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Tamilnadu Urban Infrastructure Financial Services Limited

Final Report – Tirunelveli Municipal Corporation

Conversion of City Corporate Plan into Business Plan

FEBRUARY 2007

A Division of



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EXECUTIVE SUMMARY

In 2002-03, Tamilnadu Urban Infrastructure & Financial Services Limited (TNUIFSL) 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 CRSIL 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 may be

Step 5: Specifying the financial and operational responsibilities of all stakeholders, i.e. financial institution, Municipal Corporation, developers and users

1. Tirunelveli's Economy and Infrastructure

CRISIL Infrastructure Advisory broached the town visit with a study of Tirunelveli's infrastructure. Tirunelveli commands a pivotal position in the southern region of Tamilnadu. The city is a popular pilgrimage cum educational centre, having dominated by service sector activities like administrative services (district headquarter), agriculture marketing and service, tourism, banking, technical training, agro machinery repair and educational services. At the same time, Tirunelveli have a special character in terms heritage buildings and tourist destination places. The land development for the city should therefore be in a very caution manner keeping in view the surrounding environment

On the infrastructure front, Tirunelveli has a water supply distribution network covering 63% of the road network. The average water supply is around 85 LPCD, which is much below the desired level of 120 LPCD and covers only 34% of the houses. The town has a sewerage scheme which serves only selected areas in the town. With the execution of new scheme, around 20000 houses would get connected to safe underground drainage system. The coverage of roads is above the prescribed norms, covering 100% of the town. On the other hand, storm water drains covers only 27% of road length. Street lighting facilities and the solid waste collection system cover larger areas; streetlights facilities have attained 65% coverage level, which is as per norms, and the solid waste collections cover 71 per cent of the area under the Tirunelveli corporation's jurisdiction. However, service delivery with respect to other aspects of solid waste management (SWM) like transportation and disposal are also inadequate.

2. Key functions and performance of Tirunelveli Corporation

One of our first steps towards formulating a business plan was to study the functions and performance of the Tirunelveli Corporation, which would be the chief executor of the plan. The Tirunelveli Corporation covers an area of 108.65 sq. kms and is divided into 55 wards. Responsible for providing a host of services, the Municipal Corporation 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.

CRISIL Infrastructure Advisory examined the roles of each department and identified the weaknesses in each department, since the business plan had to be prepared taking these into cognisance. Our findings about the functioning and the lacunae in the discharge of responsibilities by each department 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 collection against demand notices for property tax is not collected 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. Same staff is used for supervision of all activities, which results in quality of services delivery.

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.

Town planning department: This department issues building licences after assessing their need and legality. It also undertakes assessment of the town to ensure reduction in unauthorised layouts. But, the information provided by the corporation identifies around 1821 unapproved super structures. This further results in loss of revenue to the corporation.

Information technology department: This department maintains computerised updates of all Municipal corporation-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.

Having assessed the operational and maintenance performance of the Tirunelveli Corporation, our team attended to the Municipal Corporation's financial profile, vital to the formulation of a business plan.

3. Financial Performance of Tirunelveli Corporation

Tirunelveli Corporation has shown a buoyant financial profile during the last five years. It however had managed to have a positive closing balance because of its opening surpluses. Though the revenue receipts had grown marginally by one percent expenditure had shown 11% growth over the last five years. Fairly high tax rates, accounting for 27.5% of annual rental value. Consequent to the marginal growth in revenue, the corporation has had a per capita deficit of Rs. 97 in 2004-05. Also, its dependence on the state government is as high as 50%, of which 70% is by way of SFC devolution grant. This financial performance has also resulted in additional pressure of corporation's outstanding liability of Rs.468 lakhs (comprising debt and non-debt). This however, amounts to 28% of the closing balance of 2004-05. Also, 55% of the demand raised is made of arrears, which implies a poor collection level over the years and causes concern. The town's average operation and maintenance (O&M) cost in the period 2000-01 to 2004-05 was Rs. 2330 lakhs, which constitutes 70% of its revenues.

4. CRISIL Infrastructure Advisory's Plans for Tirunelveli

Based on our detailed study of Tirunelveli's infrastructure requirements and the strengths and weaknesses of the Tirunelveli Corporation, CRISIL Infrastructure Advisory drew up the following plans for the town's growth.

Asset Management Plan

We drafted an asset management plan following our assessment of the impact the O&M expenses have on the finances of the Corporation. This plan would help the corporation 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 Tirunelveli's total investment requirement to be of the order of Rs 240.52 crores; 46.4% of this investment would be required sanitation systems, 31.5% for up gradation of roads and 7.6% for improved water supply and storm water drains. Based on the investment sustainable capacity, priority investments and discussions with the CMA, we have realigned the investment pattern of the town such that the key projects are taken up first. Hence, the final investment pattern would be as mentioned below

Year wise projections of investment requirement in different service sectors

Sector	I year	II year	III year	IV year	V year	Total
Water Supply	200.75	803.00	602.25	-	-	1,606.00
Sewerage and Sanitation	1,396.25	5,585.00	4,188.75	-	-	11,170.00
Roads	-	947.75	3,791.00	2,843.25	-	7,582.00
Storm water drains	-	26.88	107.50	80.63	-	215.00
Street Lighting	-	67.05	268.20	201.15	-	536.40
Solid Waste Management	-	151.25	605.00	453.75	-	1,210.00
Others	-	-	216.56	866.25	649.69	1,732.50
Total	1597.00	7580.93	9779.26	4445.03	649.69	24051.90

All figures in Rs. lakhs

In addition to the above projects that need to be executed by the ULB, there are road projects worth Rs. 37.95 crores that would be executed by NHAI.

Financial Operating Plan

The Financial Operating Plan (FOP) assesses the financial strength of Tirunelveli and the financial feasibility of the identified investment projects. CRISIL Infrastructure Advisory conducted the assessment in two envisaged scenarios viz. Base Case and Improved Case. In the former case, a Business-As-Usual scenario is assumed, while in the latter case, several improvement measures on

account of efficiency gains¹, new charges and rate revisions across revenue items are assumed. We concluded that Tirunelveli's investment sustenance capacity varies from 26% to 115% of the total required investment under various scenarios, the best being 'Improved with UGD' scenario. The investment capacity can be summed up as below:

Scenario	Investment Capacity (Rs. Crores)	% of required investment
Base without UGD	62.51	26%
Improved without UGD	97.88	41%
Base with UGD	226.92	94%
Improved with UGD	276.31	115%

5. Action Plan and Implementation schedule

Finally, CRISIL Infrastructure Advisory drew up a detailed action plan and implementation schedule to aid the effective execution of the business plan. Though the Tirunelveli Corporation will be the chief executor of the plan, it will require the involvement of other stakeholders to be successful. The two other chief implementers besides the urban local body (ULB) will be the Council and the state government. We expect the budgetary grant from the state government to meet 30% of the plan's total investment requirements and the ULB to contribute around 10%. Financial institutions will meet the remaining 60% of the investment requirements.

