management Plan (AMP)

Chapter 8: Business strategy

Chapter 9: Action and implementation plan

Chapter 10: Draft Memorandum of Association between Avadi and TNUIFSL

1.4 Deliverables

This final report provides

1. The comprehensive business plan based on the updated information from the towns, observations during the town visits, service level assessments and a complete financial analysis.
2. Draft Memorandum of Association (MoA) to be signed between Avadi and TNUIFSL.

2 REVIEW OF CCP - CITY PROFILE

Avadi is a town with a substantial growth potential due to its inherent strength of geographical location that has key economic activities of trading and manufacturing. The town's growth has been stifled due to the lack of proper planning efforts and untapped revenue generation potential across sectors. The town has taken up measures to improve the existing situation, but it has met with limited success, as it lacks an integrated approach to town development.

Avadi is a selection grade municipality situated at a distance of 24 kms from Chennai. The town serves as a transit point between Chennai and Arakkonam station and is surrounded by places of industrial and heritage interest. Ambattur, an industrial centre is on the eastern side, while Thiruverkadu and Thiruninravur surrounds the town on the southern and western side respectively. Its total coverage is 65 sq. kms and is divided in to 48 wards. The town has a population of 2.16 lakhs as per 2001 census with a population density of 3331 persons per sq. km. Unlike other towns, the literacy rate has increased only marginally from 74% in 1991 to 75% in 2001, which is also below the state average and requires special attention.

2.1 Economic profile

The main economic activities of the town are trading and manufacturing. Manufacturing includes several small scale and industrial goods. 22 small-scale industries and a few large ones like Tube Products of India (TPI) operate in the Avadi municipality. A significant portion of the town's revenue is from the industrial and trading activities. The development of the town is contingent on providing an impetus to these activities by improving the infrastructure that would aid in setting up IT industries, as identified in the CCP

2.2 Past planning efforts

There master plan for Chennai Metropolitan Area (CMA) prepared by Chennai Metropolitan Development Authority (CMDA) in 1995 covers Avadi. Apart from the municipality, agencies like CMDA, Tamilnadu Pollution Control Board (TNPCB) and Public Works Department (PWD) are involved in the town's development. The existing land use in the town highlights the development potential of the town, as 32% is un-urbanised (including agriculture land). The land use pattern details are mentioned below

Table 1: Landuse Pattern

Use	Area (Hectare)	Percentage
Primary Residential	1321	20.33
Mixed Residential	471.6	7.26
Commercial	40.00	0.62
Industrial	984.6	15.15
Institutional	712.41	10.96
Open Space & Recreational	790.14	12.15
Agricultural	1740.29	26.77
Nom-urbanisable	16.64	0.26
Vacant Land	422.7	6.5
Total	6500.00	100

Source: City Corporate Plan, Avadi

2.3 Key development issues

Despite the significant revenue generation potential of the town through various sources, the growth of the town is stifled due to three key issues viz. low levels of land development (Almost 32% of the usable land lying vacant), significant number of unauthorized layouts, adequate land not allotted for services and recreation, improper classification of land use and full potential of the tourists spots untapped due to lower levels of development in these places

3 REVIEW OF CCP - MUNICIPAL ASSESSMENT: INFRASTRUCTURE & ORGANISATION

The municipality is responsible for providing a host of services ranging from obligatory functions like provision of water supply to discretionary functions like providing parks and playgrounds. The common requirement across the functions is good asset quality in adequate supply. Almost 1/4th of the population lacks a proper sanitation facility. Roads and Storm Water Drains (SWD) are inadequate to cater to the existing population, while, street lighting infrastructure and solid waste collection system is reasonably adequate. However, the assessments have been undertaken without a detailed assessment of its slum infrastructure, which is essential before implementing any of the projects identified in Section 5. Its existing staff would require training, for managing the envisaged projects and in some cases, additional manpower is also required.

3.1 Water supply

The water source is Red Hills Lake at Surapet village, which is located at a distance of 22 kms from the town. The town is covered under the combined water supply scheme commissioned in 1967 with subsequent improvements in 1987. Only 0.85 MLD (4 LPCD) is supplied, which is lowest among all municipalities in the state; to augment supply, the municipality provides water through bore wells and open wells that provides additional 0.68 MLD. Despite these measures, the supply is inadequate to meet the demand and private water suppliers provide water to the town. The requirement in 2021 and 2031, at per capita water supply rate of 90 LPCD will be 23.03 MLD and 26.30 MLD respectively.

3.1.1 8 ML of additional storage capacity required

There are 3 service reservoirs with a total storage capacity of 0.86 ML that is 3.25 % of the daily requirement, lower than the norm of 33.33% (8.8 ML). Hence there is a need for any additional service reservoirs of 8 ML. In addition to it, the conditions of the old reservoirs need to be assessed in detail and plans should be drawn for their repairs, rehabilitation and maintenance, if found necessary. The existing treatment capacity is 20 MLD, which is 23.5 times the existing supply and hence adequate to cater to the current needs.

3.1.2 Distribution lines cover only 16.2% roads and no house service connections

The total length of the distribution system is 54 km covering 16.2% road. This is below the state average for municipalities (78%) and the norm of 85% and hence, there is need for additional pipelines. In addition to this, it is necessary to replace the old CI pipes in phased manner. Water is supplied to 417 public fountains and there are no independent house service connections. As per the government's policy, the public stand posts have to be eliminated completely that the town needs to pursue. The existing distribution system through public fountains and bore wells cover 35.14% of the total population

3.1.3 Issues

Avadi needs to address a host of issues that are affecting the proper supply and distribution of water in the town. Due to lack of additional water source, despite sufficient treatment capacity, there is an increasing demand-supply gap. The asset quality is deteriorating due to improper maintenance and on the service delivery front, the coverage is very low

3.2 Sewerage and Sanitation

3.2.1 28% population devoid of any sanitation facility

There is no Underground drainage (UGD) in the town and it has only shallow open drains for disposal of sewerage. Currently, the roadside drains carry both sullage and rainwater. Houses and other commercial establishments have their own septic tank arrangements for sullage disposal. The sullage water from the houses and storm water is collected in open drainage and disposed in surrounding water bodies causing environmental degradation and spread of water borne diseases. 0.44% the town has access to public conveniences (8 'Pay & Use' public conveniences) and out of the 54316[2] properties in the town, 69.54% are covered with septic tanks while 1.85% households have access to low cost sanitation facility[3] resulting in almost 28% of the population uncovered by any proper sanitation facilities

3.2.2 Technical study completed in December 2003 for a comprehensive UGD scheme

To improve the poor sanitation situation in the town, a UGD scheme has been proposed as part of the integrated development initiated by the municipality. A technical study was conducted to assess the requirement of the town and a detailed project report was prepared. But the sewerage system could not be implemented due to limited financial capacity of the town. However, with the additional revenues being generated through the proposed new connection charges and monthly tariff, the sewerage scheme could be implemented in the next two to three years. These charges, in addition to the revenue surpluses should enable the town to absorb the capital cost plus the additional O&M and debt servicing costs. The technical study has highlighted the requirement of 324 kms of sewer lines and 16 sewage-pumping stations to handle a capacity of 39.96 MLD.

3.3 Roads cover 87.6% of the town[4]

The town is well connected with the Chennai (state capital) and Tiruvallur (district capital). Apart from the roads maintained by the municipality, the Department of Highways maintains 19.9 kms state highways. The total road length maintained by the municipality is 332.08 kms. However, as per the accepted norms, per capita municipal road length is 1.75 meters, while for Avadi, it is only 1.53 meters implying a shortfall of 12.4%. Excluding the Cement Concrete roads, the surfacing of other roads is below the prescribed norms[5] viz. 6% cement concrete, 44% Bitumen laid and 50% un-surfaced. There are several areas of traffic congestion across the town. Avadi has to upgrade its road infrastructure in order to meet the growing demands of the town. The key areas of concern are un-surfaced roads (50%), insufficient maintenance and congestion at key commercial points like MTH road, Avadi-Poonamallee road

3.3.1 18.6% roads covered with SWD

Avadi had 65.4 kms of SWD, below the required level of 528 kms.[6] In addition to very poor coverage, the key issues plaguing the SWD system are poor design resulting in flooding at many points across the town; single storm water drain for all purposes viz. residential and industrial waste resulting in unhygienic

[2] The number of properties in the register is 45107

[3] Septic Tanks: 37733 households, LCS: 6 ISP and 11 VAMBAY projects

[4] As per the norm of 1.75m of per capita municipal road

[5] Concrete: 5%, Black Top: 85%, WBM: 10%, Earthen: 0%

[6] As per the norm of 150% road length (including non-municipal roads)

conditions; uneven distribution of drains across the town resulting in pockets of stagnation and discharge into the water bodies without treatment, polluting the town and the surroundings

3.3.2 82% solid waste collected, but no disposal facility

The town collects 82% of the waste generated through private players in 18 wards and its own infrastructure in the remaining 30 wards. The tippers and lorries clear it from the transfer points. However, there is no segregation of organic and inorganic waste that is resulting in a significant environmental hazard at the dumping site. The existing fleet of vehicles handle a capacity of 47.5 MT per day and make 2-3 trips per day (norm is 3.5 trips per day) to transport the waste from the transfer point to the disposal site, which is an open area at Ward No. 37 near the railway track. The municipality has purchased a 10-acre site for disposal that is being prepared

3.4 Street lights cover 75% of the town[7]

There are 8786 streetlights; 7% sodium vapour and rest tube lights. The spacing is 40m, implying 75% coverage of the town and requires up-gradation for better illumination. The key issue here is the high-energy cost, which the municipality is trying to reduce.

3.5 Adequate social and recreational facilities, except parks and playgrounds

The social infrastructure consists of Educational centres including Schools, Colleges & Training Institutes and Health Care centres. Avadi has 76 educational centres consisting of primary, secondary and higher secondary schools that are adequate for the existing population[8]. The Health Care infrastructure also is sufficient with 1 hospital, 16 health care centres, 3 dispensaries and 5 family centres.[9] However, the 8 parks and 16 playgrounds in the town do not have adequate infrastructure for the 790.14 acres. Quality of teaching staff at the municipal schools, lack of accident care centre/trauma centre at the hospital and inadequate facilities at the government hospital like insufficient beds, limited parking etc. are the key issues affecting the town

3.6 Slum Infrastructure assessment required

Avadi municipality provides basic amenities like water, public conveniences, drainage and street lighting to the 10 slum areas, all of which are notified. The municipality has been making efforts to improve the existing conditions of the slum dwellers through the Swarna Jayanthi Rojgar Yojana Scheme (SJSRY) and national slum improvement scheme of the central government. However, the details of slum infrastructure need to be assessed before undertaking the implementation of the projects.

[7] As per the norm of 1 street light per 30m

[8] As per the norm of 1 primary school per 300 students, 1 secondary school for a 7500 population and 1 college for 1.25 lakh

[9] As per the norm of 1 government hospital with 150 beds for 2.5 lakh population, 2 maternity centres with 13 beds for 45000 population and 2 nursing homes for 45000 population

Table 2: Service level targets for Avadi municipality over next 5 yeras

Category	Description	Unit	Targets by end of 5 years
Water Supply			
	Per Capita supply	Litres	135
	Storage Capacity/Total Supply	%	33
	Treatment Capacity/Total Supply	%	100
	Length of Distribution Network compared to roads	%	100
	Transmission & Distribution losses	%	15
	Public Stand posts	Number	Only in slums
	Public Bore well	Number	
	Population having access to water sources	%	100
	Supply	Hours/day	6
Sewerage & Sanitation			
	Municipal area covered by sewerage system	%	100
	Municipal area covered by Public convenience system	%	100
	Municipal area covered by Septic Tanks	%	
	Treatment Capacity/Total Supply	%	100
	Roads Covered by sewerage system	%	100
	Population covered by sewerage system	%	100
Solid Waste Management			
	Daily per capita waste generated		125
	Primary Collection Capacity	MT	125
	Secondary Collection Capacity	MT	125
	Door to Door collection coverage	%	100
	Total Rated capacity of vehicles/Total waste generated	%	80
	Average Spacing between Dustbins	Meters	200
Storm Water Drain			
	Municipal Area covered with SWD	%	100
	Population covered by SWD	%	100
Roads			
	Municipal Area covered with SWD	%	100
	Population covered by SWD	%	100
Street Lighting			
	Spacing between Streetlights	Meters	25-30

3.7 The organisation requires training in key areas

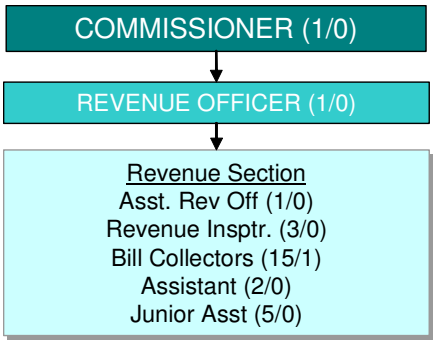
3.7.1 Revenue section

The revenue section is responsible for collection of various taxes and charges form the citizens. This section consists of 27 permanent employees who handle all revenue functions including raising the demand for key revenue items like property tax, water charges etc., follow up on outstanding payment and prepare the Demand Collection Balance statement. The payment is made by the users directly at the 5 collection centres and hence, the earlier collection work has been eliminated.

Operation and Maintenance (O&M) issues

1. Adequacy of strength

Some of the existing Bill Collectors are posted at the various collection centres, after being trained on various modules. Discussions with the commissioner has highlighted that additional strength is not required in this department



2. Business process/system issues

On the demand side, the demand for property tax is not raised on time, which results in a lag in the entire collection cycle, thus adversely affecting the working capital cycle and there is an estimated 2500 properties in unauthorized layouts, which has a significant revenue generation potential. However, no significant action has been taken to improve it. On the collection front, there is no penalty for late payment, due to which, there is no incentive for the taxpayers to make timely payments and, there are no significant checks that prompt the bill collectors to achieve the target

3.7.2 Accounts & Establishment section

Headed by an accountant, this department is responsible for the maintenance of all the accounts of income and expenditure; payment; preparation of budget and implementation of budget. The system of accounting has changed from cash-based accounting to accrual accounting. The municipality maintains the accounts in three funds viz. revenue fund, water and drainage fund, and elementary education fund. A Manager heads the administrative functions of the town. His team of typists and clerks who are assigned specific revenue streams assist him. In the absence of the commissioner, the manager is responsible for the smooth functioning of the municipality.

Though the work process captures significant amount of financial and operational information, it does not deliver the required information to the management due to its poor maintenance of records. A small improvement in the database design would aid in achieving the same. The following table highlights the information that can be derived from the existing account information. Maintenance of records of these parameters will implicitly improve the record keeping functions

Table 3: Suggestive list for MIS

Category	Description	Unit	Base data
Property Tax	Collection efficiency	%	Total collection, Total Demand
	Arrears as a % of the total	%	Current collection, Arrear Demand
Water	Metered Residential Connections/Total Residential properties	%	No. of residential, commercial and industrial connections
	Metered Commercial Connections/Total Commercial properties	%	
	Metered Industrial Connections/Total Industrial properties	%	
	Collection efficiency	%	Total Demand and Collection (in Rs.)
	Arrears as a % of the total	%	
	Unauthorized connections/ Total Connections	%	No. of connections
Sewerage & Sanitation	Sewerage connections/Total number of properties	%	No. of connections and properties
	Septic Tanks/Total number of properties	%	
	Low Cost Sanitation/Total number of properties	%	
	Number of Slum residents per seat of Public convenience	Number	No. of seats and Slum population
Solid Waste Management	Collection efficiency	%	Waste generated and collected
	Road length per staff	Meters	Road length and No. of conservancy staff
	Disposal site capacity/Total Waste Generated	%	Site capacity and total waste gen.
	Area covered per conservancy staff	Sq. Meters	Area of municipality and No. of conservancy staff
Storm Water Drain	Road covered with Pucca Open Drain	%	Length of drains and roads
	Road covered with Pucca Closed Drain	%	
	Road uncovered with SWD	%	
	Pucca Drain/Total SWD	%	
Roads	Roads Surfaced (any kind of surfacing)	%	Road length
	Concrete Road/Total Road	%	
	Black Top Road/Total Road	%	
	Earthen & Other Road/Total Road	%	
Street Lights	Tube lights/Total Lights	%	No. of lights
	High power lights/Total Lights	%	
	Other Lights/Total Lights	%	

O&M issues

1. Adequacy of strength

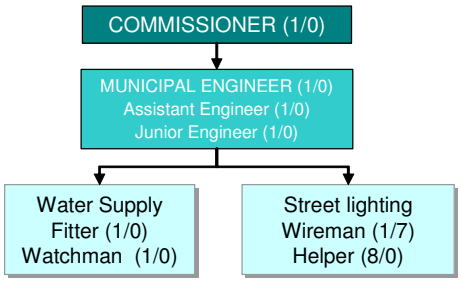
Currently, the accounts section consists of an accountant, 2 Junior Assistants and a cashier. The staff strength in accounts is adequate for the current functioning and only requires additional training due to increased automation through computerisation. Currently, no independent verification of reports submitted by other departments related to revenue / cost items takes place.

2. Business process/system issues

Despite being vested with powers to increase the rate, the administration has not initiated efforts with the council to increase the property rates, which is 24% of the Annual Rental Value. However, poor service delivery levels have added to the municipality's inability to raise the rates

3.7.3 Engineering section

The engineering section is responsible for execution of projects related to road, street lighting, water supply and sewerage. It is also responsible for the O&M of these assets. The Municipal Engineer heads the department. Most of the projects are executed through private contractors who are appointed through a bidding system and the section is responsible for overseeing the operations.



O&M issues

1. Adequacy of strength

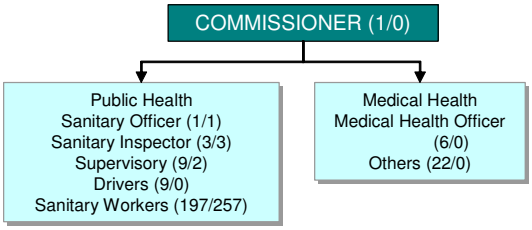
The staff is sufficient for the existing projects and works. However, due to the absence of a sewerage project, there are no employees assigned to that work. With the UGD project being implemented, there would be additional manpower recruited towards it

2. Business process/system issues

There is a deficit in the water supply situation and the existing transmission and distribution lines are obsolete resulting in significant transmission and distribution losses. Additionally, LCS and public conveniences is not available to the entire slum population

3.7.4 Health section

The health section is responsible for maintaining a safe and pollution free environment. A Sanitary Officer heads the department and he also has a Medical Officer to support him in his functions. The key functions are:



- Manage solid waste generation and disposal
- Issue licenses after proper scrutiny to businesses that could be hazardous or cause pollution
- Undertake health camps and other government immunization programs
- Manage and upkeep municipality owned hospitals, maternity centres and other health centres Undertake health camps and other government immunization programs to maintain the health of the citizens
- Enforce the Public Health Act.
- Implement various government schemes like pulse polio projects and SJSRY.

O&M issues

1. Adequacy of strength

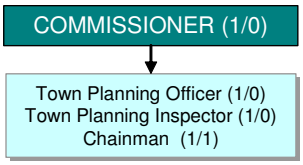
The staff is sufficient for the existing projects. In addition to undertaking the SWM work, the department also co-ordinates with the private player for the work in 18 wards.

2. Business process/system issues

The key issues that need to be addressed are inadequate staff at the senior position level, inadequate landfill and challenges in the operations of the private players.

3.7.5 Town planning section

The Town planning section is responsible for developing the integrated plan of the town. A Town Planning Officer heads the department. The key functions are, issue building licenses after assessing the need and legality and undertake assessment of the town to ensure the reduction in unauthorized layouts



3.7.6 Information technology section

An Assistant Programmer (AP) manages IT activities. Information technology has come into the limelight after a significant up-gradation initiative under the TNUDF-II program. A full-fledged IT section was established in the municipality. The computerised system is used for various functions viz. registration of birth and death, introduction of new accounting system, the calculation of water charges and professional taxes. However, some discrepancies still exist between the manual and computerised data. The municipality has also initiated online collection counters that ensure better service delivery and aid the municipality in effective collection of revenues. Computation of property tax is also carried out through this database. The module involves several components viz. new assessment calculation (tax calculation), Demand Collection Balance (DCB) statement, demand registers & challan registers (arrears demand), defaulters list and demand generation. The municipality also provides an e-mail service address and any complaints or suggestions can be received. This also acts as a mode of correspondence from the Commissionerate of Municipal Administration (CMA), Regional Directors of Municipal Administration (RDMA) and the government departments.