Achieving the set objectives would require a high degree of commitment from the corporation and active support of the council and the state government. Each of these stakeholders will be responsible for different areas of work. The Corporation will be expected to adopt measures to ensure operational efficiency, hike water tariff and property taxes, introduce new charges for SWM, manage assets for its optimum use and induce new capability in the engineering, health and accounts sections. We expect the council to assume charge of increase in water charges, removal of public fountains, and coverage of unregistered properties. The council would also be required to include charges for SWM and regularise unauthorised layouts. The chief expectations from the state government are support for revision of water tariffs and introduction of a policy for converting unauthorised properties into authorised properties upon payment of penalty charges.

The project implementation has been highlighted under both the 'Improved' scenarios viz. with and without implementation of the UGD project.

¹ Efficiency gains are gains resulting from increase in coverage of services and taxes.

6a. Improved scenario without UGD project*Implementation plan*

Under this scenario, the corporation can sustain only certain components of the total investment. Hence, UGD component has been removed and only key components in 'Others' like schools, Gasifier have been included

Sector	I year	II year	III year	IV year	V year	Total
Water Supply	321.20	321.20	321.20	321.20	321.20	1,606.00
Sewerage and Sanitation	-	-	-	-	-	-
Roads			2,021.87	2,021.87	2,021.87	6,065.60
Storm water drains	71.67	71.67	71.67			215.00
Street Lighting	268.20	268.20				536.40
Solid Waste Management	302.50	302.50				605.00
Others	340.00	340.00				680.00
Total	1303.57	1303.57	2414.73	2343.07	2343.07	9708.00

All figures in Rs. Lakhs

Activity Chart

Stakeholders	Actions	Pre - Project	I year	II year	III year	IV year	V year	VI year onwards
	Financial							
TUFIDCO/TUFISIL	Release of loans		912.5	912.5	1377.7	1327.6	1640.1	
Govt. of Tamilnadu	Release of grants		391.1	391.1	724.4	702.9	702.9	
Tirunelveli municipality	ULB contribution			0.0	312.6	312.6		
Public	Initial contribution for new projects like UGD							
	Physical							
Council	Resolution to undertake the project/ Signing the MoU							
Implementing agency	Implementation of the projects							
TUFIDCO/TUFISIL	Monitoring of the implementation							
Govt. of Tamilnadu	-do-							
Nammakal municipality	Monitoring of the implementation							
	Repayment of loans							
Self Help Group (Public)	Feedback/Highlighting pitfalls							
	Providing ground level support							

All figures in Rs. Lakhs

6b. Improved scenario with UGD project

Implementation plan

The investment capacity is based on the UGD charges with domestic connections charges Rs. 6000 for a new connection and a monthly charge of Rs. 130. For commercial connections, it would be Rs. 11000 and a monthly charge of Rs. 240 and industrial would be charged Rs. 11000 for new connection and a monthly charge of Rs. 400². Under this scenario, the town can sustain the complete investments and would have a surplus.

Sector	I year	II year	III year	IV year	V year	Total
Water Supply	321.20	321.20	321.20	321.20	321.20	1,606.00
Sewerage and Sanitation	2,234.00	2,234.00	2,234.00	2,234.00	2,234.00	11,170.00
Roads			2,527.33	2,527.33	2,527.33	7,582.00
Storm water drains	71.67	71.67	71.67			215.00
Street Lighting	268.20	268.20				536.40
Solid Waste Management	605.00	605.00				1,210.00
Others	866.25	866.25				1,732.50
Total	4366.32	4366.32	5154.20	5082.53	5082.53	24051.90

All figures in Rs. Lakhs

Activity chart

Stakeholders	Actions	Pre - Project	I year	II year	III year	IV year	V year	VI year onwards
	Financial							
TUFIDCO/TUFISIL	Release of loans		3056.4	1972.8	2211.8	3245.2	3557.8	
Govt. of Tamilnadu	Release of grants		1309.9	1309.9	1546.3	1524.8	1524.8	
Tirunelveli municipality	ULB contribution			1083.6	1396.2	312.6		
Public	Initial contribution for new projects like UGD							
	Physical							
Council	Resolution to undertake the project/ Signing the MoU							
Implementing agency	Implementation of the projects							
TUFIDCO/TUFISIL	Monitoring of the implementation							
Govt. of Tamilnadu	-do-							
Nammakal municipality	Monitoring of the implementation							
	Repayment of loans							
Self Help Group (Public)	Feedback/Highlighting pitfalls							
	Providing ground level support							

All figures in Rs. Lakhs

The above activities, undertaken in the specified time frames, will enable Tirunelveli to attain some of its growth objectives and pave the way for its future progress. At the same time the improvement across areas identified in the Business Plan would boost the growth potential of the town. However, additional efforts would also be required other than identified, to undertake the investment planned under the CIP.

² This is based on the charges for Phase I. For domestic, the charge is based on the area of the property. The charge applied here is the weighted average charge

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.

1.3 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: Action and implementation plan

Chapter 9: Draft Memorandum of Association (MoA) between Tirunelveli Corporation and TNUIFSL

Annexure

1.4 Deliverables

This report provides

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

2. REVIEW OF CCP - CITY PROFILE

Tirunelveli Municipal Corporation (TMC) commands a pivotal position in the southern region of Tamilnadu. The city is a popular pilgrimage and educational centre. It was known as the 'Oxford of Tamilnadu' in the sixties of the last century, because of the establishment of several colleges and other educational centres in the city. It is also known as one of the twin towns – Tirunelveli and Palayamkottai. The river Thamaraiparani bifurcates these two towns. The entire city consists of four distinct urban settlements that are separated by agriculture fields. The city's growth has been stifled due to the lack of proper planning efforts and untapped revenue generation potential across sectors. The city 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

Over the last decade, the population of the town has increased from 321,445 in 1991 to 411,257 in 2001 with a decadal growth of 27.94%, which is higher than the state average of 14.94%. The annual growth during the same period was 2.51% p.a. The town is spread over an area of 108.65 sq. km covering 24 wards. The gross population density has increased to 3781 persons per sq. kilometre (km) in 2001 from 2218 persons per sq. km in 1971.