O&M issues

1. Adequacy of strength

The staff is sufficient for the existing works. However, with the envisaged increase in computerisation, the department would require more experienced personnel with a proper training schedule.

2. Business process/system issues

The key issues to be addressed are inadequate hardware, poor networking infrastructure, and non-updation of various modules. However, certain modules like census, need to be re-looked for an assessment if their relevance to municipal operations.

3.7.7 Status of e-Governance

The municipality has progressed significantly in its implementation of the modules and currently 14 modules have been completed. The data entry for ‘census and ‘mother and child welfare’ module is in progress. There are five on-line collection centres, one of which is art the municipal office, but are not interconnected. The details at the end of the day are updated in the main server located in the municipal office. However, additional training is required on the software front and it would be beneficial to train select individuals on the software developed for collections.

4 REVIEW OF MUNICIPAL FINANCE

Avadi municipality has performed quite efficiently during the period 2003-04 to 2007-08. Like other ULBs in the state, Avadi too over-estimates its revenues due to the incorrect accounting policy of projecting its demand as the actual collection. Avadi has maintained a an average revenue surplus of 34% of its revenues for the above period. However, its outstanding liability of Rs. 357 lakhs could be a significant cause for concern, as it is 8.5 times the closing balance of 2007-08.

The review[10] includes a time series analysis of the income and expenditure of the municipality to identify the trends in the major sources and uses of funds and their impact on the financial position of the town. The review also includes an analysis of key parameters like per capita income, per capita expenditure and debt servicing ability.

The municipality operates on an accrual based accounting system that recognizes the **demand** of revenue items as the **collection**, which results in an inflated revenue surplus position. Hence, the annual accounts have been recast to arrive at the true financial position of the town. The core revenue receipts of the ULBs are broadly categorized as per the table shown below:

Table 4: Classification of revenue items

Tax Revenues	Property tax, Water tax, Advertisement tax, Professional tax and Education tax
Non-Tax Revenues	Service charges and fees viz. Water Charges, Education charges, Shops and market rent; Trade license and Building license; Other Income
Assigned Revenue	Entertainment tax, Surcharge on Sales tax
Grants and Contributions	Devolution Fund, Other Grants and Contributions

4.1 Avadi's per capita surplus higher than the state average

Over the past five years (2003-04 to 2007-08) Avadi municipality has consistently generated revenue surpluses with an operating ratio[11] of 0.53 (5 year average). The per capita revenue and expenditure was Rs. 770 and Rs. 405 respectively in FY 2007-08, implying a revenue surplus of Rs. 365 per capita, which is above the state average for municipalities for that year (Rs. 174) [12]. Over the last 5 years, the town has also maintained a surplus throughout the review period.

Table 5: Financial status at a glance

	2003-04	2004-05	2005-06	2006-07	2007-08
Receipts	1637	1530	1527	2208	1746
Expenditure	1208	740	761	662	919
Surplus/deficit for the year	429	699	766	1546	827

All figures in Rs. Lakhs

[10] The financial information provided by the municipality for the period 2003-04 to 2007-08 is the basis for review of the current financial position of the municipality.

[11] Revenue expenditure /Revenue receipts

[12] Per Capita Revenue surplus of Rs. 174

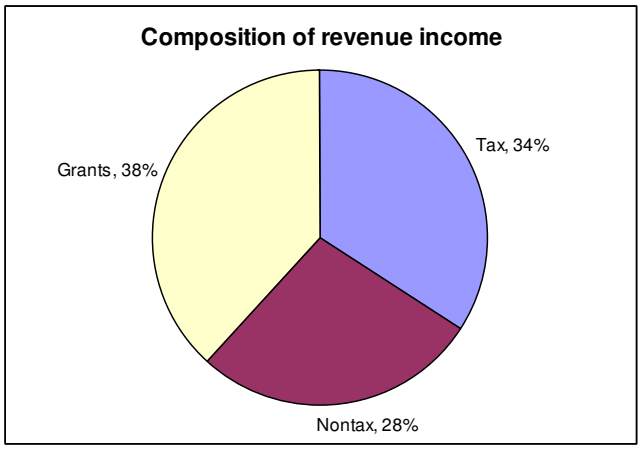
4.2 Revenue receipts

4.2.1 Revenue account status

Avadi municipality had a favourable operating ratio of 0.55 during 2003-04 to 2007-08 due to increase in own revenue sources (property tax, revenue from education).

The revenue growth has seen surge due to increase in property tax from Rs 2.8 crores in 2005-06 to 4.6 crores 2006-07. A similar increase has been observed in building license fee.

The revenue income comprise of tax, non-tax and grants. The tax revenues contributed 34% and grants contributed 38% of the revenue income. Despite a robust own revenue source, Avadi, like other ULBs in the state relies significantly on state grants for revenue expenses that contribute to almost 47% of the revenues, which is significantly higher than the state average for municipalities (34.8%).



4.2.2 Property tax major contributor to the revenue receipts

Property tax is the major revenue source, comprising 24% of the total revenues receipts. The total number of properties in 2007-08 was 58,084 of which 93% were residential properties.

Table 6: Demand collection balance statement – Property Tax

	2003-04	2004-05	2005-06	2006-07	2007-08
Demand					
Arrears	155.31	424.45	510.10	423.13	352.02
Current	215.34	359.63	389.67	396.22	401.82
Total	370.65	784.08	899.77	819.35	753.84
Collection					
Arrears	32.69	94.53	100.72	194.19	205.40
Current	139.19	194.31	188.35	271.85	220.50
Total	171.88	288.84	289.07	466.04	425.90
Total collection efficiency	46%	37%	32%	57%	56%

All figures in Rs. Lakhs

The average collections efficiency levels during 2003-04 to 2007-08 for property tax is 46%, which is significantly below the state's average of 74%.

The other source of revenue to the municipality are from professional tax (Rs 138 lakhs total demand in FY 07-08), shop and market rent (Rs 87 lakhs, total demand in FY 07-08), trade and license fee and others. The total number of municipal shops in the city is 33 in numbers and has not increased in past 5 years.

The collection efficiency has remained significantly low for professional tax and shop and market rent. The same is true for property tax as discussed above.

Table 6: Collection efficiencies

	2003-04	2004-05	2005-06	2006-07	2007-08
Professional tax	64%	63%	49%	57%	54%
Shop and market rent	66%	53%	43%	43%	60%

4.3 Expenditure

The revenue expenditure includes those towards salaries, operation and maintenance of assets and towards debt servicing. In 2007-08, salary expenses account for 28% of revenue expenditure (15% of revenue income), 67% of the expenditure is towards regular O&M expenditure and balance towards debt servicing.

The town's outstanding debt liability as of 31st March 08 was Rs. 375.57 lakhs. The details of the loan are highlighted below

Table 7: Rs. 375.57 lakhs of debt liabilities

Lending Agency	Loan (Rs. Lakhs)	Interest Rate	Repayment period (Years)	Purpose / Scheme	Outstanding Loan (As on March 08) (Rs. Lakhs)
Mega city loan	286.45	8.75%	20	Road works	213.43
Own Fund – TUFIDCO	148.2	8.75%	20	Special Road Works	151.07
TNUDF	13.85	8.75%	20	Special Road Works	11.06
Total	**448.5**				**375.57**

4.4 Key Performance Indicators

The key parameters that need to be monitored for the effective functioning of the municipality are highlighted below

Table 8: Key Performance Indicators (KPIs)

Area	Item	Measure	Existing levels (2007-08) / Growth over previous year	Unit
Revenue Improvement	*Per Capita Income*		770	Rupees
	Source of Funds	Share of Taxes	31.15	%
		Share of Non Tax	23.03	%
		Share of Grants	24.53	%
	Growth in Income Sources	Growth in Taxes	14.79	% p.a.
		Growth in Non Tax	33.77	% p.a.
		Growth in Grants	17.42	% p.a.
		Growth in Own Sources	(23.5)	% p.a.
Expenditure Management	*Per Capita Expenditure*		405	Rupees
	Functional Allocation	Share of Salaries	28.66	%
		Share of O&M expenses	66.51	%
	Growth in Items of Expenses	Growth in Salaries	(4.98)	% p.a.
		Growth in O&M expenses	(7.84)	% p.a.
		Growth in Total Expenditure	(10.66)	% p.a.
Performance	*Operating Ratio*		0.53	Ratio
	Per-capita performance Assessment	Per Capita Own Income	339.5	Rs. p.a.
		Per Capita Grants	355.09	Rs. p.a.
		Growth in Per Capita Revenue Income	0.04	% p.a.
		Per Capita Salaries	145.6	Rs. p.a.
		Per Capita O&M expenses	172.2	Rs. p.a.
		Growth in Per Capita Revenue expenses	4.59	% p.a.
Taxation	*No. of Property Tax Assessments*		45107	
	Current Tax Rate (Weighted Average)		24	% of ARV
	Tax Per Assessment (excluding Vacant Land)		353	Rs. p.a.
Efficiency	*Property Tax*	Growth in Assessments	1.07	% p.a.
	Collection Performance-Property Tax	Arrears as % of Total Demand	46	%
		Demand per Assessment	705	Rs. p.a.
	Water Supply	Growth in Water Connections	NA	% p.a.
		Average Expenditure/Connection/ month		Rupees
		Average Revenue / Connection/ month		Rupees
		Cost Recovery on Water Supply		%
	Collection Performance-Water Charges	Arrears as % of Total Demand		%

5 CAPITAL INVESTMENT PROGRAM

The Capital Investment Program (CIP) identifies the investment requirement of the town based on the demand-gap analysis. However, it does not take into account the financial feasibility of the projects, which is undertaken in the Financial Operating Plan (FOP). Avadi's investment requirement is Rs 354 crores with water supply and UGD scheme having a share of 25% and 50% respectively.

The CIP is essentially a multi-year scheduling of physical investments that determines priority investments based on the demand-gap analysis. It also highlights the implementation and monitoring requirements. The scheduling or phasing of the CIP is also based on the choice of specific improvements that need to be taken up over a period of five years. In addition to the core services, the CIP would also highlight other investments that are essential for developing the town.

5.1 Capital investment

The CIP is formulated to meet the estimated need of the town over a 4-year period. Based on the existing demand-supply situation, the town's investment requirement is Rs. 354.13 crores over the next five years. The phasing of the investment is given below:

Table 6: Phasing of investment

Sectors	Total	2008-09	2009-10	2010-11	2011-12
	Rs in Crores				
Water Supply	**87.57**	8.76	35. 03	43.78	-
Sewerage & Sanitation	**177.09**	17.71	70.84	88.55	
Roads & Urban Transport	**36.30**	1.61	8.44	16.12	10.12
Drains	**30.20**		3.02	12.08	15.10
Street Lights	**10.37**	1.04	2.59	3.11	3.63
Solid Waste Management	**3.68**	0.37	1.47	1.84	
Others	**8.93**	0.95	2.86	2.65	2.45
Total	**354.13**	**30.43**	**124.26**	**168.13**	**31.30**

5.2 Department wise investment identified for immediate requirement

Immediate investments have been identified for the core sectors of the town. These are highlighted in the following section.

5.2.1 Rs. 8757 lakhs required for Water supply projects

Department-in-charge – Engineering department

Project title – Improvement of Water supply

Project Manager – Municipal Engineer

Description: Water Supply – Distribution network.

Justification: The municipality sources its water from the Red Hills Lake with a capacity to supply 0.85 MLD. However, this is not sufficient to cater to the needs of the town and currently, the supply is only towards the 417 public fountains. As a short-term measure Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB) has proposed to provide 2.4 MLD from their main, de-linking the water supply from the existing source. Avadi has already deposited Rs. 4.23 crores to CMWSSB that has formulated a master plan to provide 35.46 MLD water to it at an estimated cost of Rs. 87.56 crores, which is yet to be taken up. The entire supply chain of water supply including sourcing, treatment and transmission is to be handled by CMWSSB. The town will establish only house service connections i.e., the distribution network. The estimate cost of operation and maintenance would be an incremental cost at Rs. 268 lakhs

Investment requirements in different areas:

Sl. No.	Area	Description of works	Total cost
	Distribution system		
1		Distribution pipeline network	4292.8
	Transmission system		
2		Feeder mail 16.1 kms	1475.8
	Source		
3		Pumping machinery	404.1
4		Shifting utilities	60.0
	Storage & Treatment		
5		Repair of exixting tanks	45.5
6		Under ground level reservoir	749.6
	Others		
7		DPR preparation cost	69.2
8		Supervision cost	207.7
9		Road cut restoration cost	1123.8
10		Third party inspection	15.2
11		TNEB service connection	21.2
12		Deposits for Rly crossing	212.5
13		Unforseen expenses	79.14
Total investment required for water sector			**8756.6**

Source: Avadi Municipality, 2007 through CMWSSB

Total Project Cost: Rs. 8756 lakhs

5.2.2 Rs. 17710 lakhs required for UGD and sanitation

Department-in-charge – Tamilnadu Water Supply and Drainage Board (TWAD)/ Engineering department

Project title – Implementation of UGD

Project manager – Municipal engineer

Description: Underground Drainage Scheme

Justification: The sewerage scheme has been prepared at an estimated cost of Rs. 17710 lakhs, based on the estimated cost of the UGD prepared CMWSSB. Due to the implementation of this scheme, the

investment in this sector towards other projects like public conveniences, septic tanks, Low Cost Sanitation etc has decreased. The operation and maintenance cost have been estimated at Rs. 478 lakhs per annum.

Similar to water supply system, UGD requires high level of maintenance. Preventive maintenance schedules including flushing of sewers and maintaining of the pumps should be prepared and implemented scrupulously. The privatisation option could be explored that might result in better maintenance and higher savings to the municipality. The user charge that has been proposed as per the UGD study should be implemented. This would aid in generating the required revenue for meeting the capital and O&M expenditure.

Investment requirements in different areas:

Sl. No.	Area	Description of works	Total cost
	Pumping & Treatment		
1		Pumping station	1184.8
2		Pumping main	1538.5
	Sewerage Treatment Plant		
3		STP 1 and STP 2	4819.0
	Collecvtion system		
4		Collection system	6248.1
	Others		
5		Towards TNEB connection charges	16.8
6		Road restoration towards Highways department	690.0
7		Railway crossing charges towards Railways dept.	180.0
8		Third party	16.0
9		Unforseen	286.0
10		Centage charges	2730
Total investment required for UGD & sanitation sector			**17709.2**

Source: Avadi Municipality through CMWSSB

Total Project Cost: Rs. 17710 lakhs

5.2.3 Rs 368 lakhs required for SWM

Department-in-charge – Health department

Project title – Improving the SWM system

Project manager – Health officer

Description: Procurement and development of scientific landfill and additional vehicles

Justification: Currently, 110 MT per day of solid waste is generated with a per capita waste generation of 500 g/day. The municipality collects 82% of the waste generated. However, the collection and disposal facilities are very poor. Currently, the waste, without any segregation is disposed with the town limit's that is causing sever environmental issues. It has identified a new 27-acre site, which is yet to be developed.

Investment requirements in different areas:

Area	Description of works	Quantity	Unit	Unit cost (In Rs. Lakhs)	Total cost
Primary collection					
	Tricycles	100	Nos	0.15	15
	Source segregation facilities		Nos		12.2
	Storage bins	1000	Nos	0.003	3.07
Secondary collection					
	Dumping stations/Bins 1100 kg	10	Nos	0.2	2
Secondary transportation					
	Dumper Placer	2	Nos	7	14
	Dumper Placer Bin 1.5 MT	60	Nos	0.5	30
Disposal site					
	Facilities at disposal site	1	each	152.4	152.4
	Scientific landfill	2	acre	7.5	15
	Compost yard	27	acre	2	54
	Black topping of inner roads	1	Nos	30	30
	Retaining wall and drainage arrangement for preventing seepage from the nearby lake	1	Nos	15	15
	Mini PHC for the workers and sorrounding area	1	Nos	5	5
Others					
	Employees health care	1	Nos	1	1
	Building for using the recyclable waste	1	Nos	7	7
	Setting up a plastic recyclable unit	1	Nos	10	10
	IEC campaign				2
Total					**367.67**

Total Project Cost: Rs. 368 lakhs

5.2.4 Rs. 6650 lakhs required for roads and drains

Department-in-charge – Engineering department

Project title – Improving roads and SWD

Project manager – Municipal engineer

Description: Resurfacing BT roads, Upgrading earthen roads to BT, Widening of roads, Traffic Management Systems

Justification: The total municipal road length is 333.08 kms with 47% BT and 6 % cement concrete surface. Since the implementation of the sewerage scheme is to be taken up, excavation of trenches for the construction is likely to affect the roads to greater extent and hence, the upgrading of roads, resurfacing of roads etc., should be delayed for a period of at least 3 years or till the completion of the UGD scheme. As a short-term measure, the following projects could be taken up to improve the roads and traffic situation. The projects include upgrading and restoring of roads, flyover, traffic management systems etc. This would require an investment of Rs. 3630 lakhs.

Currently, the length of storm water drains is only 65.4 km, which is only 18.6 % of the total length of the roads of 353 km (Including state highways). Additional drains of 332 km are required. Construction and up gradation of the existing pucca drains should be given priority.

Investment requirements in different areas for Roads:

Area	Description of works	Quantity	Unit	Unit cost (In Rs. Lakhs)	Total cost
Black Top Roads					
	Formation	107	Km	11.55	1235.9
	Restoration	10	Km	8	80.0
	Upgradation to Cement concrete	1	Km	6	6.0
	Widening	4	Km	6	24.0
WBM Roads					
	Formation	17	Km	6	102.0
	Restoration	3	Km	6	18.0
	Upgradation to Black top	20	Km	19.0	380.0
	Upgradation to Cement concrete	4	Km	6.0	24.0
Cement concrete					
	Formation	3.5	Km	7.0	24.5
	Restoration	2.2	Km	7.0	15.4
Restoration of flood affected road					
	BT	24	Km	3.75	90.0
Traffic Management					
	Upgradation of existing systems	1	Nos	50	50.0
Others					
	Foot over bridge	1		35	35.0
	CC pavement	1		25	25.0
	Grade separators	2		10	20.0
	Road over Bridge	1		1500	1500.0
Total					**3629.8**

Total Project Cost for Roads: Rs. 3630 lakhs

Investment requirements in different areas for Storm Water Drains:

Area	Description of works	Quantity	Unit	Unit cost (In Rs. Lakhs)	Total cost
Kutcha drains					
	New construction	74.25	Km	0.125	9.28
Pucca					
	New construction	231.19	Km	12	2774.28
	Upgradation	26.56	Km	4	106.24
Others					
	Cover slabs for pucca drains	20	Km	6.5	130
Total					**3019.8**

Total Project Cost for SWD: Rs. 3020 lakhs

Total Project Cost for Roads and SWD: Rs. 6650 lakhs

5.2.5 Rs. 1037 lakhs required for street lighting

Department-in-charge – Engineering department

Project title – Improving the streetlights

Project manager – Municipal engineer

Description: Energy saving lamps, providing lightings at strategic locations

Justification: There are 8786 streetlights; 7.7% sodium vapour lamps and rest tube lights. Solar lamps, energy saving lamps etc., in place of conventional lamps could be installed. Possibility of identification of sponsors for providing and maintaining lamps at strategic location should also be explored. An investment of Rs. 1037 lakhs to improve the quality of lighting and spacing between lights is provided.