2.1 Economic profile

The economic base of the city is predominantly dominated by service sector activities like administrative services, agriculture marketing, tourism, banking, technical training, agro machinery repair and educational services. Tertiary activities flourish owing to the continued increase in number of pilgrims and tourists. The vast hinterland comprising mostly agriculture lands has been contributing to the growth of Tirunelveli as a commercial centre, while numerous educational institutions established at Palayamkottai have been enhancing its popularity as an educational centre. Production of handloom clothes and other household industries have contributed to the economic growth of the city.

The state government has provided the required infrastructure for stimulating industrial growth in Tirunelveli by establishing an industrial estate. The Small Industrial Development Corporation (SIDCO) has constructed an industrial estate in the Pettai area on the northern part of the city.

2.2 Constitution of corporation

The corporation of Tirunelveli was constituted in 1994 by merging Tirunelveli, Palayamkottai, Melapalayam municipality, Thatchanallur town panchayats and 11 village panchayats. For administrative purposes, the city is divided into four zones viz. Tirunelveli, Palayamkottai, Melapalayam and Thatchanallur. Further, these zones are divided into 55 wards.

2.3 Past planning efforts

The master plan for Tirunelveli was prepared for the local planning area, which includes the city and its environs. The director of town planning and state government has accorded its consent to the master plan in 1994. The Local Planning Authority (LPA) includes three municipalities, one town panchayat and 67 revenue villages covering an area of 354 sq. km. Since the land use plan was prepared before the setting up of the corporation, separate plans exist for Tirunelveli, Palayamkottai and Melapalayam towns. There is no integrated urban agglomeration plan for the corporation.

Table 1. Land use Pattern

Land Use	Tirunelveli	% Of total Palayamkottai	% Of total Melapalayam	% Of total
	area	area	area	area
Residential	252.20	16.65	478.80	15.12
Commercial	42.92	2.83	33.59	0.67
Industrial	51.82	3.42	19.36	0.21
Education	54.54	3.60	101.87	1.32
Public-semi public	50.29	3.32	149.51	0.78
Service utilities	14.81	0.98	6.31	0.65
Parks	3.79	0.25	4.87	0.01
Transportation	113.31	7.48	196.98	7.46
Developed Area	583.68	38.53	991.29	26.23
Water bodies	243.37	16.06	94.83	6.62
Agriculture - Wet	437.08	28.85	72.58	42.58
Agriculture - Dry	-	-	18.72	5.28
Vacant	250.82	16.56	522.51	19.29
Total	1,514.95	100.00	1,699.93	100.00

Source: City Corporate Plan, Tirunelveli

2.4 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 70% of the usable land lying vacant), significant number of unauthorized layouts and full potential of the tourists spots untapped due to lower levels of development in these places. Additionally, several commercial and industrial units have sprung up in haphazard manner on either sides of the highway and major arterial roads.

3. REVIEW OF THE CCP – MUNICIPAL ASSESSMENT: INFRASTRUCTURE AND ORGANISATION

The corporation 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. The town has undertaken initiatives in various areas; the Underground Drainage (UGD) scheme is one of them that would be completed by March 2006. The corporation needs to focus on the operation and maintenance of the newly created asset. The city has completely privatised the maintenance of street lighting and some areas of solid waste management.

3.1 Water supply is adequate, but distribution is not equitable

For city corporations, the per capita water supply rate, as per the norms is 110 to 120 LPCD. The city has a good water supply source in the Thamaraiparani river. In the Tirunelveli and Palayamkottai zones of the corporation, the per capita supply is 125 LPCD and 138 LPCD respectively, whereas in the Thatchanallur and Melapalayam zones, it is 50 LPCD and 42 LPCD respectively. Hence, as a short-term measure, it is necessary to augment the water supply in the Thatchanallur and Melapalayam zones to at least 100 LPCD and stabilize the supply level at 120 LPCD in the Tirunelveli and Palayamkottai zones.

There are eight water supply head works in Thamaraiparani river for the corporation situated at a distance of 11 kms to 18 kms from the city area. Tirunelveli and Melapalayam have one independent headwork each, at Kondagaram; Palayamkottai has four head works and Thatchanallur has two. The present drawl of water from all the sources amounts to 34.90 MLD.

3.1.1 Service reservoirs capacity is adequate for current levels

There are 48 Overhead Tanks (OHT) and four Ground Level reservoirs (GLRs) with a total storage capacity of 19.07ML, which is about 54% the ultimate daily water supply, against the norm of 33.33%. Hence, no additional capacity is required.

3.1.2 Distribution system is 64% of road length

The total pipeline in the distribution system is 484 kms long, it covers 64% of total road length, which is considered low. The distribution system coverage should be increased to at least about 85%, i.e., providing an additional length of 175 kms.

Further, it is necessary to replace the old distribution pipeline of about 50 kms length with DI pipes in a phased manner, at the rate of 10 kms every year to increase the efficiency of the distribution system. To plan the main replacement program, it is necessary to assess the existing old (more than 30 years) distribution lines with reference to their carrying capacity (C-value), and the water losses due to leakage in the existing distribution system.

Table 2. Water Supply Details

Water supply		Description
Quantity supplied		34.90 MLD
Distance of the source from the city		13 Kms
Treatment plant capacity		40 MLD
Length of pipe lines (Distribution Network)		484 Kms.
Storage Reservoirs		Number Capacity
OHT		48 168 lakh litres
GLR		4 22.70 lakh litres

Table 3. Water Supply Indicators

Water supply indicators	Value	Unit
Daily per capita supply in 2003	85	Litres
Roads covered with distribution network	63.4	%
Elevated storage capacity w.r.t supply	48.1	%
Total storage capacity w.r.t supply	54.6	%
Treatment capacity available	114	%
Assessments covered by House Service Connections (HSC)	34.0	%
Non-domestic connections	5.9	%

3.2 Sanitation and sewerage projects are under execution

3.2.1 Sewerage project to cover a wider area

The existing sewerage scheme that covers a part of the town was implemented in 1989. Even though the scheme was designed for the entire town, it was implemented only for zone 1, covering the main town and Palayapettai areas. Apart from this scheme, small sewerage schemes were also implemented in small pockets for newly developed areas of 5.3 kms each. Although the UGD scheme was designed for 6000 House Service Connections (HSC), only 25% of them, have availed of this scheme.