Investment requirements in different areas:

Area	Description of works	Quantity	Unit	Unit cost (In Rs. Lakhs)	Total cost
Tube light					
	Installation	2400	Nos	0.01	22.8
Sodium vapour					
	Installation	240	Nos	0.04	8.4
High Mast lamps					
	Installation	20	Nos	5.5	110
	Mini high mast	100	Nos	3	300
Others					
	Telemetry system	8	Nos	70	560
	Providing ornamentation lamps sorrouding the lakes	12	kms	3	36
Total					**1037.2**

Total Project Cost: Rs. 1037 lakhs

5.2.6 Rs. 893 lakhs required for other services

Department-in-charge – Engineering department

Project title – Setting up slaughterhouses, parks, playfields, hospitals, schools etc.

Project manager – Executive engineer

Description: Improving the social and physical infrastructure of the town

Justification: There are several projects that require immediate attention that would improve the overall living conditions of the town. Currently, the municipality has invested substantially to improve the basic infrastructure in all its schools. Apart from this, there are several project envisaged. This includes setting up of slaughterhouses, constructing subways, setting up parks and playfields etc.

Area	Description of works	Quantity	Unit	Unit cost (In Rs. Lakhs)	Total cost
Slaughter houses					
	New constructions	1	Nos	60.0	60.0
Hospital/Health centre					
	Improvement	4	Nos	3.5	14.0
	New constructions	2	Nos	5.5	11.0
Bus stands					
	New constructions	1	Nos	30.0	30.0
Markets - Daily/Weekly					
	New constructions - Daily markets at Pattibiram and Thirumanvoyil	2	Nos	35.0	70.0
School buildings					
	Improvement	18	Nos	5.0	90.0
	New constructions	10	Nos	15.0	150.0
Parks and Playfield					
	Playfields - New constructions	5	Nos	2.0	10.0
	Parks - New constructions	20	Nos	7.0	140.0
	Kalyana Mandapam improvement	1	Nos	18.0	18.0
	Gasifier	2	Nos	25.0	50.0
	Buildings	1	Nos	250.0	250.0
Total					**893.0**

Investment requirements in different areas:

Total Project Cost: Rs. 893 lakhs

Overall investment required for Avadi: Rs. 35413 lakhs

Phasing of Investment sector wise is provided in table below

Table 7: Phasing of sector wise investment for all sub-sectors

	Sector/ Component	Investment till 2011-12 (Rs. Lakhs)	2008-09	2009-10	2010-11	2011-12
				(Rs. Lakhs)		
Water Supply		**8,756.58**	**876**	**3,503**	**4,378**	**-**
1	Distribution pipeline net	4,292.83	429.28	1,717.13	2,146.42	-
2	Feeder mail 16.1 kms	1,475.79	147.58	590.32	737.90	-
3	Pumping machinery	404.10	40.41	161.64	202.05	-
4	Shifting utilities	60.00	6.00	24.00	30.00	-
5	Repair of exixting tanks	45.50	4.55	18.20	22.75	-
6	Under ground level reser	749.60	74.96	299.84	374.80	-
7	Others	1,728.76	172.88	691.50	864.38	-
Sewerage & Sanitation		**17,709.21**	**1,770.92**	**7,083.68**	**8,854.61**	**-**
1	Pumping station	1,184.80	118.48	473.92	592.40	-
2	Pumping main	1,538.51	153.85	615.40	769.26	-
3	STP 1 and STP 2	4,819.00	481.90	1,927.60	2,409.50	-
4	Collection system	6,248.10	624.81	2,499.24	3,124.05	-
5	Towards TNEB connectio	16.80	1.68	6.72	8.40	-
6	Road restoration towar	690.00	69.00	276.00	345.00	-
7	Railway crossing charge	180.00	18.00	72.00	90.00	-
8	Third party	16.00	1.60	6.40	8.00	-
9	Unforseen	286.00	28.60	114.40	143.00	-
10	Centage charges	2,730.00	273.00	1,092.00	1,365.00	-
Roads & Urban Transport		**3,629.75**	**160.50**	**844.48**	**1,612.40**	**1,012.38**
	Black Top Roads					
1	Formation	1,235.85	-	123.59	494.34	617.93
2	Restoration	80.00	-	8.00	32.00	40.00
3	Upgradation to Cement	6.00	-	0.60	2.40	3.00
4	Widening	24.00	-	2.40	9.60	12.00
	WBM Roads					
5	Formation	102.00	-	10.20	40.80	51.00
6	Restoration	18.00	-	1.80	7.20	9.00
7	Upgradation to Black to	380.00	-	38.00	152.00	190.00
8	Upgradation to Cement	24.00	-	2.40	9.60	12.00
	Cement concrete					
9	Formation	24.50	-	2.45	9.80	12.25
10	Restoration	15.40	-	1.54	6.16	7.70
	Restoration of flood affected road					
11	BT	90.00	-	9.00	36.00	45.00
	Traffic Management		-	-	-	-
12	Upgradation of existing :	50.00	5.00	20.00	25.00	-
	Others					
13	Foot over bridge	35.00	3.50	14.00	17.50	-
14	CC pavement	25.00	-	2.50	10.00	12.50
15	Grade separators	20.00	2.00	8.00	10.00	
16	Road over Bridge	1,500.00	150.00	600.00	750.00	

	Sector/ Component	Investment till 2011-12 (Rs. Lakhs)	2008-09	2009-10 (Rs. Lakhs)	2010-11	2011-12
Drains		**3,019.80**	**-**	**301.98**	**1,207.92**	**1,509.90**
	Kutcha drains					
1	New construction	9.28	-	0.93	3.71	4.64
	Pucca					
2	New construction	2,774.28	-	277.43	1,109.71	1,387.14
3	Upgradation	106.24	-	10.62	42.50	53.12
	Others					
4	Cover slabs for pucca d	130.00	-	13.00	52.00	65.00
Street Lights		**1,037.20**	**103.72**	**259.30**	**311.16**	**363.02**
	Tube light					
1	Installation	22.80	2.28	5.70	6.84	7.98
	Sodium vapour					
2	Installation	8.40	0.84	2.10	2.52	2.94
	High Mast lamps					
3	Installation	110.00	11.00	27.50	33.00	38.50
4	Mini high mast	300.00	30.00	75.00	90.00	105.00
	Others					
5	Telemetry system	560.00	56.00	140.00	168.00	196.00
6	Providing ornamentatio	36.00	3.60	9.00	10.80	12.60
Solid Waste Management		**367.67**	**36.77**	**147.07**	**183.84**	**-**
	Primary collection					
1	Tricycles	15.00	1.50	6.00	7.50	-
2	Source segregation facil	12.20	1.22	4.88	6.10	-
3	Storage bins	3.07	0.31	1.23	1.54	-
	Secondary collection					
4	Dumping stations/Bins 1	2.00	0.20	0.80	1.00	-
	Secondary transportation					
5	Dumper Placer	14.00	1.40	5.60	7.00	-
6	Dumper Placer Bin 1.5 M	30.00	3.00	12.00	15.00	-
	Disposal site					
7	Facilities at disposal site	152.40	15.24	60.96	76.20	-
8	Scientific landfill	15.00	1.50	6.00	7.50	-
9	Compost yard	54.00	5.40	21.60	27.00	-
10	Black topping of inner rc	30.00	3.00	12.00	15.00	-
11	Retaining wall and drair	15.00	1.50	6.00	7.50	-
12	Mini PHC for the workers	5.00	0.50	2.00	2.50	-
	Others					
13	Employees health care	1.00	0.10	0.40	0.50	-
14	Building for using the rec	7.00	0.70	2.80	3.50	-
15	Setting up a plastic recy	10.00	1.00	4.00	5.00	-
16	IEC campaign	2.00	0.20	0.80	1.00	-

Sector/ Component		Investment till 2011-12 (Rs. Lakhs)	2008-09	2009-10	2010-11 (Rs. Lakhs)	2011-12
Others		**893.00**	**95.50**	**287.50**	**265.00**	**245.00**
1	Slaughter houses	60			60.00	
2	Hospital/Health centre	25		25.00		
3	Bus stands	30	7.50	22.50		
4	Shopping complex	70	35.00	35.00		
5	School buildings	240			120.00	120.00
6	Playfields - New construc	10			10.00	
7	Parks - New constructior	140	35.00	105.00		
8	Kalyana Mandapam imp	18	18.00			
9	Gasifier	50		50.00		
10	Offfice Buildings	250		50.00	75.00	125.00
Total		**35,413.21**	**3,043.07**	**12,426.64**	**16,813.21**	**3,130.30**

6 FINANCIAL OPERATING PLAN

The Financial Operating Plan (FOP) assesses the financial strength of the town to implement the identified investments. The assessment is done under two scenarios of 'Base Case' and 'Improved Case'. In the 'Business As Usual' scenario it is assumed that the town will not have any access to grants and would not undertake any reforms, while in the latter case, several improvement measures across the revenue items is assumed and the city would access to grants under JnNURM. If the town continues in the 'Business As Usual' scenario, then, it would be able to invest only 30% of the identified investment whereas under the improved scenario the investment goes to 75%.

The Financial Operating Plan (FOP) forecasts the municipal finances on the basis of certain assumptions on income and expenditure. The primary objective of the FOP is to ascertain the investment sustenance capacity of the municipality under different scenarios of revenue enhancement and expenditure control. This would assist the decision-makers in structuring and implementing appropriate policy with the required management and operational interventions to maximise investment sustenance and achieve the goals set for provision and maintenance of basic services.

The investment identified is based on iterative process taking into account the loan, grant and ULB contribution. This further highlights the priority needs for future development and other immediate requirement contemplated by the municipality.

6.1 Need for a FOP

Under a 'Business As Usual' scenario, the municipality's existing revenue surplus is not being utilized effectively due to the various reasons viz. lack of an integrated approach to town development, inability to identify the priority sector for investment, inability to raise the required finances for funding and inability to tap into other sources of funds due to lack of a comprehensive FOP. Moreover, in the absence of a FOP, new projects would not be undertaken that would adversely impact the position of the town. In the event of the town not undertaking the project, the key problems would be poor infrastructure resulting in poor service delivery and loss of potential revenue from new revenue streams like UGD.

To counter these issues, the framework for FOP is developed that aids in harnessing the existing strengths of the town and also reducing the inefficiencies in the system, such that the town develops significant financial strength to undertake projects. In order to develop a FOP, there are several activities to be undertaken by the various stakeholders.

6.2 Assumptions for FOP

The FOP estimates the surplus that would be available for undertaking additional investments based on the current financial position. The investments are derived from the amount of surplus that is generated in the future. Not all the surplus can be used for capital works, as the municipality would also have to provide for additional O&M expenses for the upkeep of the assets.

The year-on-year surplus is translated into investment capacity i.e. project size (loan, grant and ULB component) based on certain preliminary assumptions regarding interest rate, repayment method and loan-grant mix. Additional O&M expenses have been estimated based on percentage of capital cost. A financial model has been created to depict the financial position of the Municipality. The model can be used to calculate future surpluses under various scenarios involving combinations of internal revenue improvement, state support, financing terms, etc.

6.2.1 Revenue Receipts Items

Taxes - Property and Utility-based taxes and Charges

The assumption adopted in forecasting property tax, water tax/charges, other tax items are essentially based on:

- Growth in assessments
- Tax demand
- Periodic revisions
- Collection performance

Other Taxes

Other tax items including fees, etc. are assumed to grow at the past growth trends, subject to a minimum of 7% and maximum of 10% per annum.

Own Income Sources

Non tax income from the municipality's operations and assets, like income from commercial activity, fees for permissions/ registrations, etc, rental income from properties, income from educational and health facilities, new connection charges, etc. are assumed to grow at the past trends, subject to a minimum of 7% and maximum of 12% per annum.

Revenue Grant

The recurring revenue grants like SFC grant are predetermined amounts based on the criteria specified by SSFC. Thus, these grants are assumed to grow at the current level of CAGR. The deduction from the SSFC grant would continue at the same level. The gross SFC grant (amount released by the state government) has been considered for projection in the FOP. The other revenue grants announced from time-to-time are assumed to grow at past trends, subject to a minimum of 7 per cent and maximum of 12 per cent per annum. These grants mainly include SFC developmental grant, Tenth Finance Commission/ Eleventh Finance Commission grant. The following table highlights the assumptions and scenarios for generating the municipal surplus

6.2.2 Revenue expenditure

The items of revenue expenditure under current heads of expenses and for current service levels are projected based on past trends subject to a minimum of 6% p.a. and maximum of 8% p.a. The additional O&M expenditure and debt servicing commitment of the municipality that would accrue due to new investments is also considered as incremental O&M expenditure.

6.2.3 Capital grant under JnNURM

Avadi town being an urban agglomeration of Chennai Corporation gets covered under the Jawaharlal Nehru National Urban Renewal Mission (JnNURM). The funding pattern under this program is 35% grant from Government of India, 15% from State Government. This grant is assumed only for improved case scenario.

6.3 Property tax improvements have the maximum impact

The main areas of intervention, where improvement potential exists are enlisted below. The objective is to enhance the revenue generating potential that would aid in meeting the investment obligations of the town. These include

- Property taxes

- Water charges
- Shop market rents
- Others
  - Development / Betterment Charges
  - Building license fee
  - Trade licenses
- Expenditure control

Assumptions for FOP

Item		Assumption Adopted for Forecast	Base Case	Improved case
A	**General Purpose/ property tax**			
1	Forecast based on.	⇒ Growth in assessments ⇒ Tax demand ⇒ Periodic revisions and ⇒ Collection performance		
2	Growth in assessments	Current CAGR of 3.44%	Minimum of current CAGR or population/Household size (4.8)	Maximum of current CAGR or population/Household size (4.8)
4	Average Property tax demand	Average demand per assessment for 2007-08 is Rs. 705.	The current level would continue	Increase by 30 per cent in 2011-12 and every 5-years thereon
5	Collection Performance	Collection performance in 2007-08 is: Arrears- 61% and Current- 55%	The current level would continue	85% (Both over a 5 year period)
B	**Shops and Market rent**			
	Forecast based on:	⇒ Growth in shops, ⇒ Minimum monthly charge, ⇒ Periodic tariff revisions and ⇒ Collection performance		
1	Growth in number of shops	Current level – 33 (2 vacant) No growth over the last 5 years	Current level of growth No growth in number of shops	Increase with respect to growth in non-residential properties – CAGR-6.93%
2	Minimum monthly charge per shop	Average demand in 2007-08 is Rs. 15,699/shop/ month.	Increase by 15% every 3 years	Increase by 30% every 3 years
3	Collection Performance	Collection performance in 2007-08 is: Arrears- 2% Current- 89%	The current level would continue	Arrears- Reach 75% (Over a 5 year period) Current- Target 95% collection efficiency
C	**Trade Licences**			

Item		Assumption Adopted for Forecast	Base Case	Improved case
1	Forecast based on:	⇒ Growth in trade licenses, ⇒ Minimum monthly charge, ⇒ Periodic tariff revisions and ⇒ Collection performance		
2	Growth in number of building licenses	Current level – 1155	Growth with respect to increase in no of properties	
3	Minimum monthly charge per shop	Average demand in 2007-08 is Rs. 12/license/ month.	The current level would continue	Increase by 30% every 3 years
4	Collection Performance	Collection performance in 2004-05 is: Arrears- 0% Current- 86%	The current level would continue	Arrears – Reach 75% Current – Reach 90% (Over a 5 year period)
D	**Building Related Taxes (Building License)**			
1	Forecast based on:	⇒ Growth in building licenses, ⇒ Minimum monthly charge, and ⇒ Periodic tariff revisions		
2	Growth in number of building licenses	Current level – 1591	New properties based on growth in no of properties.	
3	Minimum monthly charge per shop	Current average demand: Rs. 104/license/ month.	The current level would continue	Increase by 12% every 5 years
F	**Other Tax**			
1	Basis of Growth assumption	⇒ Base Case: Forecast adopting current average growth rate, subject to minimum of 7% and maximum of 10%. ⇒ Improved Case: Forecast adopting current average growth rate, subject to minimum of 8% and maximum of 12%.		
G	**Non-tax income**			
1	Income from comm. activity, Inst., fees and contribution, user charges & Others	⇒ Base Case: Forecast adopting current average growth rate, subject to minimum of 7% and maximum of 10% ⇒ Improved Case: Forecast adopting current average growth rate, subject to minimum of 8% and maximum of 12%.		
H	**Revenue grants**			
1	SFC grant	⇒ Base Case: Forecast adopting current average growth rate, subject to minimum of 7% and maximum of 10% ⇒ Improved Case: Forecast adopting current average growth rate, subject to minimum of 8% and maximum of 12%. ⇒ Net grant after deduction is considered for projection		
2	Other grants and contributions	⇒ Base Case: Forecast adopting current average growth rate, subject to minimum of 7% and maximum of 10% ⇒ Improved Case: Forecast adopting current average growth rate, subject to minimum of 8% and maximum of 12%.		

Project terms	
JnNURM Grant	35% from GoI, 15% from GoTN and balance from ULB (own sources of external borrowing)
Loan terms (flexibility to vary the rates)	Loan period: 20 years (5+15) Moratorium period: 5 years on principal repayment Repayment method: Equal annual instalments Interest rate: 9%
Sectoral deployment of investment	All sectors, as per the ratio in the CCP investment
Debt Service Coverage Ratio[13]	At least 1.25 in all years
O & M expenditure (arising from new assets)	
O & M expenditure rates as % of investments	Public health - 5% Others – 12%
Year additional O&M expenses commence	2008-09
Growth rate in expenditure	Based on the current CAGR with a min of 6% and max of 8%

The estimates for improvement potential for the various revenue sources are based on the discussions with the municipal officials. The investment potential is quite high, but would require immediate and sustained effort from the municipality. The improvement potential has been classified into three groups viz. improvement in collection, increase in rates and addition of new rates. The internal improvements is possible through increase in efficiency levels, while the external improvements will include changes like higher rates/taxes, additional charges etc. Increase in rates and introduction in new charges would both have an impact on the taxpayer/consumer and would therefore face resistance. The support of the council and the state government would be required for successful implementation of the changes.

6.4 Property tax / general tax

6.4.1 Rs. 733 collected per property per annum in 2007-08

Out of the 54,244 residential and 3840 commercial properties in the property register, 78% of properties have paid tax during the last five years. This highlights reasonable coverage of taxpayers, but with a significant potential to increase further.

The property tax (general tax) collection for the year 2007-08 was Rs. 426 lakhs, with an average collection per property of Rs. 733 per annum. Taxes are also collected form the vacant land, central/ state government and PSU entities. The details of properties for the last five years are presented in table below.

Table 8: Property tax details – Assessment and taxpayers: 2003-04 to 2007-08

No of Properties in the register	2003-04	2004-05	2005-06	2006-07	2007-08
Residential Properties	41,036	42,233	45,264	50,890	54,244
Non-Residential Properties	2,633	2,874	2915	3015	3840
Total	**43,669**	**45,107**	**48,179**	**53,905**	**58,084**

[13] DSCR=(current year revenue- non-debt service expenses, but including addition O&M expenses)/debt service obligation.

No of Properties in the register	2003-04	2004-05	2005-06	2006-07	2007-08
Residential Properties	28,725	28,718	29,792	39,347	42,200
Non-Residential Properties	2,340	2,634	2756	2845	2910
Vacant Land Sites	47	32			
Total No of Tax Payees	**31,065**	**31,352**	**32,548**	**42,192**	**45,110**
Tax payers as a % of properties in register	**71%**	**70%**	**68%**	**78%**	**78%**

6.4.2 Improvement measures can yield Rs. 865 lakhs

Improvement in collection efficiency: The efficiency of property tax collection in 2007-08 was 58%, which is very low. If the collection efficiencies increases to 85 % (for Current and Arrears) from the existing level of 55% and 61% (for Current and Arrear), over a 5-year period from 2008-09 to 2012-13, it would generate additional Rs. 291 lakhs[14] (in current value terms).

Inclusion of unauthorized properties: The existing number of person per property is 4.8, which is above the benchmark of 5 indicating a very high level of coverage of properties in the register. If this level is maintained throughout the projected period till 2020-21, the probability of adding new properties into the register is low.