As an extension to the existing scheme, the corporation is currently executing the UGD scheme in two zones. However, this scheme would cover only 37% of the total road length. The total quantity of sewage generated in the ultimate stage is expected to be 52.4 MLD. The sewerage system for the unserved areas also should planned and taken up after the completion of the current project. A Sewage Treatment Plant (STP) is proposed at Ramayanpatti with an area of 74.05 ha (183 acres) with a waste stabilization ponds system for 24.20 MLD; this will be about 36% of the ultimate quantity, but suffice to treat the short-term sewage generation.³

3.2.2 Sanitation

Fifty per cent of slum areas are provided with 43 community toilets. In the ongoing sewerage projects, an additional 48 community toilets are being constructed in the slum areas. There is a need for additional Public Conveniences (PCs) in the areas where the sewerage system is not proposed. It is estimated that 20 additional PCs may be constructed.

³ The finance for implementation for the sewerage scheme has already been arranged

3.3 Moderately high level of road network

The corporation maintains a large network of roads with a total length of 763.3 kms. The corporation maintains 89% of these roads. Of the total corporation road length, 55% of the length is provided with Black Top (BT) and 19.8% is provided with cement concrete surface.

Table 4. Category-wise road length

Roads maintained by local body	Length in kms	% Of road length
Concrete	134.883	20%
BT	375.510	55%
Water Bound Macadam (WBM)	94.291	14%
Earthen	76.316	11%
Sub Total	681.00	100.00%

Source: Municipal Corporation, Tirunelveli

In addition to the above road network, the highway department also maintains 82.3 kms of roads. Of this, 22 kms and 30 kms belong to the National Highways department and State Highways department respectively and the rest are major district roads. Despite a robust road infrastructure, the town has to upgrade the same in order to meet its growing demands, owing to its increased economic activities. The town also needs to focus on traffic management. The key areas of concern are the lack of new roads, insufficient maintenance due to improper planning, and non-connectivity of the ring road to all the arterial roads. Since the sewerage system is being implemented in 208 kms of roads, most of the roads will have to be restored and resurfaced. 76.3 kms of earthen roads will have to be upgraded to BT roads.

3.4 Drains coverage is low

The total length of existing storm water drains maintained by the corporation is 184.8 kms, which is 27.13 % of the road length of 681kms. Around 77% of the existing drains are pucca drains. For effective disposal of storm water, the storm water drains are required to cover the entire length of roads. Hence, new storm water drains are necessary at least for a length of 150 kms; also minor repairs to existing drains are required.

Table 5. Coverage of storm water drains

Drain length	Length (Kms)	Percentage
Kutcha drains	43.19	23%
Pucca drains	140.47	76%
Pucca closed drains	1.12	1%
Sub-Total	184.78	100%
Other water channels maintained by PWD	3.63	
Total	373.19	

Source: Municipal Corporation, Tirunelveli

Table 6. Indicators for road and drains

Road and Drains Indicators	Value	Unit
Municipal roads surfaced	74.9	%
Increase in road length - 5 year average	5.8	% p.a.
Increase in surfaced roads-5 year average	0.3	% p.a.
Road length covered with storm water drainage	27.1	%
Road length covered with pucca drains	20.6	%
Pucca drains (open & closed)	76.0	%

3.5 Solid Waste Management (SWM) has 72% efficiency

72 % of the 145 tonnes of solid waste generated is collected. The solid waste disposal site is located at Ramayanpatti in an area of 183 acres, of which, only 20 acres is used for filling of waste. In the same site, a Sewerage Treatment Plant (STP) is also being constructed. An alternate site has to be identified for long-term solid waste management. Segregation of organic wastes and their conversion into compost has not been practiced across the city. The corporation should take steps to collect the wastes from the households after segregation. Door-to-door collection of the segregated organic wastes, the transportation of the waste to a composting plant, the preparation and sale of compost need to be privatised in all the wards. Solid waste collection and disposal through land filling may also be carried out scientifically with daily compaction and proper earth cover.

Table 7. SWM details

Description	Details
Waste generated per day	145 MT
Waste collected per day	104 MT
Number of dust bins	28 Nos
Number of disposal yards	1 No
Total area of disposal yards	1.18 Ha

Source: Municipal Corporation, Tirunelveli

Table 8. Solid Waste Management Indicators

Indicators	Value	Unit
Waste generated per capita (2005)	336	Grams
Waste collected as per ULB's estimate	71.7	%
Waste collected as per available capacity	96.7	%
Conservancy staff	736	Nos.
Road length per conservancy staff	1037	Meters
Total rated capacity of vehicles	88	Tonnes
Rated capacity to waste generated	60.5	%
No. of trips per vehicle/day	4	Nos.
Average spacing between dustbins	24326	Meters
Area	1.18	Hectare
Mode of disposal	Landfill	

3.6 The spacing between street lights is wider than required

There are 16548 streetlights throughout the city with 5142 sodium lamps, 88 mercury vapour lamps, 11312 tube lights and 6 high mast lamps. The average spacing between the lamps is 46 m against the norms of 30 m spacing. Hence it is proposed to provide a total of about 6000 lamps after assessing the need for replacement of tube lights into sodium vapour lamps.

Table 9. Type of streetlights and indicators

Type of street lights	Numbers	Percentage
Tube lights	11312	68.36
Sodium vapour lamps	5142	31.07
Mercury lamps	88	0.53
High mast lamps	6	0.04
Total	16548	100.00
Spacing between lamp posts	46	Meters

Source: Municipal Corporation, Tirunelveli

3.7 Social infrastructure is adequate

The corporation provides basic education and medical facilities to its citizens. The details of the same are highlighted below

3.7.1 Education

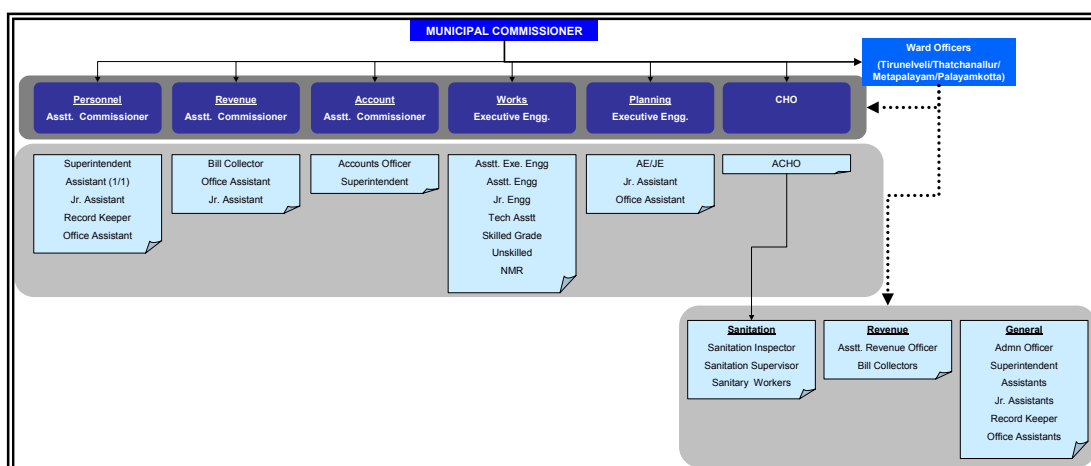
The city has 80 schools, in which there are 29 higher secondary schools, 12 high schools, 22 middle schools and 17 primary schools. Of the total 80 schools, the corporation runs 33 schools of these, 22 are primary, six middle and five higher secondary schools. The city also has eight art colleges and six professional colleges. The Manonmanian Sundaranar University provides higher education. Additionally, there are educational centres and specialised job-oriented institutions that assist the youth in upgrading their skills.

3.7.2 Health

The city has five hospitals, eight health posts and six dispensaries. Of the five hospitals, the state government runs two and the corporation handles three. Further, there are around 100 private clinics, 52 nursing homes and 15 medical laboratories. The corporation maintains the eight urban health posts created under the IPPV scheme; these provide primary health care to the urban poor through family welfare and immunisation programs.

3.8 The organisation requires training in key areas

The corporation uses its own staff to manage the operation and maintenance of its services. The municipal commissioner heads the administrative wing of the corporation. His deputies – the Assistant Commissioners (ACs) handle the operation in the four zones. However, some of the AC posts are vacant and the next senior officers handle the work. The corporation has six departments to discharge their functions and responsibilities viz. Engineering, Water supply and drainage; Public health and sanitation; Planning; Revenue; Accounts and Personnel & Administration



The engineering section handles water supply, roads, storm water drains and street lights functions, whereas the health section handles road sweeping, SWM, sanitation, and other health related activities.

3.8.1 Revenue department

The revenue department is responsible for the collection of various taxes and charges from citizens. Of the sanctioned strength of 67, only 35 posts are occupied; the rest are vacant due to transfers and retirement. The main function of the department is to raise demand and prepare demand collection balance statement.

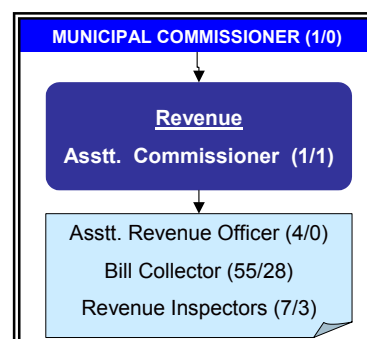
Operation and Maintenance (O&M) issues

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 1821 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



3.8.2 Accounts department

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 corporation maintains the accounts in three funds viz. revenue fund, water and drainage fund, and elementary education fund. 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 10. 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 corporation 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

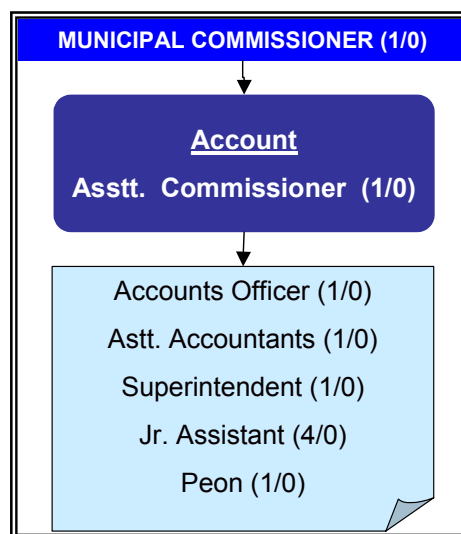
1. Adequacy of strength

The Assistant Commissioner (AC) handles the function of the accounts. An accounts officer along with assistant accountants and other staff support him. The staff strength is adequate for its current operations, but it requires additional training. The main activities carried out by the assistant are maintaining abstracts and ledgers; sanctioning of loans; writing cashbooks; making reconciliation, and calculating interest.

Also, there is a need for two junior assistants, especially for the receipts and payment function. In order to minimise the workload, contracting individual activities (e.g. Budget preparation) on a case-to-case basis can be explored. Increased automation through computerisation would also relieve the pressure for additional staff. However, the skills of the existing staff would have to be enhanced for the same.

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 only 27.5% of the Annual Rental Value (ARV). However, poor service delivery levels have hindered the corporation's inability to raise the rates



3.8.3 Engineering, water supply and drainage department

This department is responsible for the execution of projects related to roads, street lighting, water supply and sewerage. It is also responsible for the O&M of these projects. The chief engineer heads the department and is assisted by one executive engineer (works), executive engineer (planning), and assistant executive engineer (electrical). The department co-ordinates with state level agencies for the planning and implementation of various projects. Most of the projects are executed through private contractors who are appointed through a bidding system; the engineering section is responsible for overseeing the operations.

Planning department

The executive engineer (planning) heads the planning department that considers building activities/layouts and other planning permissions. The ward junior engineer, assistant engineer and AC of ward offices scrutinise the applications; upon satisfactory scrutiny, the AC of the zonal office head accords the permission. The other activities carried out by the department are issue of building permission, renewal of building licenses, layout approval, demolition of encroachments and removal of encroachment on roads and municipal properties.

Water supply and drainage

The present staff strength is appropriate for the existing projects. However, with the implementation of the sewerage and water projects, additional manpower would be required. The new schemes in these sectors are:

1. KTC Water supply Scheme – Rs. 3.78 crores
2. Thatchanallur scheme – Rs. 5.94 crores
3. UGD scheme – Rs. 52 crores (For 50% of the city)

The transmission and distribution losses in the water supply system are around 60% of the total supply, with a majority of the losses relating to the house service connections. Therefore, it is recommended that a loss assessment survey may be undertaken to control the loss of water; this would improve the service level and increase revenues

The staff needs training on the various measures of loss assessment survey, leak detection and preventive maintenance practices. An operation plan with preventive maintenance procedures for maintaining the service reservoirs and distribution system should be prepared and implemented. Privatisation of these maintenance works will result in efficient maintenance as well as in savings in expenditure to the corporation.

Similar to the water supply system, the sewerage system also calls for a high level of maintenance. Preventive maintenance schedules including the flushing of sewers and maintaining of the pumps should be prepared and implemented scrupulously; also a plan should be drawn up for institutional strengthening. Viable areas of O&M of the system shall be identified for privatisation; this will result in efficient maintenance as well as in savings in expenditure for the corporation. User charges should be fixed to sustain the system, which essentially means meeting O&M expenditure and repayment of loans.