Rate increases: Property tax in Avadi municipality is assessed on the basis of Annual Rental Value of the property, which is based on the guidelines fixed by the council. The Annual Rental Value is estimated based on the basic value of the property, its age (depreciation), type of occupancy and the nature of building. The revision of the property tax was last carried out in the second half of the 1998. The property tax rate is approximately 24% of the Annual Rental Value, which is payable half-yearly

The TNULB Act provides powers for determination of Basic Property Tax, Additional Basic Property Tax, etc., by municipalities. The municipality shall determine the basic property tax, the additional basic property tax and the concession, subject to the minimum and maximum rates prescribed by the Government, with regard to the age, for every building or land. The basic property tax for every building shall relate to the carpet area of the building and its usage. If the rates were increased by 30% every 5 years, it would yield Rs. 574 lakhs in current value terms (the growth in number of properties would be as per the Base case scenario).

6.4.3 Summary

If all improvement measures are undertaken as per the assumptions, the total additional revenue would to be Rs. 865 lakhs (in current value terms)

Table 9: Rs. 865 lakh revenue potential through improvement in property tax

Improvement Measure	Revenue (In Rs. Lakhs)
Increase the efficiency from 55% (Current) and 61% (Arrears) to 85%	291
Rate increase by 30% every 5 year	574
All of the above measures combined	**865**

Revenue: In current value terms

[14] The efficiency gains highlighted for each improvement indicate the expected increase in revenue, if the other parameters of improvement are kept constant for a period of 15 years. Also, the overall gain would not be a sum of individual efficiency improvements

6.5 Shops & market rent

6.5.1 Improvement measures can generate Rs. 90 lakhs

Currently, the municipality generates approximately Rs 58 lakhs (current demand) from 31 shops that it owns. The shops are leased for a 3-year period with a contract to increase the rent by 15% after the end of the contract period.

Collection efficiency gains: If, over a 5-year period from 2008-09, the collection efficiency increases from 2% to 75% for Arrears and maintains the existing rate of 100% for Current, it would generate additional revenue of Rs. 64 lakhs (in current value terms).

Rate increase: If the rates were increased at 30% every 3 years, instead of the existing 15%, it would generate additional revenue of Rs. 26 lakhs (in current value terms).

6.5.2 Summary

If both the improvement measures are undertaken as per the above assumptions, the total additional revenue would to be Rs. 90 lakhs (in current value terms)

Table 10: Rs. 90 lakh revenue potential through improvement

Improvement Measure	Revenue (In Rs. Lakhs)
Increase the efficiency from 3% (Arrears) to 75% and maintain the Current level at 100%	64
Rate increase by 30% every 3 year	26
Both the above measures combined	**90**

Revenue: In current value terms

6.6 Other revenue sources can generate Rs. 512 lakhs

The other heads of revenue include:

- Trade licenses
- Building license fees
- Others including Solid Waste Management charge

The trade license and building license fee generate approximately 1.2% of the total own revenues. Hence, the absolute gains, which can be made from these sources, are very small and would not have any tangible impact on the overall investment capacity of the town. The increase in revenue from these sources is expected to be Rs. 17 lakhs in current value terms. However, the revenue generation potential from the other components like Drainage charges, Bus stand fees, Library cess collection charges, Fees from land and buildings etc has a significant impact and has a potential to generate Rs 512 lakhs

Table 11: Revenue potential of other sources

Category	Revenue (In Rs. Lakhs)
Trade Licenses	4.16
Building License fees	13.43
Others (SWM charge)	495.37
Total	**512**

Revenue: In current value terms

In addition to the revenue improvement measures, the town also needs to focus on the areas of expenditure reduction.

6.7 Areas of Expenditure reduction

There are several areas of expenditure reduction across individual department that would aid in increasing the revenue surplus of Avadi. Most of the highlighted area would involve engineering issues to determine the actual savings, which is outside the scope of this report. The following section highlights the key areas of expenditure reduction, which, if implemented would enhance the revenue surplus position of the municipality

Table 12: Key areas for expenditure control

Department	Sector	Area	Estimated reduction in O&M cost
Engg. Department	Water	1. The possible activities for reducing water losses include water leakage audit, installation of leak detection equipment and replacement of pipes 2. The possible activities for reducing operating costs include energy efficiency studies, employee training and appointment of competent private contractors through better scientific methods of bid process management	30%
	Roads and drains	1. Private Sector Participation (PSP) could be envisaged in project management at two levels viz. contract management and contract execution a. Contract management – This is an end to end service, wherein the private player would assist the municipality in selecting the bidders and then develop a project specific performance monitoring system to ensure optimal execution. b. Contract execution – This includes the selection of highly technical and experienced contractors with state-of-art technology and on time execution capability. 2. Municipal officials should be trained on the latest contract allocation and project monitoring techniques. 3. Computerization of records of the projects, current infrastructure, material details, contractor details, project evaluation systems, etc should be done. This would facilitate the process of project allocation and monitoring	Roads: 25% SWD: 20%
	Sanitation	1. Savings in usage of materials for sanitation works	30%
	Street lighting	2. Introducing telemetry system	30%
Health department		1. Energy conservation measures through higher usage of solar/wind energy, public awareness program on fuel efficiency, purchase of latest infrastructure 2. Study tour of several similar municipalities to identify potential reforms by adopting the specific best practices 3. Training sweepers on hygiene standards; medical professionals and other specialists in the department on the latest technology and equipment 4. Public awareness program on town cleanliness and citizens' responsibilities	15%
Revenue department		1. Centralisation of the tax collection system to avoid over-lapping and duplication. For example, for one commercial property, the property tax collection responsibility lies with the revenue department, while water charges, the responsibility lies with the engineering department; again, trade license is with the	

Department	Sector	Area	Estimated reduction in O&M cost
		health department. By amalgamating these departments on the basis of functionality, costs could be substantially reduced as well as pilferage in collection could be tracked. 2. PSP involvement in computerization, billing, collections and survey of properties. 3. Study to assess systems such as effective enforcement, out of court settlements, effective auctions. 4. Study to formulate an encroachment reduction and rehabilitation plan. 5. Training of employees 6. Computerisation of records of encroached properties, action taken, list of encroachers that would enable the linking to a comprehensive MIS/GIS system.	
Town Planning		A cost benefit study should be conducted to evaluate the possibility of the introduction of remote sensing/GIS. Mirzapur Municipal Corporation successfully introduced the GIS system by integrating property tax mapping with the infrastructure and services database through the unique location codes system.	

6.8 Alternative payment structures and incentive structure

In order to undertake water investment, the corporation may consider alternative payment structures for services like water. It could offer one-time payment options, where the connection fee is bundled with usage fees for a number of years. The packages could be made attractive by offering suitable levels of discounts. The advantages of such a structure include reduction in collection risk and reduced cost of billing and collections. The same could be used for other services, where the collection requires the effort of the municipal staff. A substantial portion of this staff would then be used to carry out other activities, which would result in better service delivery.

To improve the collection levels, the municipality could look at providing an incentive and penalty structure fro payment of the taxes and charges. The system in Karnataka could be a good example to emulate. The citizens are provided with a rebate of 5% of the total property tax, if it is paid within 30 days of the start of the financial year and then the normal charges are applied till 90 days. Subsequently, a penalty of 2% per month (24% p.a.) of the outstanding amount is applied. If this is communicated effectively to the citizens, there is a high possibility of increasing the collection levels.

We have highlighted a list of actions in Annexure VIII that could be incorporated to increase the collection efficiencies.

6.9 Investment sustenance capacity of Avadi

Avadi town being on the outskirts of Chennai Corporation gets covered under the Jawaharlal Nehru National Urban Renewal Mission (JnNURM). The funding pattern under this program is 35% grant from Government of India, 15% from State Government and balance to be contributed from municipality either from its own source or borrowing from external agencies.

Based on the Demand Gap analysis and discussions with the town, the identified investment capacity for the city is **Rs 354 crores**. The FOP, as mentioned above has been estimated under two scenarios viz. Base Case and Improved Case.

Under the base case scenario, Awadi can sustain upto **30%** of the identified investment i.e. **Rs 106 crores.**

Under the improved case scenario, Awadi can sustain upto **75%** of the identified investment i.e. **Rs 265 crores.**

As mentioned above FOP is prepared for two scenarios one at base case and other at improved case. At base case or business as usual case, it is assumed that the ULB would not take up any reform and thus would not be eligible for any grant from JnNURM. The entire investment has to be borne by the ULB either through its own sources or through external borrowings.

In the improved case scenario, ULB would have access to JnNURM grants and would undertake reforms as envisaged.

6.9.1 Funding pattern

The funding pattern under the two scenarios is given below. As discussed above, under the base case scenario, the grant component is not available; ULB has to contribute on its own or through external borrowing. In the improved case 50% of grants are available to the city and balance it can take loan upto 40% considering atleast 10% should be ULBs contribution.

S. No	Mode of Funding	Share (Base case)	Share (Improved case)	Base Case	Improved Case
				Rs. Crores	
Identified Investment till 2011-12				**354**	
Sustainable Investment				**30%**	**75%**
1	JnNURM Grant	-	35%	-	92.96
2	Grant from TN	-	15%	-	39.84
3	ULB (own sources/ external borrowings)	100%	50%	106.24	132.80
	Total			**106.24**	**256.60**

6.9.2 Summary – Improvement measures with implementation of UGD scheme

Avadi can sustain only 30% of the identified investment in the base case. The municipality can undertake up to 75% of the investments, if improvement measures are undertaken by way of collection efficiencies, better coverage, new tariffs and upwards revision of tariff and implementing the UGD project. Moreover additional investment would facilitate wider coverage of the system and hence increase in the tax-base and further enhance investment sustainability. In addition under the JnNURM scenario the town's sustainability does not change. In addition to this, the municipality is required to undertake steps towards improving its affordability by several means such as enhancing revenue collection; revising property, water taxes, shop rent, building license rates; introducing new taxes such as underground charge, SWM cess; collection of advertising fee, cable charges; innovation in the revenue generation.

Improved management information system, enforcement and appropriate communications are important to introduce the management innovations. The most important in the entire revenue generation process is the commitment and support from the elected representatives and administrators.

7 ASSET MANAGEMENT PLAN

Avadi has several assets that require regular maintenance for sustenance of reasonable service delivery levels. Given the high impact the O&M expenses have on the finances of the municipality, it is prudent to undertake a proper review of the assets under its control. This would aid in identifying the revenue generating assets as well as the ones that are causing a drain on municipal revenues. A comprehensive asset management plan aids in achieving the same. The municipality has several assets, which, if maintained properly would generate higher revenues.

Management of municipal assets is an essential part of urban management activity. Most municipal entities do not have a proper database; hence creating and listing assets is one of the first activities the municipality should carry out. An asset management plan typically involves the development and maintenance of infrastructure asset portfolios. This also ensures:

- Asset requirement and management driven by defined service levels and performance standards
- Scarce financial resources allocated properly and optimally investment
- Long-term approach in determining asset operations, maintenance and renewal

7.1 Classification of municipal assets

Municipal assets are normally classified into movable and immovable assets. All the assets developed, operated and maintained by the Municipality are termed as municipal assets and comprise roads, bridges, culvert, water supply system (distribution network, transmission main, pump sets, WTPs, etc), UGD distribution network, STPs, drains, and street lights. Social infrastructure assets such as schools, hospitals, parks and playgrounds, community halls, shopping complexes, stadium, and vacant land also belong to the municipality.

7.1.1 Activities of Asset Management Plan (AMP)

Asset identification and facilities audit

All movable and immovable equipment, immovable municipal properties, assets of municipality that have been developed, handed over or acquired over time from various sources and departments have to be identified and traced. This would include the detection of unrecorded infrastructure facilities, and properties; scrutiny of revenue records, land registers and land surveys, etc.

Updating and reconciliation of records

The municipality should record all movable and immovable municipal properties and assets and infrastructure facilities. Maps and master plans should be crosschecked and an infrastructure facilities audit should be prepared or updated (if already existing). A municipal facilities asset register should be compiled with approximate replacement asset values assigned. Additionally, present-day asset values should be assigned based on a 'condition-survey' of the infrastructure facilities. Land and property records should be crosschecked and municipal registers updated to include previously undetected land, properties and development. A comprehensive list of municipal land, properties and development should be compiled with approximate valuations assigned.

Assessment of revenue earning potential

Municipality should review the existing revenue earning potential of all its assets. New projects or initiatives should be taken to maximise the revenue-earning potential of assets including infrastructure facilities.

Computerisation of asset register

Focus should be placed on designing, testing and installing a database management system for municipal assets. All data, once complied should be classified on the basis of sector specific infrastructure facilities, land and properties. Specific software should be customized to suit local requirements and data should be translated into specified formats.

Training in database management

Training is the most important part of an asset management plan. Training should emphasize methods of simplified updation of data, and methods of monitoring and follow-up, relating to infrastructure facilities management, land use, litigation, encroachment, values, expenditure and revenue flows.

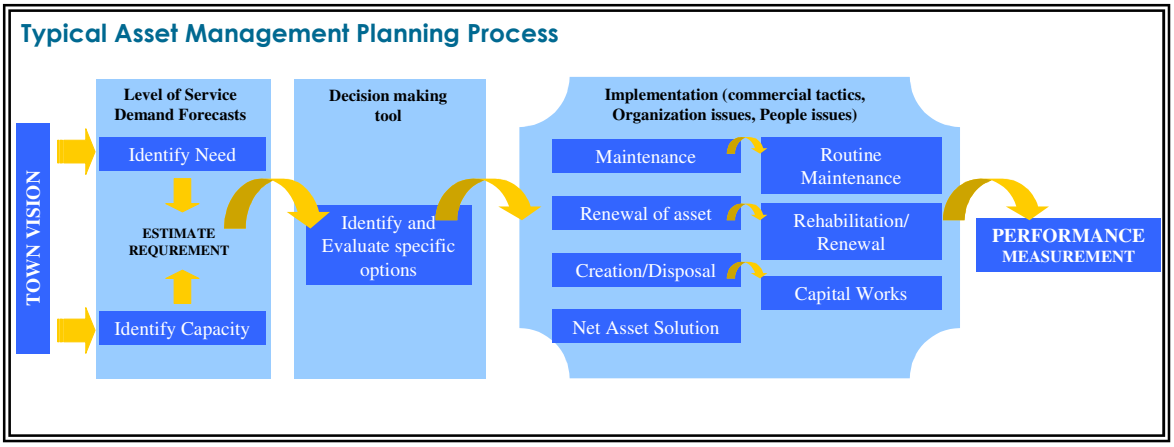
7.1.2 The process

Management of assets is an evolving process that improves as the understanding of asset conditions; their performance and operational costs improve. The benefits of implementing the asset management plan would include:

- Improved understanding of service level options and costs
- Improved decision making based on the benefits and costs of alternatives
- Proper justification of investments to stakeholders
- Proper timing and magnitude of investments
- Establishment and evaluation of performance benchmarks.

Some of the benefits associated with the development of an **AMP** of mixed urban infrastructure assets are effective management of assets, optimisation of maintenance expenses, reduction of emergency interventions and introduction of the IS0 9000 concept

Figure 1: Asset Management Plan - Process



7.2 Planning of Avadi's municipal assets

In order to prepare the AMP, it is imperative to know the potential of these assets. The details of assets in Avadi municipality are provided below.

7.2.1 Non-remunerative asset

The non-remunerative assets are in the form of vehicles, which are used by different departments of the municipality. In addition to these vehicles, the municipality also uses vehicles for SWM activity. The most important activity is to maintain the vehicles used by the health department, since they are utilised on a regular basis and have maximum wear and tear. The details of the vehicles are enumerated below

Table 13: Motor vehicles owned by the municipality

Details of Conservancy Vehicles	Number
Mini Tippers	3
Push carts	50
Compactor	3
Dumper Placer	3
Open lorry	3
Auto	6

Plan for vehicles maintenance

Vehicles owned by the municipality are poorly maintained. As a result, the life span of the vehicle gets reduced considerably. Hence, the municipality should draw up a plan to enter into a contractual agreement with the maintenance workshop for regular maintenance of municipal vehicles. This should also include a spot pick-up facility for vehicles in case of a break down during their operation.

A register that provides the maintenance work details of the vehicles on a daily basis should be maintained. The register would also detail the type of problems and the time taken for rectifying the same. The municipality should also specify the time frame for minor repairs and major repairs. These kinds of contracts would improve the productivity and life of the municipal vehicles. The register could be designed in the following manner.

Table 14: Typical structure of the register for maintenance contract

Sr. No	Vehicle No	Type of Vehicle	Municipal department	Problem	Cost involved for repair parts	Time in	Time out
1							
2							
3							
4							
5							

7.2.2 Remunerative Asset

Most of the assets created by the municipality are under the central or state government supported schemes. Since the assets are remunerative in nature, it becomes more important for the municipality to maintain and utilise these optimally. The commercial complexes that form the most significant part of the asset base typically consist of shops, which are leased for a period of three years with a revision of 15%,

which is less than the market rate. Hence it is imperative for the municipality to auction the shops in the open market so as to get the optimum returns from the investment.

Table 15: Details of remunerative assets owned by the municipality

Description	Number	Area
Kalyana Mandapam	3	450
Lodges	1	320
Commercial Complexes	2	920
Pay and Use latrines	1	18
Slaughter House	2	320
Daily Markets	2	1330

Area in sq. meter

7.2.3 Social and service related assets

Table 16: Social infrastructure owned by the municipality

Social infrastructure	Number	Area
School Buildings	108	10530
Office Buildings	1	920
Service Oriented Assets		
Maternity Centres / Homes	3	840
Hospitals/Dispensaries	1	720
Noon Meal Centres	56	2352
TV Rooms	2	11.5
Parks & Play Grounds	12	1440
Integrated Sanitary Complex	11	2112

Area in sq. meter

The FOP considers the incremental increase in revenue potential from these sources. These are some of the elements that drive the business plan and ensure the timely availability of resources to sustain the assets in an acceptable condition for better service delivery. In addition to increasing the revenue potential, it is equally important to manage the assets is terms of their maintenance and rehabilitation. This would ensure reducing costs, improving reliability, and ensuring sustainability. Hence it is imperative for the municipality to have a highly simplified approach with a long-term schedule of delivery of actions and a set of short-term measures.

8 ACTION AND IMPLEMENTATION PLAN

As in any project, the success of this business plan is also contingent on the action taken by key stakeholders of the municipality. The immediate onus lies on the council, who would need to approve the plan and pass the council resolution. Subsequently, the municipality needs to initiate action in terms of mobilising the funds from the users. Simultaneously, it should make available its sources of finance. This would provide the needed impetus to the financial institutions to initiate their course of action. Also, during the implementation phase, the town should be flexible to undertake some changes across its departments that would aid in easier and faster service delivery in the subsequent years

The implementation of the project requires the involvement of several stakeholders throughout the implementation period, the most critical being the financial disbursement from center, the state government, the ULB and lending agency. The investment required would be released over a four-year period from various agencies. Avadi town being on the outskirts of Chennai Corporation gets covered under the Jawaharlal Nehru National Urban Renewal Mission (JnNURM). The funding pattern under this program is 35% grant from Government of India, 15% from State Government and balance to be contributed from municipality either from its own source or borrowing from external agencies. Implementation schedule

Table 17: Project phasing

Sectors	Total	2008-09	2009-10	2010-11	2011-12
	Rs in Crores				
Water Supply	**87.57**	8.76	35. 03	43.78	-
Sewerage & Sanitation	**177.09**	17.71	70.84	88.55	
Roads & Urban Transport	**36.30**	1.61	8.44	16.12	10.12
Drains	**30.20**		3.02	12.08	15.10
Street Lights	**10.37**	1.04	2.59	3.11	3.63
Solid Waste Management	**3.68**	0.37	1.47	1.84	
Others	**8.93**	0.95	2.86	2.65	2.45
Total	**354.13**	**30.43**	**124.26**	**168.13**	**31.30**

8.1 Activities and Responsibility

Apart from financial involvement, the stakeholders are also responsible for implementing the projects. In order to ensure effective implementation, the involvement of the citizens is required. It would be more effective, if the citizens form self-help groups to represent their problems and provide regular feedback to the ULB.

8.1.1 Involvement of elected representatives

All these efforts would be effective only if there is a sustained co-operation from the council members, who would have to lay the path by adopting the business plan and adhering to the implementation schedule identified. Several of the revenue improvement initiatives would also need support from the councillors, while in other areas, the council would need to support the enforcement measures that are taken by the administration. Some of the key areas where active support is required are:

Provide minimum number of public fountains - The public fountains (427) in the town may be a limiting factor in adding water supply connections. Public fountains would need to be minimized in a

phased manner so that the households are encouraged to opt for regular connections. Alternatively households that benefit from public fountains may need to be charged at regular rates. Such a measure, due to its inherent unpopularity, would need to be approved by the council.

Increase in water charges - Increase in rates is inevitable to bridge the revenue deficit. The council's support in this measure is vital.

Coverage of unregistered properties - The revenue department has identified that some properties do not pay taxes. Council action can help in recovering revenues from these properties that are currently not registered in the property tax database. Including them in the property tax database can yield large one-time revenues in the form of penalties, building license fee and betterment charges. Also, these properties will be sources of regular property tax income.

SWM charges - The support of the council is required for the user charges

Regularisation of unauthorized layouts - The Avadi municipality is currently losing substantial revenues on this account. Around 2500 properties in unauthorized lands currently exist in the peripheral areas. The recently issued G.O. for the regularisation of unauthorized layouts needs to be incorporated by passing the council resolution. Discussions with the officials revealed that an indicative assessment of the cost involved in the development of these layouts is not possible. Hence, it was unable to determine the cost-benefit of regularising these layouts.

Institutional arrangements for the water & UGD functions - The institutional issues in the water and UGD functions and the available options need to be debated within the council.

Auctioning clearance - Auctioning of shops instead of the current allotment method based on pre-determined rent could be examined.

8.1.2 State government support

In addition to facilitating the above institutional measures, the state government's involvement would be necessary in the removal/reduction of exemptions, if any. The state government may also facilitate and provide the required support to enforce water rate hikes and impose SWM cess.

8.2 Actions require during implementation of the business plan

8.2.1 Land management, urban economy and environment

A strong coordinating mechanism between the municipality and the Local Planning Authority (LPA) of the area is needed. For successful implementation of the business plan, the following actions would be necessary:

1. The municipality to constitute a core planning team consisting of representatives of town administration, representatives of LPA, representatives of industry and commerce and representatives of civil society. The responsibilities for this team would be:
    - Firming a medium term (ten years) strategy plan for the LPA, clearly bringing out the relationship between the core town and its hinterland (different from the conventional master plan)
    - Establishing the role of stakeholders in the implementation of this medium-term plan
    - Identifying investments in the public sector to trigger private sector investments, and
    - Monitoring the implementation of the plan and carrying out course corrections as needed.

2. LPA to delegate the powers of issue of planning permissions to the ULB, retaining the power of supervision.
3. The municipality to set up a permanent interdepartmental infrastructure planning and development cell for continuing action on the business plan with dedicated staff. For this purpose the ULB should associate with a professional consulting firm or specialists to bring in new innovations and cost effective practices.
4. The municipality should also constitute a town-level advisory committee (drawn from local chambers of commerce, NGO and responsible citizens) to provide inputs to the planning and development cell mentioned earlier.

Table below shows actions required from various stakeholders for implementation of Business Plan.

Table 18: Action required for implementation of Business Plan

Action	Council	Administration	State Government
Increase coverage of properties, reduce exemptions	Support in covering 2500 properties in unauthorized layouts in the town	1.Include the 2500 properties unauthorized layouts in database	1.Support regularization of 2500 properties in unauthorized layouts
		2.Ensure filing for vacant land	2.Exemptions to educational institutions
		3.Tax collection from State and Central Govt. properties	
		4.Ensure that exemption to self occupied properties is not misused	
		1.Ensure correct assessment	
Auction shops	Approve auctioning of shops		
Improve trade license collection		1.Ensure smooth handover of responsibility from health to revenue department	
		2.Ensure license fee is collected from properties declared as commercial in ptax register	
		3.Improve coverage, which is quite low (1013/2874)	
Advertisement tax	1.Approve auctioning/ privatizing the activity	Identify illegal hoardings	1.Collection of advertisement tax by ULB
	2.Debate on whether number of hoardings should be increased		2.Assist in auctioning/ privatizing the activity
generate one time revenues	1.Approve long term lease/ sale of shops and municipal properties	1.Assets for long term lease/ sale	1.Approve issue of certificate to roughly 2500 properties
	2.Finalize on UGD connection charges and deposits	2.Identify defaulters on building licenses and completion reports of buildings	2.Develop a retail financing scheme for households
		3.Explore upfront disposal of IDSMT shops	3.Assist in long term lease/ sale of properties
Reorganise revenue department		1.Revenue targets based on geographical responsibility	
		2.Responsibility to supervisory staff	
		3.Rotation policy based on objective performance	

Action	Council	Administration	State Government
		evaluation	
		4.Induct managerial capacity	
		5.Create an integrated and independent revenue database	
Revamp Accounts, IT and MIS functions		1.Use accounting information and MIS for day to day decision making	Provide financial planning and management skills to the local body
		2.Integrate various revenue related information and approval process	

8.2.2 Performance targets for revenue section

A clearly defined geographical responsibility with a target for improving coverage across all revenue sources and individual revenue targets for monitoring the performance would increase the productivity per staff. Supervisory staff like Revenue Inspectors (RI) and higher-grade officials should handle the accounts of chronic defaulters and high value customers such as large commercial properties, and government buildings.

8.2.3 Supervisory requirement for Revenue section to handle issues

Given the large scale and width (activities across several departments of the municipality) of the revenue improvement program, substantial focus on system related activities would also be required. Under this circumstance, the supervision needs to be at a senior administrative level within the municipality. A senior level officer at a rank below that of the Commissioner could carry out this task. The key activities would be:

On a day to day level

- Supervise revenue functions
- Interpret revenue MIS
- Initiate required corrective actions

For the medium term

- Understand the trends of revenue collections
- Initiate long-term corrections such as inclusion of previously unassessed properties.
- Enforce and collect revenues that are slipping like advertisement fees
- Manage the system and technology changes

In the short term

- Oversee implementation of the revenue generation plan
- Undertake survey of the entire town to assess the revenue generation potential
- Create and update the revenue database linking it to various departments such as water, health, etc for automatic actions and enforcements
- Identify unauthorized buildings (commercial & residential) within the municipal jurisdiction.

All the above functions can be housed within the revenue section, if the proposed integration of commercial functions occurs.

8.2.4 Human Resource improvement measures

For undertaking the changes, significant training needs to be provided. Unless, the employees undertake the identified projects, their success is suspect. In order to ensure that the projects are implemented properly, proper capacity building measures are required.

The training needs to be undertaken for the elected representatives and the ULB staff at various levels in various areas of urban governance. The training programme needs to be conducted at the local, district, and state levels; and out side the state for any specialised training. The CMA has to prepare a detailed curriculum for each training module; if external consultants are preparing the curriculum and training material, it is better to involve the same group of consultants in training. The training should be given to a fixed number of personnel selected from each department; these personnel, in turn would train the other employees. Thus, in effect, it would be training for the trainers.

The key areas in which, training is required are

- Local governance and urban management for mayors, chairpersons, other elected officials and other senior ULB staff
- Financial management for managers, revenue officers and accountants and related officials
- Improvement of service delivery for Town Planning Officers (TPO)
- Office management and use of computers for ULB office management
- Social safeguards and environmental management for senior and middle level ULB staff

The key points to be covered in the training would be highlighting the best reform initiatives across the country viz. specific reform initiatives such as property tax, solid waste management, revenue improvement and accounting reforms, as well as showcasing the 200 plus reform initiatives from Indian cities that were a part of the 'CRISIL Awards for Excellence in Municipal Initiatives'.

The following table highlights some of the training components required in the ULB.

Table 19: Basic Training

Position/Designation	Area
Commissioner, Manager, Revenue department	Improvements in commercial orientation and customer service
Commissioner, Manager, Municipal Engineer	Transfer and redeployment strategies and implementation of the same
Commissioner	Review of performance management systems
Respective department clerks and officials	Functional areas like Commercial, Regulatory, Finance & Accounts, Internal Audit, Corporate Planning, Technical Operations, and IT etc.
Commissioner	Communication strategy to address key stakeholder and reform related issues
Commissioner, Manager	Change enablement and communication mechanisms to create awareness amongst various stakeholders' viz. employees etc.
Municipal Engineer	Private Sector Participation
Manager	Property survey and mapping
Municipal Engineer, Manager	Systems and procedures of utilizing the property survey database to increase revenues from property tax which will include setting up improved systems in terms of: billing, collection and receivables, monitoring and follow-up, accountability and transparency, human resource management and availability, and capacity building of the staff.
Commissioner	Reorganizing the Revenue Department for achieving better tax administration and training of revenue staff, Advise on reorganisation of Revenue Department, Training and Study Tours
Chief Accounts Officer	Analyse the prevailing fiscal status of the ULB
Manager, Chief Accounts	Penal provisions & dispute resolution

Officer	
Chief Accounts Officer	Available funding options and Accessing donors

Table 20: Specialised training

Position/Designation	Area
Commissioner	Organisation structure - Its roles and responsibilities, Developing a proper residual and successor entity
Commissioner	Identify the strengths, weaknesses and constraints of private sector participation in urban infrastructure, healthcare and education
Commissioner, Chief Accounts Officer	Credit enhancement options for the ULB, which would enable them to raise debt in the capital markets
Chief Accounts Officer	Asset inventory and valuation
Programming Officer	Software development and training
Commissioner	Prepare a vision document.
Municipal Engineer, Town Planning Officer	Project Preparation, Procurement Process, Sectoral and tariff issues, Contracts & risk issues, Managing consultants,
Commissioner, Manager	Formulation and implementation of communication strategy
Commissioner, Manager	Development of Role definition at each hierarchy

8.2.5 An integrated commercial approach

Currently, the facility centre of the municipality carries out the billing functions for various departments. Additionally, the follow up action and enforcement measures are carried out independently without actual coordination between the departments. This leads to duplication and also weakens the enforcement efforts. Additionally, it is difficult to generate effective MIS, as it is difficult to integrate the data from the respective sections.[15]

It may therefore be useful to integrate the commercial functions of the various sections. This would both rationalise the requirement for staff as well as lead to greater co-ordination between the commercial activities of the various sections. It would greatly assist in the identification of unauthorised properties, disconnection of water to such properties and those properties not paying municipal taxes. The revenue section could take up this responsibility, as the revenue section would have a larger database of properties than the engineering or health sections; the daily operating load of the section has come down due to the computerised bill generation process that has relieved resources, which may be deployed for integrated commercial activity. The integrated activities, which could be handled by the revenue section, could include the following:

Table 21: Integrated activities of the revenue section

	Water supply related	Revenue section related	Health section related
Billing activities	Generation of water bills, delivery of water bills, collection, MIS generation	Shop rent bills, MIS of property tax, Building permissions	Trade License, SWM charge
Field activities	Detection of unauthorized connections, disconnection of water supply	Identification of unauthorised development	Detection of new trades, proceedings against trade owners

[15] To some extent property tax and water connection data can be integrated. But the utilisation is presently very limited.

Co-ordination	Co-ordination within the municipal department for regular updation of the database (in co-ordination with building permissions issue) and for enforcement functions (disconnection of water supply, proceedings against property etc)

The integration would yield several benefits. On the operational front, this would ensure an integrated database for all revenue-related functions and provide an impetus for the financial management function, as it would allow development of long-term financial plans. This would also provide an integrated approach to fund mobilisation for the municipality through a better portfolio of rate increases. On the management front, it would provide the ability to integrate the commercial data with the accounts information and thereby provide relevant MIS

On the service delivery front, it would provide integrated billing to customers and a single point customer grievance handling; it would also be easier to out source certain functions like bill delivery and collections in the integrated structure. On the human resources front, it would develop a common enforcement strategy and the staff required for billing and collections would also be rationalised. The revenue section could also draw on the existing staff of the engineering and health sections that would be freed up due to the transfer of commercial functions.

Given the nature of operations of the section, it is necessary that someone who is also fulfilling the financial management function head it. The current skills heading the revenue section may not be sufficient for the function. If an officer with the necessary skills cannot be dedicated from within the municipality, external recruitment may be required for the same, failing which the role may have to be carried out by the commissioner.

8.3 Some key measures that could aid in implementation of the business plan

There are some innovative and interesting methods adopted by various ULBs across the country that have aided in improving the operational and financial efficiency of the respective ULBs. Avadi municipality can undertake a few of the highlighted initiatives that could aid in improving the efficiency levels. A detailed listing of other initiatives are highlighted in Annex

8.3.1 Professionalization of workforce – AMC

Ahmedabad Municipal Corporation took an important step towards the professionalization of its workforce by recruiting certified Chartered Accountants and graduates with Masters' degree in Business Administration.

8.3.2 Slum sanitation with community Participation - PMC

Municipal corporations have 'conservancy' departments whose duty is to clean and maintain toilet blocks, drains, streets and the like. However, it has been widely recognised that this staff is usually remiss in their duties and hence the toilets soon fall into disrepair and disuse. Since the local community does not have any control over the sanitation staff, the latter do not respond to their concerns. Often, communities have to pay additional money to the same workers to persuade them to clean the toilets.

The city of Pune carried out a major experiment of building toilets in slums through community participation by giving contracts to non-governmental organisations. Advertisements were issued in the newspapers inviting NGOs to come forward and make bids for building toilets. They were expected to quote a lesser cost. A guarantee was also to be given that the NGO and the community would maintain the toilet block for thirty years by collecting contributions from the community.

Eight NGOs were selected to carry out the work. Weekly meetings, which were attended by the municipal commissioner, relevant staff, NGOs and community representatives, were held to monitor the progress of the work and deal with impediments. Slum dwellers, especially women, were actively involved by the NGOs in this project. Community members were trained in various aspects of maintenance like electrical issues, carpentry and so on.

Several innovative features were incorporated in the toilet design. For example, a caretaker's room was provided over the toilet to house a family. This room was an incentive for the family that would take charge of maintenance. In some cases, where space permitted, a community hall was built that could be used for social and ceremonial purposes in the slum.

More than 400 toilet blocks with over 10,000 seats were built at a cost of about Rs. 40 crores. Assuming that 50 persons use a toilet seat a day, more than five lakh people in the slums have benefited from the programme.

8.3.3 Park management committees - MCL

In Ludhiana, neighbourhood 'park management committees' undertakes the maintenance of around 70% of the parks. They hire gardeners and are reimbursed by MCL @ Re. 1 per sq. metre per month. This system has resulted in saving of around 80% for MCL and also avoids the hassles of absenteeism, unionism and continuous supervision.

Table 22: Action required by the state government

Administrative Reorganization	•Outsourcing and Key recruitments
	•Reorganization of revenue department
	•Assessment of staff training needs
	•Staff training
Modernizing financial systems	•Control systems
	•Improving quality of information provided in budget
	•Workshops on budgeting techniques
Identifying opportunities for cost-savings	•Contracting with ESCOs (Energy Saving Companies)
	•Identifying wrong and over-billing in street lighting and water supply installations
	•Assistance in introducing systems for electricity management
MIS, reports and performance evaluation	•Developing revenue MIS
	•Formats for department reports
	•Annual administrative report
Improving the efficiency of tax administration	•Building administrative capacity
	•Performance measurement
	•Reviewing billing, collection, enforcement and database mgmt procedures

8.4 Way forward

Several parallel initiatives need to be implemented by all the stakeholders (municipality, elected representatives and the state government) to fully realize the revenue improvement potential. It is proposed to discuss this report in a citywide discussion with the stakeholders and councillors to reach a consensus on the improvement measures that would be pursued. The supporting plan for these measures, including those identified in this report along with a time-bound plan with identified implementation responsibilities has been highlighted in the Memorandum of Association (MoA) for the town's discussion and approval.

9 DRAFT MOA BETWEEN AVADI MUNICIPALITY & TNUIFSL

The council has evaluated the proposed implementation of business plan for possible funding by World Bank. The council has held discussions with all local elected representatives & officials in the stakeholder consultation workshop and noted that all were in agreement with the proposal for implementing the Business Plan.

The council took note of the following facts placed before it during the discussions:

- The Government of Tamilnadu (GoTN) had nominated TNUIFSL, Chennai as the nodal agency for the proposed funding from the World Bank
- After taking into account its present/potential financial status and capacity for O&M/repayment of loan, the following priority infrastructure works have been identified/proposed under the project for this town with the loan-grant-own contribution mix as indicated in the table below:

Item-wise Base Costs for Identified Components

S. No	Item of Works	Total	Loan	Grant	ULB Contribution
1.	Water Supply				
2.	Sewerage & Sanitation				
3.	Roads				
4.	Storm Water Drains				
5.	Street Lighting				
6.	Solid Waste Management				
7.	Social Infrastructure				
	Total				

(In Rs. Crores)

- All cost and time overrun burden is to be borne by this ULB and that the GoTN or TNUIFSL will not be responsible for the same
- Carrying out reforms and complying with pre project conditions/actions as suggested by the GoTN/TNUIFSL as mentioned in the **Service Level Agreement** that shall be the qualifying criteria for disbursal of the funds
- The terms of the loan will be
    a. Interest rate - 9%
    b. Term – 20 years
    c. Moratorium – 5 years

The council agrees to the following points:

- Issues presented in the project report and to agree to follow all directions of GoTN/TNUIFSL towards execution of the project
- Assure and ensure utilization of assets created under the project
- Draw the loan part for the execution of the works and repay the loan with applicable interest as per schedule
- Open a joint account with Deputy Commissioner for the project and to agree to deposit the ULB's share every quarter (10 % of the cost of the tendered works) failing which to abide by action taken by GoTN/TNUIFSL
- Conform to the subsequent change, if any, in the loan-grant composition made by GoTN
- Undertake the following minimum reforms during the FY 2006-07 and to improve during the loan period to achieve the target set for every year:
    a. Listing of assets of the ULB and maximizing efficient use of the same, revenue generation from municipal properties through collection of land rent/lease covering at

least __percent municipal properties, improved collection of land rent to at least __ percent demand

b. Listing of all trade activities and improving collection of trade license fee to at least __percent of demand.
c. Revising water tariff as per ___GO, identification/regularization of unauthorized water connections, improved collection of at least __ percent of water tariff.
d. Collection of at least __ percent of water and sewerage connection charges within a year and then invite the tenders for water supply and sewerage schemes.
e. Imposing solid waste management cess/fees.
f. Increasing coverage with respect to property tax collection - bringing at least __ percent properties into the tax net, increasing collection efficiency and ensuring arrears collection of at least ___ percent and collection of at least __ percent of current demand for property tax.
g. Computerizing municipal systems and procedures.

- Undertake public awareness through ward-level consultation workshops, with NGO involvement, improving the image of the ULB and generating confidence among citizens regarding the ability of the ULB to deliver quality services
- Acquire land, free from all encumbrances / encroachments, required for all identified projects before project loan effectiveness
- Solve all problems (like agitation) during construction activity and to ensure timely completion of the work as per schedule
- Offer necessary co-operation/coordination with consultants, PMU/Divisional Offices/NGOs and various other agencies involved in implementation of the project
- Undertake full responsibility, in respect of civil works, for quality assurance and joint measurement of completed works and to assure full co-operation and co-ordination and to agree to all pre-qualification requirements and bidding procedures of World Bank and to impose penalty, if any, from the first bill itself;
- Undertake that no variation order without citing reasons for variation as well as working out the time and financial implications, will be issued subsequent to tendering without prior approval of TNUIFSL
- Carryout the all the directions of GoTN/TNUIFSL.

Finally, the Council agrees to bind itself to these terms, which would form part of future agreement with GoTN/TNUIFSL, and further resolve to authorize the Commissioner/Chief Officer to take necessary action to get the above mentioned infrastructure facilities to this town. The Council further agrees to authorize the Commissioner and Chairman to sign the sub-loan agreement with TNUIFSL.