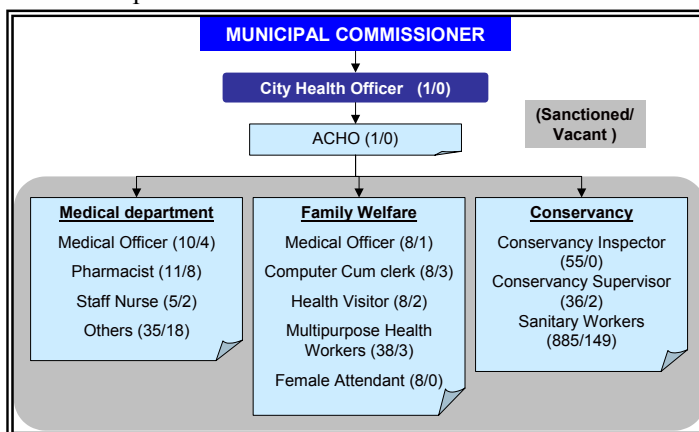
1. Business process/system issues

There is a deficit in the water supply situation and the existing water supply's Transmission and Distribution (T&D) lines are obsolete resulting in significant T&D losses. On the sanitation front, Low Cost Sanitation (LCS) and Public Conveniences (PC) is not available to the entire slum population

3.8.4 Public health and sanitation department

The Chief Health Officer (CHO) of the corporation heads the public health department and is responsible for maintaining a safe and pollution free environment. The department also looks after solid waste activities, health-related works like malaria control, family planning, mother and child health care, birth and death registration, etc. and other government assisted programs related to health and poverty reduction. The key functions of the department are to:

- 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 corporation owned hospitals, maternity centres and other health centres
- Enforce the Public Health Act.
- Implement various government schemes like pulse polio projects and SJSRY.



1. Adequacy of strength

The conservancy inspectors, supervisors, and sanitary workers assist the CHO. Due to transfers, the post of CHO and Assistant CHO are currently vacant. In the absence of the department head, sanitary inspectors carry out the solid waste management function of the corporation. Discussions with the town officials revealed the need for additional staff, if the town does not opt for further privatisation. However, the corporation has initiated the process of privatising door-to-door waste collection and transportation to the compost yards in eight wards. Around 15-20% savings is estimated from this privatisation initiative.

However, due to the ongoing initiatives, it is expected that there would be an increasing reliance on outsourced operations. Hence no additional operating staff is required. At the same time, it is equally important to increase the supervisory staff and train the existing staff in terms of up gradation of knowledge and also impart field training for safe collection, transportation, dumping and conversion of waste to manure.

2. Business process/system improvements

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.

3.8.5 Information Technology (IT)

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 corporation. 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. The unique feature of the city is the Interactive Voice Response System (IVRS), which enables citizens to access the details of their taxes from their residence.

How does IVRS work

By dialling a specified phone number, any person from anywhere in the world can access the central server at the corporation office. On keying the tax assessment number, IVRS reads out the complete tax details from the server. IVRS also reminds the tax defaulters to pay immediately by dialling their telephone number and reading out a pre-recorded message with corresponding tax details.

System driven activation

However, some discrepancies still exist between the manual and computerised data. The corporation has also initiated online collection counters that ensure better service delivery and aid the corporation 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 corporation 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. There is sufficient staff for the existing works. However, with the envisaged increase in computerisation, the department would require more experienced personnel with proper training.

1. Business process/system improvements

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.

3.8.6 Status of e-Governance

The property tax and birth and death registration module has been completed and the birth and death certificates are issued from the collection centres. The data entry for the remaining modules is in progress. These are

- Profession tax
- Solid waste management
- Building plan
- Hospital management
- Electoral rolls
- Financial accounting system
- Vehicle
- Grievances
- Mother and child welfare
- Water charges
- Moveable and immoveable items
- Inventory items
- Personnel management system
- Census
- Trade license

There are 11 on-line collection centres, but are not interconnected. Five of them are currently functional and remaining six (three banks and three collection centres) is being introduced. 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

Tirunelveli corporation's financial performance has been inconsistent; the corporation has registered revenue deficit for a couple of years, while the last two years (2003-04 and 2004-05) show revenue surplus. Like other ULBs in the state, the corporation too over-estimates its revenues due to the improper accounting policy of projecting its demand as the actual collection, especially for tax items. In addition to its thin operating surplus in most of its years, it has an outstanding liability to the tune of Rs.468 lakhs⁴

The review⁵ includes a time series analysis of the income and expenditure of the corporation 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 corporation 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 11. 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 Current financials reflect per capita deficit

Over the past five years (2000-01 to 2004-05), the corporation's revenue surplus has been inconsistent. However, it has a comfortable operating surplus (revenue receipts/revenue expenditure ratio) of 1.16 (average of last five years). During the period between 2000-01 and 2004-05, on an average, the corporation had an average surplus of 2% of total revenues (Rs. 662 lakhs of cumulative surplus at the end of 2004-05). The total revenues and expenditure of the corporation for the year 2004-05 were Rs.3152 lakhs and Rs.3620 lakhs respectively. The per capita revenue and expenditure are Rs. 731 and Rs. 828 respectively, implying a revenue deficit of Rs.97 per capita in 2004-05. Detailed financial statements are provided in Annex

⁴ The liabilities included both debt and non-debt liabilities as on 31-3-2005. The details are provided in section 4.1.1

⁵ The financial information provided by the corporation for the period 2000-01 to 2004-05 is the basis for review of the current financial position of the corporation.

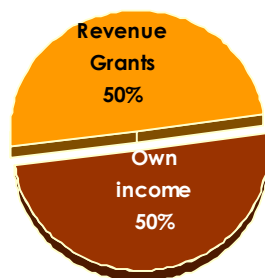
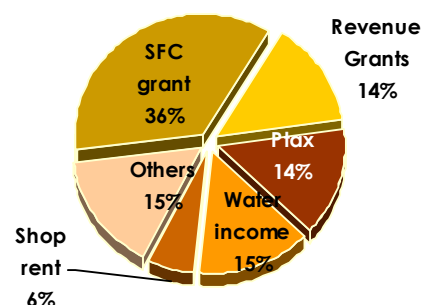
Table 12. Financial position of Tirunelveli corporation⁶