Sd/
Chairman of the council
Date

Commissioner
Avadi municipality

Table 23: Service Level Agreement

Category	Description	Unit	Target - Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Reforms and Action Required by the ULBs
Demography									
	Population	Number							
	Annual Growth	%							
	Below poverty line families	Number							
	Developed Land Area	Sq. Km.							
	Undeveloped Land Area	Sq. Km.							
	Residential Land Area	Sq. Km.							
	Transportation Land Area	Sq. Km.							
Service levels									
Water Supply									
	Gross Per Capita supply	Litres							
	Net Per Capita supply	Litres							
	Elevated Storage Capacity/Total Supply	%							
	Ground Storage Capacity/Total Supply	%							
	Treatment Capacity/Total Supply	%							
	Length of Distribution Network	% of rods							
	Transmission & Distribution losses	%							
	Public Stand posts	Number							
	Public Bore well	Number							
	Population having access to water sources	%							
	Supply	Hours/day							
Sewerage & Sanitation									
	Municipal area covered by sewerage system	%							
	Municipal area covered by Public convenience system	%							
	Municipal area covered by Septic Tanks	%							
	Treatment Capacity/Total Supply	%							
	Roads Covered by sewerage system	%							
	Population covered by sewerage system	%							
Solid Waste Management									
	Daily per capita waste generated								
	Primary Collection Capacity	MT							

Category	Description	Unit	Target - Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Reforms and Action Required by the ULBs
	Secondary Collection Capacity	MT							
	Door to Door collection coverage	%							
	Total Rated capacity of vehicles/Total waste generated	%							
	Average Spacing between Dustbins	Meters							
Storm Water Drain									
	Municipal Area covered with SWD	%							
	Population covered by SWD	%							
Roads									
	Municipal Area covered with SWD	%							
	Population covered by SWD	%							
	Per Capita Road length	Meters							
	Road Density	Km/Sq. Km.							
Street Lighting									
	Spacing between Streetlights	Meters							
Efficiency Levels									
Property Tax									
	Residential Properties	Number							
	Commercial Properties	Number							
	Industrial Properties (If any)	Number							
	Vacant Land	Number							
	Collection efficiency	%							
	Arrears as a % of the total	%							
Water									
	Metered Residential Connections/Total Residential properties	%							
	Metered Commercial Connections/Total Commercial properties	%							
	Metered Industrial Connections/Total Industrial properties (If any)	%							
	Collection efficiency	%							
	Arrears as a % of the total	%							
	Unauthorized connections/ Total Connections	%							
Sewerage & Sanitation									

Category	Description	Unit	Target - Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Reforms and Action Required by the ULBs
	Sewerage connections/Total number of properties	%							
	Septic Tanks/Total number of properties	%							
	Low Cost Sanitation/Total number of properties	%							
	Number of Slum residents per seat of Public convenience	Number							
Solid Waste Management									
	Collection efficiency	%							
	Road length per staff	Meters							
	Disposal site capacity/Total Waste Generated	%							
	Area covered per conservancy staff	Sq. Meters							
Storm Water Drain									
	Road covered with Pucca Open Drain	%							
	Road covered with Pucca Closed Drain	%							
	Road uncovered with SWD	%							
	Pucca Drain/Total SWD	%							
Roads									
	Roads Surfaced (any kind of surfacing)	%							
	Concrete Road/Total Road	%							
	Black Top Road/Total Road	%							
	Earthen & Other Road/Total Road	%							
Street Lighting									
	Tube lights/Total Lights	%							
	High power lights/Total Lights	%							
	Other Lights/Total Lights	%							

ANNEXURES

1. CURRENT FINANCIALS

All figures in Rs. Lakhs	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
RECEIPTS							
Own Sources							
Revenue Fund	**478**	**457**	**631**	**597**	**594**	**1,282**	**965**
Property tax	153.68	119.51	171.88	288.84	289.07	466.04	425.90
Professional tax	122.17	110.89	70.25	97.35	56.17	67.87	75.46
Trade licenses	1.55	1.59	1.76	1.78	1.89	1.86	2.32
Building license fee	9.88	10.32	19.60	19.91	18.78	46.29	69.87
Shops & market rents	14.00	32.22	27.35	15.65	24.73	33.51	52.65
Others	176.89	182.95	340.28	173.93	202.93	666.51	338.62
Water Supply and Drainage Fund	**90.90**	**78.85**	**69.18**	**75.66**	**77.88**	**118.90**	**94.10**
Water charges	90.90	78.85	69.18	75.66	77.88	118.90	94.10
Elementry Education Fund	**62.78**	**56.32**	**71.62**	**81.11**	**75.21**	**80.70**	**18.40**
Revenue from education	62.78	56.32	71.62	81.11	75.21	80.70	18.40
Others	-	-	-	-	-	-	-
Sub-Total	**631.83**	**592.66**	**771.92**	**754.23**	**746.66**	**1,481.68**	**1,077.33**
Permanent Revenue Grants							
Devolution of funds (SFC)	149.72	386.56	543.85	387.55	481.58	376.29	243.07
Entertainment tax	11.75	16.84	10.47	3.92	0.68	0.72	1.77
Surcharge on Sales tax	87.34	397.43	310.70	384.72	282.00	343.71	330.28
Other grants	-	-	-	-	16.35	5.80	94.89
Sub-Total	**248.82**	**800.83**	**865.02**	**776.19**	**780.61**	**726.53**	**670.02**
TOTAL MUNICIPAL RECEIPTS	**880.65**	**1,393.48**	**1,636.93**	**1,530.43**	**1,527.28**	**2,208.21**	**1,747.35**
PAYMENTS							
Salaries							
General Administration	300.11	299.35	317.20	315.64	314.24	18.45	253.90
Water Supply	3.23	4.44	3.60	5.32	5.92	0.03	7.62
Sub-Total	**303.34**	**303.79**	**320.80**	**320.97**	**320.15**	**18.48**	**261.52**
Operation and Maintenance							
General Administration	110.12	533.74	634.50	104.53	166.29	219.36	291.85
Water Supply	67.28	89.62	120.97	118.37	141.18	117.05	133.47
Conservancy	1.72	3.05	1.77	17.26	2.36	3.26	1.07
Street Lighting	37.68	61.89	69.34	101.42	35.48	76.67	69.86
Miscellaneous Items	12.49	14.97	29.96	49.60	33.34	191.10	121.59
Sub-Total	**229.29**	**703.27**	**856.54**	**391.18**	**378.66**	**607.45**	**617.84**
Loan & Interest Payments							
Loan repayment old	14.74	25.66	30.66	27.50	62.00	36.46	39.15
Revolving fund							
Loan & Interest Payments	**14.74**	**25.66**	**30.66**	**27.50**	**62.00**	**36.46**	**39.15**
TOTAL MUNICIPAL PAYMENTS	**547.36**	**1,032.73**	**1,208.00**	**739.64**	**760.82**	**662.38**	**918.52**

2 – Financial Projections

2a. Base Case Projections

BASE CASE PROJECTION				1	2	3	4	5	6	7	8	9	10
All figures in Rs. Lakhs	**2005-06**	**2006-07**	**2007-08**	**2008-09**	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**
Recast Summary													
i Opening balance	2,184	2,950	4,496	5,325	6,115	6,326	6,164	7,292	9,049	10,372	11,578	13,005	14,657
ii **Revenue receipts**	1,527	2,208	1,747	2,061	2,601	3,407	3,946	4,355	4,025	4,363	4,667	4,981	5,794
iii **Revenue expenditure**	761	662	919	991	1,041	1,089	1,152	1,215	1,282	1,354	1,431	1,512	1,578
New debt servicing				81	433	956	1,076	1,076	1,106	1,483	1,483	1,483	1,483
Additional O&M		-	-	-	45	235	293	308	314	320	327	333	340
ntribution towards proposed projects		-	-	100	436	645	148	-	-	-	-	-	-
iv Revenue Surplus deficit (incl. OB)	2,950	4,496	5,325	6,215	6,762	6,808	7,440	9,049	10,372	11,578	13,005	14,657	17,051
v Revenue Surplus/deficit for current year	766	1,546	829	890	646	482	1,276	1,757	1,323	1,206	1,427	1,653	2,394
Capital Income				897	3,920	5,803	1,331	-	-	-	-	-	-
TNUDF Grants for new projects				-	-	-	-	-	-	-	-	-	-
External borrowing				897	3,920	5,803	1,331	-	-	-	-	-	-
Capital Expenditure				997	4,355	6,448	1,479	-	-	-	-	-	-
vi **Final closing balance**	2,950	4,496	5,325	6,115	6,326	6,164	7,292	9,049	10,372	11,578	13,005	14,657	17,051
DSCR		-	-	12.03	2.49	1.50	2.19	2.63	2.20	1.81	1.96	2.11	2.61
Operating ratio	0.50	0.30	0.53	0.48	0.40	0.32	0.29	0.28	0.32	0.31	0.31	0.30	0.27
RECEIPTS													
Own Sources													
Revenue Fund	**594**	**1,282**	**965**	**964**	**1,013**	**1,070**	**1,133**	**1,200**	**1,273**	**1,350**	**1,433**	**1,520**	**1,614**
Property tax	289.07	466.04	425.90	423.19	436.71	457.45	481.91	508.74	537.48	568.01	600.34	634.54	670.69
Professional tax	56.17	67.87	75.46	71.16	76.14	81.47	87.17	93.27	99.80	106.78	114.26	122.26	130.82
Trade licenses	1.89	1.86	2.32	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
Building license fee	18.78	46.29	69.87	52.59	58.21	61.52	65.03	68.74	72.65	76.79	81.17	85.79	90.68
Shops & market rents	24.73	33.51	52.65	52.76	52.87	52.97	53.08	53.18	53.28	53.38	53.48	53.57	53.66
Others	202.93	666.51	338.62	362.32	387.69	414.82	443.86	474.93	508.18	543.75	581.81	622.54	666.12
Water Supply and Drainage Fund	**77.88**	**118.90**	**94.10**	**391.22**	**831.39**	**1,527.15**	**1,945.54**	**2,225.44**	**1,756.81**	**1,946.59**	**2,092.55**	**2,237.78**	**2,870.49**
Water charges	77.88	118.90	94.10	170.76	336.14	491.17	564.87	766.80	862.08	951.43	1,037.03	1,120.60	1,433.51
New connection charges	-	-	-	220.45	245.58	190.75	37.43	49.46	52.26	55.25	58.40	61.73	81.54
New Charge- UGD		-	-	-	36.91	158.52	341.28	630.94	689.75	738.19	783.91	830.04	1,117.15
Fee from new UGD connections		-	-	-	212.76	686.70	1,001.96	778.24	152.72	201.72	213.23	225.41	238.29
Elementry Education Fund	**75.21**	**80.70**	**18.40**	**19.69**	**21.07**	**22.54**	**24.12**	**25.81**	**27.62**	**29.55**	**31.62**	**33.83**	**36.20**
Revenue from education	75.21	80.70	18.40	19.69	21.07	22.54	24.12	25.81	27.62	29.55	31.62	33.83	36.20
Others	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-Total	**746.66**	**1,481.68**	**1,077.33**	**1,374.50**	**1,865.64**	**2,619.51**	**3,102.28**	**3,451.67**	**3,057.39**	**3,326.43**	**3,556.81**	**3,791.88**	**4,520.24**
Permanent Revenue Grants													
Devolution of funds (SFC)	481.58	376.29	243.07	331.36	354.56	379.37	405.93	434.35	464.75	497.28	532.09	569.34	609.19
Entertainment tax	0.68	0.72	1.77	1.90	2.03	2.17	2.32	2.49	2.66	2.85	3.05	3.26	3.49
Surcharge on Sales tax	282.00	343.71	330.28	340.97	364.84	390.38	417.71	446.95	478.23	511.71	547.53	585.86	626.87
Other grants	16.35	5.80	94.89	12.40	13.89	15.56	17.43	19.52	21.86	24.48	27.42	30.71	34.40
Sub-Total	**780.61**	**726.53**	**670.02**	**686.64**	**735.32**	**787.49**	**843.39**	**903.30**	**967.50**	**1,036.32**	**1,110.09**	**1,189.17**	**1,273.94**
TOTAL MUNICIPAL RECEIPTS	**1,527.28**	**2,208.21**	**1,747.35**	**2,061.14**	**2,600.96**	**3,406.99**	**3,945.67**	**4,354.97**	**4,024.89**	**4,362.75**	**4,666.90**	**4,981.05**	**5,794.18**

BASE CASE PROJECTION				1	2	3	4	5	6	7	8	9	10
All figures in Rs. Lakhs	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
PAYMENTS													
Salaries													
General Administration	314.24	18.45	253.90	269.14	285.29	302.40	320.55	339.78	360.17	381.78	404.69	428.97	454.70
Water Supply	5.92	0.03	7.62	8.08	8.56	9.08	9.62	10.20	10.81	11.46	12.15	12.87	13.65
Sub-Total	**320.15**	**18.48**	**261.52**	**277.22**	**293.85**	**311.48**	**330.17**	**349.98**	**370.98**	**393.24**	**416.83**	**441.84**	**468.35**
Operation and Maintenance													
General Administration	166.29	219.36	291.85	309.36	327.92	347.60	368.45	390.56	413.99	438.83	465.16	493.07	522.66
Water Supply	141.18	117.05	133.47	141.48	141.29	141.32	147.75	151.54	154.21	157.63	161.95	165.71	169.47
Conservancy	2.36	3.26	1.07	1.14	1.21	1.28	1.36	1.44	1.52	1.61	1.71	1.81	1.92
Street Lighting	35.48	76.67	69.86	74.06	78.50	83.21	88.20	93.49	99.10	105.05	111.35	118.03	125.12
Miscellaneous Items	33.34	191.10	121.59	131.31	141.82	153.16	165.42	178.65	192.94	208.38	225.05	243.05	262.50
Sub-Total	**378.66**	**607.45**	**617.84**	**657.35**	**690.74**	**726.57**	**771.18**	**815.68**	**861.77**	**911.50**	**965.22**	**1,021.68**	**1,081.66**
Loan & Interest Payments													
Loan repayment old	62.00	36.46	39.15	55.97	55.97	51.14	51.14	48.96	48.96	48.96	48.96	48.96	28.13
Revolving fund				-	-	-	-	-	-	-	-	-	-
Loan & Interest Payments	**62.00**	**36.46**	**39.15**	**55.97**	**55.97**	**51.14**	**51.14**	**48.96**	**48.96**	**48.96**	**48.96**	**48.96**	**28.13**
TOTAL MUNICIPAL PAYMENTS	**760.82**	**662.38**	**918.52**	**990.53**	**1,040.56**	**1,089.19**	**1,152.49**	**1,214.62**	**1,281.71**	**1,353.70**	**1,431.01**	**1,512.48**	**1,578.14**

2b - Improved Case Projections

IMPROVEMENT SCENARIO	-	-	-	1	2	3	4	5	6	7	8	9	10
All figures in Rs. Lakhs	**2005-06**	**2006-07**	**2007-08**	**2008-09**	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**
Recast Summary													
Opening balance	2,184	2,872	4,418	5,247	6,265	6,529	6,047	7,146	8,924	10,311	11,504	12,946	14,908
Revenue receipts	**1,449**	**2,208**	**1,747**	**2,358**	**3,056**	**4,020**	**4,720**	**5,134**	**4,871**	**5,244**	**5,595**	**6,220**	**7,273**
Revenue expenditure	**761**	**662**	**919**	**991**	**1,049**	**1,107**	**1,173**	**1,242**	**1,317**	**1,397**	**1,482**	**1,572**	**1,648**
New debt servicing	-	-	-	**101**	**542**	**1,195**	**1,344**	**1,344**	**1,383**	**1,853**	**1,853**	**1,853**	**1,853**
Additional O&M	-	-	-	-	**112**	**588**	**733**	**770**	**785**	**801**	**817**	**833**	**850**
contribution towards proposed projects	-	-	-	**125**	**544**	**806**	**185**	-	-	-	-	-	-
Revenue Surplus deficit (incl. OB)	**2,872**	**4,418**	**5,247**	**6,389**	**7,073**	**6,853**	**7,331**	**8,924**	**10,311**	**11,504**	**12,946**	**14,908**	**17,830**
Revenue Surplus/deficit for current year	689	1,546	829	1,142	808	324	1,284	1,778	1,386	1,193	1,443	1,961	2,922
Capital Income				**2,367**	**10,343**	**15,314**	**3,513**	-	-	-	-	-	-
TNUDF Grants for new projects				1,246	5,444	8,060	1,849	-	-	-	-	-	-
External borrowing				1,121	4,899	7,254	1,664	-	-	-	-	-	-
Capital Expenditure				**2,492**	**10,888**	**16,120**	**3,698**	-	-	-	-	-	-
Final closing balance	**2,872**	**4,418**	**5,247**	**6,265**	**6,529**	**6,047**	**7,146**	**8,924**	**10,311**	**11,504**	**12,946**	**14,908**	**17,830**
DSCR				12.32	2.49	1.27	1.95	2.32	2.00	1.64	1.78	2.06	2.58
RECEIPTS													
Own Sources													
Revenue Fund	**593.57**	**1,282.08**	**964.83**	**1,052.08**	**1,150.53**	**1,234.61**	**1,356.26**	**1,445.39**	**1,571.16**	**1,669.45**	**1,774.58**	**2,138.85**	**2,304.52**
Property tax	289.07	466.04	425.90	479.45	530.31	553.58	637.24	681.37	721.37	762.66	806.14	1,071.44	1,165.39
Professional tax	56.17	67.87	75.46	81.50	88.02	95.06	102.66	110.88	119.75	129.33	139.67	150.84	162.91
Trade licenses	1.89	1.86	2.32	2.48	2.53	2.46	2.36	2.21	2.39	2.40	2.40	2.40	2.40
Building license fee	18.78	46.29	69.87	55.21	58.36	61.68	65.20	68.91	81.75	86.41	91.33	96.53	102.03
Shops & market rents	24.73	33.51	52.65	67.74	76.35	95.26	88.11	84.48	108.55	108.32	108.27	140.73	140.72
Others	202.93	666.51	338.62	365.71	394.97	426.56	460.69	497.54	537.35	580.34	626.76	676.90	731.06
Water Supply and Drainage Fund	-	**118.90**	**94.10**	**427.81**	**954.55**	**1,755.79**	**2,248.11**	**2,480.66**	**1,990.76**	**2,156.00**	**2,282.88**	**2,414.53**	**3,161.27**
Water charges	-	118.90	94.10	207.35	459.30	719.82	867.44	1,022.02	1,096.03	1,160.85	1,227.35	1,297.35	1,724.29
New connection charges	-	-	-	220.45	245.58	190.75	37.43	49.46	52.26	55.25	58.40	61.73	81.54
New Charge- UGD	-	-	-	-	36.91	158.52	341.28	630.94	689.75	738.19	783.91	830.04	1,117.15
Fee from new UGD connections	-	-	-	-	212.76	686.70	1,001.96	778.24	152.72	201.72	213.23	225.41	238.29
Elementry Education Fund	**75.21**	**80.70**	**18.40**	**62.75**	**67.77**	**73.19**	**79.05**	**85.37**	**92.20**	**99.58**	**107.54**	**116.15**	**125.44**
Revenue from education	75.21	80.70	18.40	62.75	67.77	73.19	79.05	85.37	92.20	99.58	107.54	116.15	125.44
Others	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-Total	**668.78**	**1,481.68**	**1,077.33**	**1,542.64**	**2,172.86**	**3,063.59**	**3,683.41**	**4,011.42**	**3,654.11**	**3,925.03**	**4,165.00**	**4,669.53**	**5,591.23**
Permanent Revenue Grants													
Devolution of funds (SFC)	481.58	376.29	243.07	262.52	283.52	306.20	330.70	357.15	385.73	416.58	449.91	485.90	524.78
Entertainment tax	0.68	0.72	1.77	1.91	2.07	2.23	2.41	2.60	2.81	3.04	3.28	3.54	3.83
Surcharge on Sales tax	282.00	343.71	330.28	356.71	385.24	416.06	449.35	485.30	524.12	566.05	611.33	660.24	713.06
Other grants	16.35	5.80	94.89	106.28	119.03	133.31	149.31	167.23	187.30	209.77	234.95	263.14	294.72
Sub-Total	**780.61**	**726.53**	**670.02**	**727.42**	**789.86**	**857.81**	**931.77**	**1,012.28**	**1,099.96**	**1,195.44**	**1,299.47**	**1,412.83**	**1,536.38**
TOTAL MUNICIPAL RECEIPTS	**1,449.40**	**2,208.21**	**1,747.35**	**2,358.46**	**3,056.16**	**4,020.18**	**4,719.58**	**5,134.05**	**4,870.71**	**5,243.75**	**5,594.78**	**6,220.08**	**7,273.19**

IMPROVEMENT SCENARIO	-	-	-	1	2	3	4	5	6	7	8	9	10
All figures in Rs. Lakhs	**2005-06**	**2006-07**	**2007-08**	**2008-09**	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**
PAYMENTS													
Salaries													
General Administration	314.24	18.45	253.90	269.14	285.29	302.40	320.55	339.78	360.17	381.78	404.69	428.97	454.70
Water Supply	5.92	0.03	7.62	8.08	8.56	9.08	9.62	10.20	10.81	11.46	12.15	12.87	13.65
Sub-Total	**320.15**	**18.48**	**261.52**	**277.22**	**293.85**	**311.48**	**330.17**	**349.98**	**370.98**	**393.24**	**416.83**	**441.84**	**468.35**
Operation and Maintenance													
General Administration	166.29	219.36	291.85	309.36	327.92	347.60	368.45	390.56	413.99	438.83	465.16	493.07	522.66
Water Supply	141.18	117.05	133.47	141.48	149.97	158.97	168.50	178.61	189.33	200.69	212.73	225.50	239.03
Conservancy	2.36	3.26	1.07	1.14	1.21	1.28	1.36	1.44	1.52	1.61	1.71	1.81	1.92
Street Lighting	35.48	76.67	69.86	74.06	78.50	83.21	88.20	93.49	99.10	105.05	111.35	118.03	125.12
Miscellaneous Items	33.34	191.10	121.59	131.31	141.82	153.16	165.42	178.65	192.94	208.38	225.05	243.05	262.50
Sub-Total	**378.66**	**607.45**	**617.84**	**657.35**	**699.41**	**744.21**	**791.93**	**842.75**	**896.89**	**954.57**	**1,016.01**	**1,081.47**	**1,151.22**
Loan & Interest Payments													
Loan repayment old	62.00	36.46	39.15	55.97	55.97	51.14	51.14	48.96	48.96	48.96	48.96	48.96	28.13
Revolving fund				-	-	-	-	-	-	-	-	-	-
Loan & Interest Payments	**62.00**	**36.46**	**39.15**	**55.97**	**55.97**	**51.14**	**51.14**	**48.96**	**48.96**	**48.96**	**48.96**	**48.96**	**28.13**
New Charge SWM	-	-	-	**88.41**	**93.45**	**98.77**	**104.40**	**110.35**	**116.64**	**123.28**	**130.31**	**137.73**	**145.58**
TOTAL MUNICIPAL PAYMENTS	**760.82**	**662.38**	**918.52**	**990.53**	**1,049.23**	**1,106.83**	**1,173.24**	**1,241.69**	**1,316.83**	**1,396.76**	**1,481.80**	**1,572.27**	**1,647.70**

3 - RECAST OF ANNUAL ACCOUNTS

Annual accounts are the financial documents/reports prepared by ULBs. However, an annual account does not reflect the correct picture of an ULB's surplus due to incorrect classification of revenue heads. To gauge the correct financial picture of the ULB, it is critical to recast the accounts details as per the standard nomenclature. The annual accounts collected from the municipality would be recast in a common format, which would highlight the true financial picture of the ULB. Based on the recast, the financial assessment would be carried out. This would be in terms of growth over the years, dependence on state government, performance efficiency, etc.

Receipts/Income/Revenue

The objective of recasting the income side is to estimate the receipts that are under the control of the ULB and/or those which are utilised for meeting the core expenditure of the ULB. The ULB receives funds from various sources such as:

Own tax and non-tax revenues

Items under these heads include property taxes and water charges, which the ULB levies and appropriates. It has complete freedom to exploit these sources, subject only to certain restrictions by the state in the form of maximum tax rates, etc.

Grants and transfers from the state

Grants that are utilised towards meeting the core expenditure of the ULB are included under this head. Examples are TFC, EFC, SFC grants, city development grants, transfer of stamp duty, etc.

Tied/specific grants

These include items like funds under MP/MLA grant, IDSMT, SJSRY, Housing scheme, etc. These funds are received from external entities and are used for non-core activities like constructing shops and houses. In the absence of these grants, the ULB is unlikely to incur any expenditure on these activities. Hence, they are not included in core receipts and payments. A qualification is that some of these tied grants (Low Cost Sanitation Scheme) are for core functions. In such cases, a case-by-case approach is employed.

Loans, deposits, advances, extraordinary items, accounting items

Deposits and advances are amounts that have to be repaid and hence cannot be considered as ULB receipts. *Notional receipts* include receipts from the SFC. (This is the amount received by the ULB after deducting the dues owed by the ULB to Electricity Board, TWAD, etc). The subcomponents of property tax like Library Cess, Health Cess etc. that are transferred to the state are shown under the head of *Extraordinary Items*. Similarly*, Loans* are not considered as income for the ULB and hence their receipt should be distinguished from other receipts.

Payments/Expenditure

The objective of recasting the expenditure figures is to estimate the expenditure that is under the control of the ULB, or is incurred in meeting the cost of core functions of the ULB. The ULB's expenditure can be divided into the following broad categories

General municipal expenditure, salaries and capital expenditure

Administrative expenses (revenue collection, etc.) and cost of providing services (water supply, street lighting) are included under this head.

Expenditure on government schemes

Non-core expenditure items like IDSMT, SJSRY, Housing scheme etc. are included under this head.

Extraordinary expenditure

Items like repayment of loans, deposits, advances and transfer of cesses, which are collected as sub-component of property tax are included under this head. Repayment of debt is an exception in this category, as it has to be factored into long-term projections.

4 - NORMS & BENCHMARKS FOR MUNICIPAL SERVICES

Solid Waste

Parameters	NIUA norms	Remarks
Per Capita Waste generated/day (grams)	250-450	• ORG has stated a norm of 380 grams • KCL adopted a norm of 700 grams
Collection Performance	100%	• KCL adopted a norm of minimum 90%
Vehicle Capacity adequacy ratio	68%	
Staffing	2.8 *	

* Sanitary workers per 1000 population

Public Works department

Parameters	NIUA	Remarks
Road Density (km/sq. km.)	17.50%	
Black Topped (BT)/Concrete Surface	92.93%	
Street Lighting	N.A.	Norm of 25-30 mts spacing between posts

Water Supply and Sewerage

Parameters	Zakaria Committee	CPHEEO	MoUAE	COPP	NIUA	TCPO	National Master Plan	Eight Five Year Plan	Remarks
Water Supply									
Water Supply daily per capita (LPCD)	270 LPCD (202.5 LPCD)	150-200 LPCD (125-200 LPCD)	150 LPCD	180-225 LPCD	170-210 LPCD	180 LPCD	70-250 LPCD	125 LPCD	ORG has suggested a norm of 180 LPCD
Population coverage	N.A.	N.A.	N.A.	N.A.	100%	N.A.	N.A.	N.A.	
Distribution network coverage	N.A.	N.A.	N.A.	N.A.	79%	N.A.	N.A.	N.A.	
Total storage required	N.A.	N.A.	N.A.	N.A.	40%	N.A.	N.A.	N.A.	
Storage capacity ratio	N.A.	N.A.	N.A.	N.A.	199	N.A.	N.A.	N.A.	KCL adopted a storage norm of 35% of supply
Total treatment	N.A.	N.A.	N.A.	N.A.	100%	N.A.	N.A.	N.A.	KCL adopted a norm of 100% of supply
Sewerage									
Coverage of sewerage system (With treatment facilities)	100%	N.A.	N.A.	N.A.	100%	N.A.	100%	N.A.	ORG has also suggested a min norm of 100%
% Water supply expected to reach the sewers	Domestic-80% Industrial-90%	80%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	WHO norm is 130 LPCD water supply for effective functioning of the sewer system
Minimum Capacity of underground sewerage (LPCD)	N.A.	150 LPCD water supply level	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	

Storm Water Drains	N.A.	N.A.	N.A.	N.A.	130% *	N.A.	N.A.	N.A.	KCL adopted a norm of 130% *
UGD network coverage (% area)					78%				

* Of road length where UGD is available

Expenditure ***(Rs/capita/annum)***

Parameters	Zakaria Committee *	NIUA	Remarks
Core Civic Services (1990-91 prices) (per capita /annum)	560.55	Rs. 351.55	
Water Supply (treatment storage and distribution)	193.70	N.A.	HUDCO* has suggested a norm of Rs. 150-200/Capita
Sewerage and Sewerage disposal and storm water drainage	225.98	N.A.	
Underground Drainage System (unit cost/capita)	N.A.	Rs. 2,500	
Construction of Roads and Paths	41.77	N.A.	
Street lighting and Electric distribution	54.12	N.A.	
Education	94.95	N.A.	
Medical & Health Services	37.98	N.A.	
Fire Services	7.59	N.A.	
Horticulture operations	7.22	N.A.	
General Municipal Administration	75.96	N.A.	

*Adjusted at 1994-95 prices by using consumer price Index for Urban Non-manual Workers **in its study of cost analysis of urban infrastructure projects

Primary Education and Health Care

Agency	Physical standard
	Primary Education and Health Care
COPP	⇒ One primary school for 3500 population ⇒ Area: 3 acres ⇒ Seats: 400-500 per school
Bureau of Public Enterprises	⇒ One primary School for 3000-4000 population ⇒ Area: 3 acres ⇒ Seats: 300-400 per school
TCPO	⇒ One nursery school for 1250-1500 population ⇒ Area: 0. 25 acres ⇒ Seats: 75-90 per school
	⇒ One primary school for 4000 population ⇒ Area: 2-2.5 acres ⇒ Seats: 450-500 per school
Primary Education and Health Care	
Minimum Needs Programme & Report of the Working Group on district Planning (1984)	⇒ One PHC for 30,000 population in plains and 20,000 pop. in tribal and hill areas ⇒ One sub-centre for 5,000 pop. in plains and 3,000 in tribal and hilly areas ⇒ Distance: +5 kms. ⇒ One Community Health Centre for 1 lakh pop.
COPP	⇒ One Health Centre for 20,000 pop. ⇒ Area: 1-1.5 acres ⇒ 3 beds for every 1000 persons
TCPO	⇒ One health centre for 36,000 pop. ⇒ Area: 1-1.5 acres ⇒ One Health clinic for 12,000 pop. ⇒ Area: 1-1.5 acre

Source: NIUA (August, 1996), Kanpur Municipal Corporation A Study of its Finances

5 - BEST PRACTICES

This section lists the Best Practices undertaken by various Urban Local Bodies or as proposed by various nodal agencies. The Best Practices have been classified into the following categories:

- Planning Processes
- Governance
- Financial Management
- Service Delivery
- Support Systems
- Legal/Tax/Tariff reforms

Planning Processes

An Urban Local Body should ideally prepare the following plans:

a) Development/Master Plan for each major urban service provided by the Corporation

These are long-term spatial plans (for a period of ten to twenty years) and include a projected land use plan for the city. These plans are based on detailed socio-economic surveys and population projections.

Case Studies

(i) Physical Development and Financial Planning - Baroda Municipal Corporation (BMC)[16]

BMC has taken a number of steps to create a formal long-term planning machinery. In 1991, the corporation carried out an exhaustive exercise of listing all the ongoing and proposed work to know the pending development work and the resource gap. On the basis of this information, the corporation prepared a long-term development plan for the period 1991-2001.

This plan was then broken down into annual plans. The corporation worked out the resource requirements for undertaking changes for each service. This planning exercise also developed a long-term financial plan wherein it assessed the funds available from external (loan, subsidy etc.) as well as internal (savings/surplus) financial sources; it also contained a resources augmentation plan, which included increase in tax rates and other measures to bridge the resource gap.

- In April 1994, the corporation created a formal 'Planning and Estimates Cell', headed by the executive engineer, and co-supported by the chief accountant, under the direct control and supervision of the Municipal commissioner, which was responsible for:
- Preparation of long-term development plans for all the services and their revision every year
- Preparation of estimates of each development work pertaining to basic urban services
- Scrutiny of budget, financial outlay required etc
- Creation of database on all the urban services
- Review of all the works in progress
- Preparation and submission of loan proposals to outside agencies etc

Governance

Good governance implies inclusion of all groups in urban society and accountability, integrity and transparency of local government actions, in defining and pursuing shared goals.

[16] Best Practices Catalogue, CMAG/September, 1999

Case Studies

(i) Report Card on Urban Services[17]

Report Card on Public Services is a strategic tool developed by a Bangalore based not-for-profit institution, Public Affairs Centre (PAC), with an aim to help citizens provide direct feedback to improve public service delivery and governance.

Feedback is collected from users of each service about key issues such as availability and quality of service, problems or deficiencies encountered, effectiveness of grievance redressed mechanisms, behaviour of the staff with whom they interact etc.

This has led to increased public awareness, stakeholder responsiveness and public accountability. The Report Card system has now been introduced in Ahmedabad, Bangalore, Chennai, Delhi, Kolkotta, Mumbai and Pune.

(ii) Participatory budgeting in Porto Alegre, Brazil[18]

The history of the performance of public budgeting and accounting in Brazil shows severe problems related to waste of resources, political interference and corruption. For decades, due to the presence of high inflation rates municipal budget estimates proved unrealistic. The citizens were not in a position to exercise control. This trend changed in Porto Alegre due to the innovations carried out by the municipality.

The municipality created an innovative system to adopt and execute the municipal budget. The city was divided into 16 regions based on geographic, social and community organisation criteria. For each region, a popular council, consisting of representatives of community associations and other local groups, was set up. A citywide organisation of residents and the council of representatives with two representatives from each of the popular councils were formed.

The council of representatives sets the agenda for municipal spending after preparing a list of priorities for public works. This is done in close coordination with the popular council, which also compiles a list of demands for projects in their region.

Then the popular council and the council of representatives meet with the municipal officials and they assign a weight age to each project request and make the final decision on public spending. Community representatives who actively monitor the spending of the funds supervise the progress of each project.

In the 'participatory budget' system, the technicians and the leaders are responsible for making decisions about public revenues and expenditures. Also, the population decides on investment priorities, actions and public works that should be implemented by the government. This is done through a process of debates and consultations.

The participatory budget has proved that the democratic and transparent management is the best way to avoid corruption and mismanagement of public resources. Popular participation has favoured an efficient management of public expenditure resulting in important investments and action plans to the benefit of the population.

[17] Good Urban Government Campaign-September, 2001

[18] Good Urban Governance Campaign-September, 2001

Since its implementation, projects approved by the Participatory Budget have represented investments of more than US$ 700 million, which has been applied primarily in urban infrastructure and to the improvement of quality of life of the population.

Financial Management

Most Urban Local Bodies in India do not have up-to-date accounts or records of assets owned by the ULB. Further, the budgeting exercise is based on historical rather than futuristic projections. The cash management and resource mobilisation processes also require drastic improvements. In this section, the accounting and budgeting-related best practices have been listed.

a) Accounting Reforms

The traditional accounting system followed by ULBs is based on single-entry cash-based accounting, which poses the following three problems:

a. It does not facilitate a clear understanding of the actual position of debits and credits and hence matching of accounts becomes difficult.
b. It does not support the maintenance of ledgers and income and expenditure statements. Hence it is difficult to analyse the financial performance of a period.
c. The traditional accounting system also does not support the assessment of assets and liabilities at any point of time.

These flaws are overcome by the fund-based accounting system adopted by certain municipal bodies in India such as Jaipur and Vadodara. The fund-based accounting system allows the municipalities to maintain funds in accordance with their specific characteristics including sources, purposes and statutory requirements and supports double-entry accounting system. This system improves the bank ability and fund-raising capabilities of the municipality.

Case Studies

(i) Fund Based Accounting System following Double-entry accrual method of accounting- Vadodara Municipal Corporation (VMC)[19]

VMC reformed its accounting system from the single entry method of accounting to a fund based accounting system following the double entry accrual method of accounting.

The fund based accounting system also yielded various operational benefits to VMC as it facilitated the division of accounting work into homogenous, manageable and identifiable units, which could be handed over to a specific person or group of persons.

A matrix structure of budget and accounting heads was also evolved such that for every account code there was at least one budget code or more. At the same time, there was no more than one accounting code for a single budget code/item. This avoided duplication of work.

This reform has facilitated a proper understanding of the financial position of the corporation.

b) Budgeting Reforms

The current budgeting system of ULBs possesses a number of drawbacks:

[19] Municipal Accounting Reforms-Dr. Ravikant Joshi

- Absence of scientific budgeting methods like performance budgeting and zero based budgeting
- Reliance on incremental method for budgeting,
- Lapse of unutilised budget allocation,
- Expenditure independent of resource realisation

Case Studies

(i) Budgetary cum financial reforms undertaken by Vadodara Municipal Corporation (VMC)[20]

VMC undertook a number of budgetary cum financial reforms over a period from 1992-2002, which entailed the adoption of performance budgeting coupled with zero-based budgeting that brought about scientific approach to the budgeting exercise. Also, expenditure was made contingent to actual resource realisation. This implied that capital/development works was to be undertaken as per actual receipts.

- Centralised financial control was introduced which required all the payment bills to be routed through the accounts department to the audit department. Every payment was scrutinised from the point of view of budget availability, appropriateness of expenditure and financial availability. This measure ensured that actual expenditure remained within the limits of budgetary allocation. Advances were brought under centralized budgetary and financial control. Earlier, advances taken for purchase or payment of works were not booked against the respective budget items. As per the new system, each and every advance taken is debited against the respective budget item. Thus, budget availability reduces, whenever an advance is drawn. Advances are allowed only if sufficient budget allocation is available; if not, advances can be drawn only after the prior permission of the general board of the corporation.
- This reform ensured that all expenditure incurred by the corporation, whether by the regular budget mode or by the advances mode, had to be made within the budgetary allocation. The tendering procedure was improved with a switch to a system of item-rate tendering and consolidated annual works tendering. Earlier, each time any work had to be carried out, tenders were called for the same. Thus, the corporation was required to carry out the entire tender-sanctioning procedure every time.

Under the new system, tenders are called for a particular type of work, to be carried out throughout the city or in a particular area of the city during the year. Once a contract is finalised with a particular contractor, he is simply asked to carry out the works at various places in the city as and when the need arises and he is paid as per the itemised rates finalised in the original common tender. This not only reduced administrative work and time lag but also brought uniformity in prices and costs.

Service Delivery

The principal function of any ULB is provision of basic services to its citizens. Municipal services have a direct and immediate effect on the quality of the lives of the people in the city. Poor municipal service can also make it difficult to attract business or industry to an area and thus limit job opportunities for residents. Capability building, corporatization and partnerships in municipal services are some of the key reforms, recommended for improving municipal service delivery.

[20] Municipal Budgetary and Financial Control Reforms-Dr. Ravikant Joshi

a) Capability building

It is possible for a municipality to improve and expand the delivery of services by improving its own ability to do so. By improving a number of skills, municipalities may be able to deliver services effectively and more efficiently. These skills are explained below:

1. Better **communication** between the municipality and citizens will help the municipality determine the needs of the community and decide whether these are being met.
2. Improved **financial planning** will help in finding the best possible way to use available funds.
3. Better **technical skills** will improve delivery of municipal services.

Case Studies

(i) Professionalization of workforce – Ahmedabad Municipal Corporation (AMC)[21]

AMC took an important step towards the professionalization of its workforce by recruiting certified Chartered Accountants and graduates with Masters' degree in Business Administration.

Corporatization of departments/utilities[22]

In some cases, a municipality can improve the delivery of a service through corporatization of some of its utilities, such as the water department can benefit from the creation of a municipal company that would provide the service. In this set up, the company belongs to the council and is accountable for its performance. The council usually appoints a board to oversee the work of the company management.