Items	2000-01	2001-02	2002-03	2003-04	2004-05	CAGR
Opening balance	322	956	(20)	(1,418)	1,130	
Municipal receipts	2,984	2,757	3,430	4,572	3,153	1%
Property tax	380	410	465	462	453	4%
Water tax	247	271	318	451	459	17%
SFC Devolution	328	325	684	967	1,122	36%
Municipal expenditure	2,349	3,734	4,827	2,024	3,621	11%
Municipal Surplus/deficit for current year	635	(977)	(1,397)	2,548	(468)	
Final closing balance	956	(20)	(1,418)	1,130	662	

All figures in Rs. Lakhs

4.1.1 Revenue receipt show inconsistent growth

During the last four years (2001-02 to 2004-05), the corporation has shown an increasing trend in revenue receipts, except in the last year. The drop in the revenue is mainly due to low realisation from assigned revenue items such as surcharge from sales tax, TFC/EFC grants, and other grants. Though the revenue dropped from Rs.4572 lakhs in 2003-04 to Rs.3153 lakhs in 2004-05, expenses witnessed

Breakup of Revenue sources - 2004-05**Sources of Revenue receipts - 2004-05**

a reverse trend. With the surplus generated during initial years, the corporation has managed a positive closing balance of Rs.662 lakhs in 2004-05. The corporation has a strong reliance on state grants with 50% of its revenues issuing from the state government (see graph above), of which SFC devolution is 71%. Within its own revenues sources (tax and non-tax), property tax and water charges are the major revenue sources comprising 29% of the total revenues receipts. The key highlights of the sources of revenue are listed below:

- Water charges has increased from Rs.94 lakhs to Rs.274 lakhs at a compounded annual growth rate (CAGR) of 30.6%
- Trade licenses have increased jumped from Rs.13 lakhs to Rs.24 lakhs at a CAGR of 16%
- SFC devolution grant has increased from Rs.327 lakhs to Rs.1123 lakhs at a CAGR of 36%
- 'Other' has reduced from Rs.1309 lakhs to Rs.301 lakhs at a CAGR of -31%

Tirunelveli's non-tax revenues contribute 41% of the revenue receipts (average for the last five years). This share has changed substantially from 54% in 2000-01 to 26% in 2004-05. The key items under this head are licence fees, rents, user charges for services provided (such as water), and investment income. The water charge, which constitutes the bulk of this income, has grown at a rate of 30% in the past five years⁷ on the back of a hike in water charges carried out in April 2003.

⁶ The financial statements provided by the Tirunelveli Corporation have been recast by us to facilitate analysis

⁷ 50% of the connection holders do not pay water charges.

Table 13. Change in the tariff rates

Category	Tap rate	Meter rate
Residential	Rs.50/- per month	Minimum rate of Rs.45/ per month (up to 10,000 litres) Above 10,000 litres, Rs.4.5 for every 1000 litres
Non-residential (industrial and Commercial)	No Tap connection	Minimum rate of Rs.150 per month For every 1000 litres Rs.15/- per month

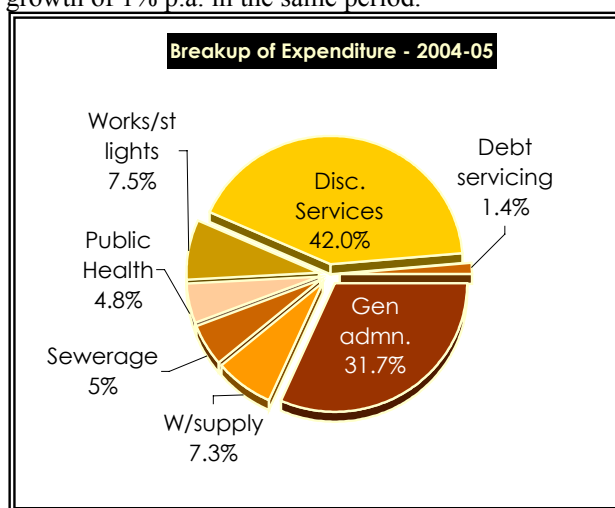
4.1.2 Revenue expenditure below state average

The major expenditures for Tirunelveli are establishment costs (28% in 2004-05), O&M costs (67% in 2004-05) and debt servicing costs (5% in 2004-05). This also implies that the share of expenditure is below the state average for municipalities i.e. 45%. Revenue expenditure has also grown at a CAGR of 11% p.a., which is higher than the revenue growth of 1% p.a. in the same period.

The corporation has managed to control its establishment expenses. On the other hand the O&M expenses have doubled over the last five-year period. This could be attributed to the increase in general administration expenses from Rs.823 lakhs in 2000-01 to Rs.1078 lakhs in 2004-05. It is therefore imperative for the corporation to control its general administration expenses.

In the area of SWM and street lighting, the corporation has taken initiatives by privatising some of its operations. The waste management of three bus stands and two market areas has been entrusted with a Non Government Organisation (NGO) called FOOD. Also, collection of door-to-door garbage has been privatised in 25 wards of the corporation. This has resulted in the reduction of expenses towards the recruiting conservancy staff.

In another initiative, the corporation appointed M/s Akash Associates – a private company in 2000 for a period of six years (Till December 2006) to maintain its 15000 streetlights. The activities privatised by the corporation are switching on and off of streetlights, replacement of material/tube lights, and response to complaints within 48 hours. Both the initiatives have resulted in better service delivery and expenditure control by 25-30%.

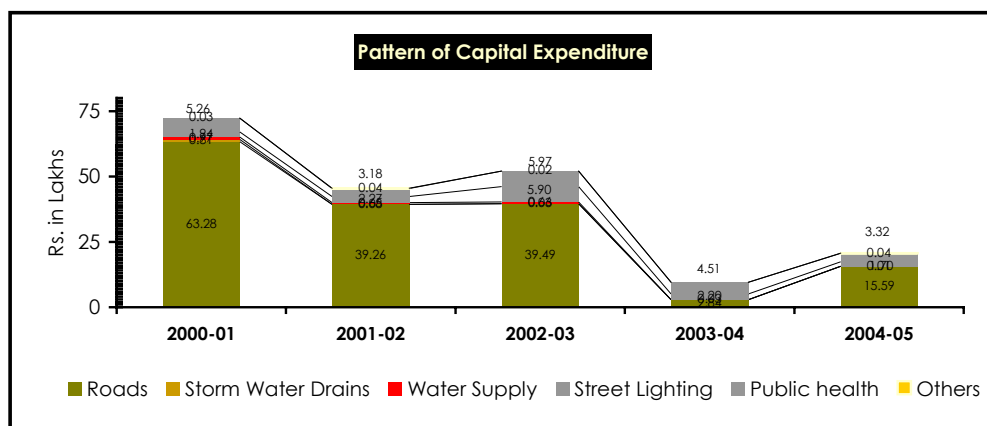


4.1.3 Capital receipts and expenditure⁸

Capital receipts are mainly in the form of loan and grants from the central and state government. These also comprise contributions and income from sale proceeds. The total capital income received during the last five years was around Rs.2047 lakhs. The average capital utilisation ratio is 1.1. The corporation has, in the past, managed to meet most of its capital requirements from its capital income. With the level of expenses the city has been incurring, it has shown a surplus situation during 2001-02 and 2002-03, implying under-utilisation of funds. In the last five years, capital expenditure reduced by