The company is able to function more independently than a municipal department whilst acting under the overall control and supervision of the council. As municipalities have to deliver different services, it is not always possible to focus on the best way to deliver certain specialised services. A company acting independently, would experiment with new techniques and technology and be able to provide better services at lower costs.

Support Systems

To enable municipal bodies to function effectively and efficiently, its support systems need to be improved and strengthened. The organisation structure should be streamlined for effective and efficient working. Computerisation, MIS and GIS that aid decision-making are some of the support systems that need to be developed within ULBs today.

Case Studies

(i) Computerisation of Property Tax records - Vishkapatnam Municipal Corporation (VMC)[23]

In 2000, the VMC computerised property assessment records and transferred them to the server in the corporation office. The server is linked to the local bank branches where assesses not only pay their dues but also get full updated information of demand as well as arrears (along with the interest). The system also enables the corporation to get demand and collection ward wise.

[21] Urban Finance-NIUA

[22] www.etu.org.za

[23] Urban Finance-NIUA/June, 2002

This resulted in the increase of VMC's tax collection by over 50 per cent in one year and enabled clear monitoring of pending cases.

(ii) Computerisation of Records – Indore Municipal Corporation (IMC)[24]

Since 1999, the IMC has computerized records of property tax, water charges, trade licenses, rental properties, and municipal accounts. IMC contracted a private computer agency to computerise its records on a build-operate-transfer basis. Using information from the newly computerized programme and special collection drives, IMC increased its own revenues by nearly 45% during 2000-2002.

(iii) Computerisation by Mirzapur municipality[25]

The Mirzapur municipality developed a new information system with the Indo-Dutch integrated community development project. It computerized all existing property assessment and demand registers, and set them up on the local area network. By the third year, tax revenue had more than doubled. The municipality created property tax maps for the first time in the city and this tool increased the number of registered properties by 44%.

Legal/Tax/Tariff Reforms

Taxes and tariffs are the main source of revenue for ULBs, apart from government grants. However, most of these taxes and tariffs are set without understanding their full implications or without any justification. Therefore, there is a need to analyse the present system and rationalise procedures, tariff rates and structures for improving revenues.

Case Studies

(i) Unit Area Method base for Property Tax Collection-Patna Municipal Corporation[26]

The Patna Municipal Corporation applied the Unit Area Method (UAM) to replace the Annual Rental Value (ARV) method. Under the ARV method, the concept of 'standard rent' froze the rateable value at historical value. As a result, gross variation in the tax burden was observed within the same premises for identical use and between old and new buildings on the same street. Collection costs were mostly higher than the revenue yields. Excessive use of discretionary powers by the tax officials for individual assessment was also observed under the ARV method.

The application of UAM as base for Property Tax computation brought about transparency in assessment and also increased tax compliance. Even with a reduction in tax rate from 43.75% to 9% of ARV, the tax demand went up from Rs. 4 crores to Rs. 17 crores. In appreciation of this method, MoUDPA issued detailed guidelines to all the state governments. Based on these guidelines, the governments of Madhya Pradesh and Tamilnadu have simplified the property tax following the area-based approach.

(ii) Self-Assessment System for Property Tax – Bangalore Mahanagar Palike[27]

For the Bangalore Mahanagar Palike (BMP), after the abolition of octroi, the property tax became the single largest revenue source. An optional Self-Assessment System (SAS) was introduced in April 2000.

[24] *ibid*

[25] *ibid*

[26] Good Urban Governance Campaign-September, 2001

[27] Urban Finance-NIUA/June, 2002

Under this scheme, the citizens were allowed to determine their property tax on the basis of explicit guidelines. The purpose of this scheme was to provide user friendly, transparent tax assessment to citizens as well as to augment corporation's revenue.

Approximately 60% of the taxpayers took this option. Coupled with rate revision, it contributed to a quantum jump in tax collection from Rs. 113 crores in 1999-2000 to Rs. 157 crores in 2000-01.

(iii) Self-Assessment System for Property Tax – Municipal Corporation of Hyderabad (MCH)[28]

MCH introduced SAS for property tax in 1999-2000. The corporation published advertisements in newspapers about the new system and involved the public in determining the tax by consulting resident welfare associations.

Through this measure, the city increased its property tax collection from Rs. 57 lakhs in 1998-99 to Rs. 100 lakhs in 2000-01.

[28] *ibid*

6 - POSSIBLE KEY ACTIONS FOR INCREASING COLLECTION LEVELS

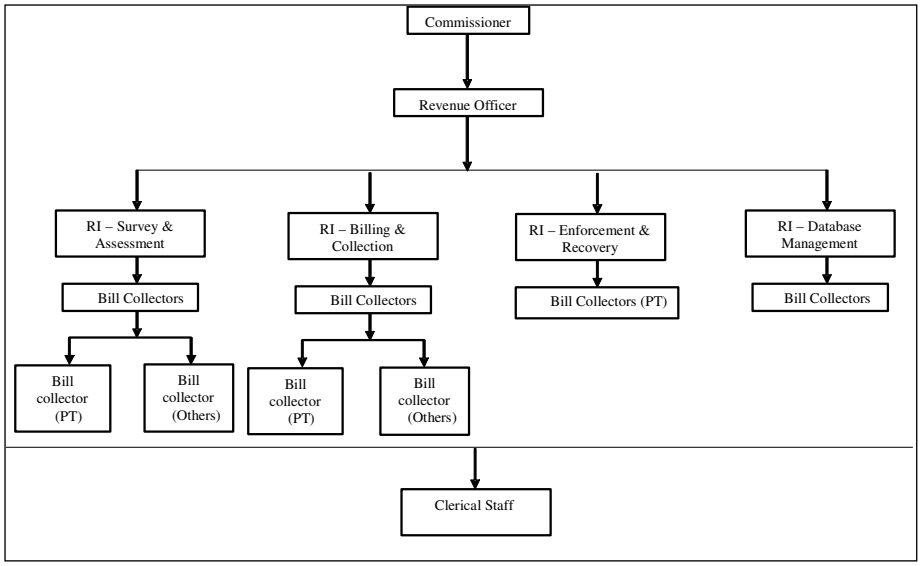
There are certain action points highlighted below for establishing a strong tax administration process in the municipality to cover the entire value chain of property tax right from coverage, assessment, billing and collection to enforcement and are detailed in the following sub-sections. This section provides some key points on improving the property tax collection, as it is the primary source of any ULB's own revenue source. Even a marginal improvement in this area would improve the revenues significantly. The action points provides for reorganising the revenue department as the first activity, followed by recommendations on the measures to be followed for improving all areas of tax administration.

Reorganising the revenue department

There are several inefficiencies in the existing structure of the revenue department. The thrust area identified is that the structure should be reorganised based on the functions of the department, which are:

- Assessment
- Billing and collection
- Database management and MIS
- Dispute resolution
- Enforcement

Although the activities of the revenue department extends beyond property tax collection (to include water charges, other fees and levies), it would be appropriate to suggest a reorganised structure keeping in view the large contributions of property tax to the total revenue of the municipality. The revenue department could be restructured as given below.



It can be seen from the above figure that the hierarchy remains the same while the assigned functions for the Revenue Inspectors have been modified. In addition, the role of the Revenue Inspector has been enhanced. The overall number of people and posts remain the same, while the functions of the bill collectors are delineated from the existing roles.

The important functions are grouped into the following: a) Survey and assessment, b) Billing, collection and receivables, c) Enforcement and recovery and d) Database management. Each of the Revenue Inspectors would be responsible for a particular function who would report to the Revenue Officer. The Revenue Officer would oversee all the functions and would report to the Commissioner.

A separate division for enforcement is warranted in order to tackle the arrears. While the collections division would be involved in collecting property tax for the current year, the enforcement and recovery division would concentrate on arrears. For the purpose of role clarity, it can be assumed that non-payment for over two years (consecutive or otherwise) would be deemed as defaulters and the enforcement and recovery division would be responsible for collections from this category.

The above structure takes into account the tax calendar. Upon completion of the survey, each function would become robust as a result of increase in number of properties and since each revenue officer would handle multiple wards, the workload for each function would almost be equal throughout the year.

As the proposed structure is based on the functions of the department and there are no modifications to the hierarchy/ number of posts, government approvals for effecting the same are not envisaged. It may however be necessary to obtain a council resolution.

In addition to the above, the municipality could undertake the following measures.

Area	Recommendation	Activities
Employment status	Introduce incentive system of payment. Incentives are to be linked directly to collections as a percentage of collections. Refer note below.	Ascertain the amount of incentive based on discussions with the revenue department staff
Allowances	Increase reimbursement limits for conveyance	Prepare monthly budget for conveyance Decide limits in consultation with survey engineers and bill collectors
Job rotation	Shift to systematic rotation. Undertake job rotation on a yearly basis for bill collectors based on the proposed department structure	Initiate discussions with bill collectors Effect rotation at the start of every financial year

Note:

The ULB could look at the option of creating an incentive fund that would be a surplus pool created from a part of the own revenues. This could be shared amongst the revenue department personnel such that it provides an incentive to all the employees to contribute to increase in revenues. However, this needs to be backed by a proper control system that measures the revenue with proper monthly and yearly targets. Incentives could be paid upon reaching the targets. A 0.25% of the own revenues (of the last financial year) could be looked at.

The **Municipal Corporation of Hyderabad** has adopted this type of incentive system for the revenue department. The monthly targets for all the bill collectors could be based on a carry-forward system, where the previous months balance gets carried forward in the event of not achieving the targets.

Assessment system

The following measures could be looked at for improving the assessment system.

Area	Actions	Tasks
Work flow	Define the work flow process for the department	• Define objectives, functions and role of this department • Draw the work flow for the division • Allocate tasks amongst the people • Prepare job description for each cadre and circulate the same amongst the revenue department staff
Vacant land assessment	Trace vacant land owners by devising a communication strategy	• Advertise through national newspapers giving specification of area, ward number and neighbouring property details. Indicate time limit for payment as 90 days, failing which owner would be treated as defaulter. • Extend the same methodology used for enforcement
Widening the assessment base	Link property database to other departments like water supply	• Provide inputs while database is created such that automatic triggers are created to identify new properties
	Initiate periodic survey (on a half-yearly or yearly basis) to check increase in number of properties	• Assign the role to Bill collector, one each for survey and updation of database
	Link additions to number of properties to town planning	• Ensure town planning department in the municipality collects a building plan from the property owner and provides information to the revenue department • Until such time the computerised database is complete, a format for providing the details can be given to the town planning department • To motivate the town-planning department to provide all information on all newly added properties, work out an incentive structure based on the number of additions every month. This can be done consultatively with the town planning department official.
	Tie up with utilities for database sharing on a regular basis	• Prepare a format of information requirement / use utilities formats if found appropriate • Initiate dialogue with TNEB, BSNL, Sub-registrar, Slum Clearance Board and TWAD for all properties • Additionally initiate dialogue with Registrar of Companies (ROC) for industrial properties • In case these utilities are reluctant to share information, arrange to procure data on a 'subscription' basis for a monthly / yearly fee

Billing, collection and receivables management

The tax collection activity needs to be carried out as a commercial function. Although other tools like database and MIS are lacking in the municipality, the lack of a commercial approach is not highlighted. With the proposed revenue department structure, the Revenue Inspector in charge of billing, collection and receivables management would now be able to closely follow up collections for every tax demand. It is expected that with this background and by drawing valuable inputs from entities that have successfully implemented collection mechanisms, a commercial orientation can be initiated in the municipality. The action plan for the billing, collection and receivables function could be on line as mentioned in the following table.

Area	Action	Tasks
Work flow	Define the work flow process for the department	• Define objectives, functions and role of this department • Draw the work flow for the division • Allocate tasks amongst the people • Prepare job description for each cadre and circulate the same amongst the revenue department staff
Despatch of demand notices	Outsource despatch activity (if already not in place)	• Employ a courier agency for despatching notices to the properties • Direct the courier agency to note the change of address (where applicable) and inform the same to the revenue department
Collection efficiency	Define specific targets for this division including the Revenue Officer for increasing collection efficiency	• Discuss and debate allocation of targets taking the bill collectors, revenue inspector and revenue officers into confidence. • Communicate the agreed mechanism to all the department staff (considering the opportunities for job rotation)
Collection	Target high potential tax payers and ensure regular follow-up Identify additions at the time of registration / transfer itself	• Prepare list of high potential clients like industries and major commercial establishments. • Attach responsibility to the Revenue officer to personally involve in collection • Create a separate property tax counter[29] at the sub-registrar's office to ensure that all properties are verified for tax compliance at the time of registration/transfer. • Hire one or two people on a contract basis for this purpose.
Payment mechanism	Simplify payment process by ensuring that payment at any of the collection counters is deemed as the final payment (if not practised now)	• Intimate the collecting bank regarding change in process • Put up a communication notice in banks informing citizens of the change • Put up a communication notice in the premises of the municipality • Reiterate the need for regular updation of information to the collecting banks
	Extend reach to citizens	• Initiate dialogue with postal department to facilitate in collections. • Share the existing processes and formats for banks with the postal department • Put up notices in the postal department, banks and municipality premises regarding additional collection centres

Database management

As computerisation of property database is underway, the MIS generated using this database would be a good starting point in effecting tax administration measures. Leveraging on this, the following action points are recommended for utilising the database in an efficient manner.

[29] This method has been adopted by Indore Municipal Corporation and has yielded favourable results

Area	Action	Tasks
Work flow	Define the work flow process for the department	• Define objectives, functions and role of this department • Draw the work flow for the division • Allocate tasks amongst the people • Prepare job description for each cadre and circulate the same amongst the revenue department staff
Scoping	Define the contours of database management system	• Include all the functions of the revenue department and certain key departments for establishing linkages (like engineering division, accounts, town planning department) • Initiate dialogue with CMA to assess the modules of the computerised database and MIS that is being developed • Identify gaps and agree on standardisation, inclusions / deletions
Interim measures for creating database	Initiate a MIS as an intermediary step until such time the computerised database is complete	• Classify and categorise properties ward wise and potential wise • Prepare formats for listing the top potential payers / largest defaulters that would act as a MIS tool (See note below)

Note: A sample format that could be used to maintain list of top 50 or 100 defaulters is given below.

Ward No	Type of property	PIN[30]/Name of the owner/property	Demand per year (Rs. Lakhs)	Arrears status

[30] Property Identification Number

Enforcement and recovery

The enforcement and recovery department as per the proposed structure would be responsible for implementing the following action plan relating to their department

Area	Action plan	Tasks
Work flow	Define the work flow process for the department	• Define objectives, functions and role of this department • Draw the work flow for the division • Allocate tasks amongst the people • Prepare job description for each cadre and circulate the same amongst the revenue department staff
Delay in payment and arrears	Initiate measures to follow the methodology for enforcement as prescribed at the time of SAS implementation	• Initiate dialogue with the software vendor to include provision for creating automatic triggers in the form of notices of default and warrants for delayed payment • Create a communication strategy for dissemination of information on the existing enforcement mechanism, its benefits and its implications ▪ Advertise in newspapers, local cable network, journals ▪ Put up notices in collection banks, sub registrar office, major utility offices, ROC and municipality
Arrears recovery	Introduce categorisation, based on value of property tax	Prepare list of defaulters • Divide database of properties (when complete) into categories A – Very high value B- High value customers C – Medium value customers D- Low value customers • Allocate recovery responsibility based on the value of property tax. Recovery from very high value defaulters may require the Commissioner's involvement

Others

There are some additional action points not specifically falling into any of the categories of tax administration specifically, but could aid in improving the collection levels.

Area	Action plan
Grievance redressal	Establish a separate grievance redressal cell outside the scope of revenue department such that the cell functions independently without the influence of any divisions
Internalise communication as an activity	Communication within the revenue department personnel needs to get internalised as if it is a regular activity of the department. This would enable information dissemination and clarification to the grievance cell to aid redressal of complaints
Capacity building	• Impart training to the revenue department regularly such that the objective is well understood and the concept of commercial orientation gets ingrained as a system within the department • Organise workshops every time a new system of tax is introduced or the state government carries out major changes to the processes. • Conduct open house sessions to discuss best practices in tax revenue
Communication strategy	• Outsource the activity of developing a communication strategy to an NGO or similar organisations. • Define the objective of communication strategy to include dissemination of information on property tax related matters to the citizens • The scope should cover necessary tools for communication: ▪ Within the municipality ▪ Between the government and DCMC ▪ Between other departments / utilities ▪ With the citizens • Define the areas where there is a need to communicate to the citizens - like assessment, change in system, new procedures, enforcement measures and recovery methodology

7 - COMPARISON OF CCP PROJECTS AND BP PROJECTS

Sector	Description	Cost (Rs. Lakhs)	
		CCP	BP
Water supply			
	Pumping machinery and electrical installation		404.1
	Pump house - 28.3 MLD		
	Storage	775.0	749.6
	OHT (2, 3 and 5 ML capacity)		
	Repair of exixting tanks		*45.5*
	Transmission network/Feeder main	14.5	1475.8
	Distribution network	0.36	4292.8
	DPR preparation cost		69.2
	Supervision cost		207.7
	Refurbishment (Road cutting charges, contingency)		328.1
	Shifting utilities		60.0
Total		789.8	8756.6
Sewerage and Sanitation			
	UGD/collection system	12836.0	6248.1
	Pumping & Treatment		2723.3
	STPs		4819.0
	Others		3918.8
Total		12836.0	17709.2
Road & Traffic management			
	BT roads	2309.2	1435.9
	Formation	*2309.2*	*1235.9*
	Restoration		*80.0*
	Upgradation to CC		*6.0*
	Widening		*24.0*
	Restoration of flood affected roads		*90.0*
	WBM roads		524.0
	Formation		*102.0*
	Restoration		*18.0*
	Upgradation to BT		*380.0*
	Upgradation to CC		*24.0*
	CC roads	823.1	39.9
	Formation	*823.1*	*24.5*
	Restoration		*15.4*
	Road over bridge	1428.0	1500.0
	Foot over bridge	34.0	35.0
	CC pavement		25.0
	Grade separators		20.0
	Traffic management systems	12.0	50.0
Total		4606.3	3629.8
Storm Water Drains			
	Kutcha drains		9.3
	Construction		*9.3*
	Pucca		3010.5
	Construction		*2774.3*
	Improvement		*106.2*
	Cover slabs		*130.0*
Total			3019.8
Street lighting			
	Installation of new lights	364.6	441.2
	Tube lights		*22.8*
	Sodium Vapour		*8.4*
	High mast		*110.0*
	Mini Mast		*300.0*

Sector	Description	Cost (Rs. Lakhs)	
		CCP	BP
	Telemetry system		560.0
	Ornamentation lamps around the lake		36.0
Total		364.6	1037.2
Solid Waste Management			
	Primary collection	35.2	30.1
	Source segregation	*35.2*	*12.2*
	Tricycles		*15.0*
	Storage bins		*3.1*
	Secondary collection		2.0
	Dumping stations		*2.0*
	Secondary transportation		44.0
	Dumper Placer		*14.0*
	Dumper Placer Bin		*30.0*
	Disposal site		271.4
	Facilities at disposal site		*152.4*
	Scientific landfill		*15.0*
	Compost yard		*54.0*
	Black topping of inner roads		*30.0*
	Retaining wall and drainage arrangement		*15.0*
	Mini PHC for the workers and surrounding area		*5.0*
	Disposal site		20.0
	Employees health care		*1.0*
	Building for using the recyclable waste		*7.0*
	Setting up a plastic recyclable unit		*10.0*
	IEC campaign		*2.0*
Total		431.1	367.7
Others			
	Slaughter houses	20.0	60.0
	Gasifier		50.0
	Market	5.0	70.0
	Parks and playfields		150.0
	Transport terminal		30.0
	Hospitals – Improvement & new construction		25.0
	School buildings –Improvement & construction		240.0
	Kalyana mandapam improvement		18.0
	Office building construction		250.0
	Electrical crematorium	90.0	
	Recreational facilities	25.0	
	Others like education, health and library	73.9	
Total		213.9	893.0
Grand total (In Rs. Crores)		195.85	354.13

Source: CCP details – CCP for Avadi municipality prepared by Operations Research Group in November 2004. Extract from chapter 11.