⁸ This has not been used for FOP, as explained in the Annex I

27% and capital revenue also reduced by 23%. With the spurt in the city's requirements, its capital account could be used to meet some its infrastructure requirement under Capital Investment Program (CIP). Roads and drains account for a substantial part (80%, which is an average of last five years) of the capital expenditure. The following chart highlights the past trend in capital expenditure



4.2 Outstanding liabilities

4.2.1 Debt liabilities - 28% of 2004-05 closing balance

The town's outstanding liability is Rs.353 lakhs, which is 53% of the closing balance of 2004-05 (Rs.662 lakhs). The outstanding balance should not pose much of an issue, as the town has been able to generate yearly revenue surplus. Moreover, there are no overdue payments indicating the town's prompt repayment. The details of the loan are highlighted below.

Table 14. Debt liabilities for various agencies

Lending Agency	Loan (Rs. Lakhs)	Interest Rate	Repayment period (Years)	Purpose / Scheme	Total loan repaid as on 31.03.2005 (Rs. Lakhs)			Outstanding Loan (Rs. Lakhs)
					Principal	Interest	Total	
CMA	75.00	14.5	15	Basic amenities	15.00	31.38	45.55	106.38
IUDP	1.33	12.00	20	--				1.33
TUFIDCO	63.00	8.75	10	Special roads				63.00
TUFIDCO	2.75	8.75	10	IDSMT				2.69
GoTN (CMA)	204.42	13.5	20	Water supply	16.45	26.08	42.53	180.55
Total	346.5				31.45	57.46	88.07	353.96

4.2.2 Non-debt liabilities

Tirunelveli's non-debt liabilities include a few sundry items that amount to Rs.114 lakhs. The details are highlighted below.

Table 15. Non-debt liabilities

Item	Amount (Rs. Lakhs)
Pension arrears arising in view of pay commission's revision	9.02
Library cess collected but not transferred	11.82
Group insurance not paid	0.61
Survey charges	4.44
Overdue principal and interest on govt. loans and other loans	88.91
Total	114.8

All government loans are deducted from SFC devolutions and hence the town is relieved of those liabilities. However, it will have to clear these dues over a period of time.

4.3 Key performance indicators

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

Table 16. Key Performance Indicators (KPI)

Area	Item	Measure	Existing levels (2004-05)	Unit
Revenue Improvement	Per Capita Income		731	Rupees
	Source of Funds	Share of Taxes	21.65	%
		Share of Non Tax	40.94	%
		Share of Grants	37.41	%
	Growth in Income Sources	Growth in Taxes	4.72	% p.a.
		Growth in Non Tax	-15.49	% p.a.
		Growth in Grants	36.03	% p.a.
		Growth in Own Sources	2.39	% p.a.
Expenditure Management	Per Capita Expenditure		828	Rupees
	Functional Allocation	Share of Salaries	28.44	%
		Share of O&M expenses	69.74	%
	Growth in Items of Expenses	Growth in Salaries	0.54	% p.a.
		Growth in O&M expenses	20.04	% p.a.
		Growth in Total Expenditure	6.98	% p.a.
Performance	Operating Ratio		1.13	Ratio
	Per-capita performance Assessment	Per Capita Own Income	434.22	Rs. p.a.
		Per Capita Grants	386.07	Rs. p.a.
		Growth in Per Capita Revenue Income	-0.39	% p.a.
		Per Capita Salaries	205.01	Rs. p.a.
		Per Capita O&M expenses	872.50	Rs. p.a.
		Growth in Per Capita Revenue expenses	9.08	% p.a.
Taxation	No. Of Property Tax Assessments		1,28,820	
	Current Tax Rate (Weighted Average)		27.50	% of CV
	Tax Per Assessment (excluding Vacant Land)		506	Rs. p.a.
Efficiency	Property Tax	Growth in Assessments	4	% p.a.
	Collection Performance-Property Tax	Arrears as % of Total Demand	1.03	%
		Demand per Assessment	40	Rs. p.a.
	Water Supply	Growth in Water Connections	4.22	% p.a.
		Average Expenditure/Connection/ month	94.97	Rupees
		Average Revenue / Connection/ month	91.70	Rupees
		Cost Recovery on Water Supply	97	%
	Collection Performance-Water Charges	Arrears as % of Total Demand	39.93	%

5. CAPITAL INVESTMENT PROGRAM

The Capital Investment Program (CIP) has identified the investment requirements of the city based on demand- gap analysis. However, it has not taken into account the financial feasibility of the projects. This has been undertaken in the Financial Operating Plan (FOP). Tirunelveli's investment requirement is Rs 24052 lakhs with 46.4% of the proposed investment earmarked for Underground Drainage (UGD) and sanitation, 31.5% for roads and 7.5% for roads and Storm Water Drains (SWD).

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 needs of the town over a five-year period. Based on the existing demand-supply situation, the town's investment requirement has been calculated to amount to Rs. 24052 lakhs over the next five years. The phasing of the investment is shown below:

Table 17. Phasing of investment over five years

Sector	I year	II year	III year	IV year	V year	Total
Water Supply	205.24	298.24	395.27	380.95	326.30	1,606.00
Sewerage and Sanitation	2,234.00	2,234.00	2,234.00	2,234.00	2,234.00	11,170.00
Roads	338.30	636.57	2,336.69	2,572.90	1,697.54	7,582.00
Storm water drains	18.87	62.36	58.54	56.99	18.24	215.00
Street Lighting	164.32	163.09	101.29	77.53	30.18	536.40
Solid Waste Management	605.00	605.00				1,210.00
Others	866.25	866.25				1,732.50
Total	4431.97	4865.51	5125.79	5322.37	4306.25	24051.90

All figures in Rs. Lakhs

5.2 Department wise investment identified for immediate requirement

5.2.1 Rs. 1606 lakhs required for water supply projects

Department-in-charge – Engineering, Water supply and Drainage department

Project title – Improvement of water supply

Project manager – Municipal engineer

Description:

Source augmentation, water treatment plant, storage facilities, and distribution network

Justification:

The present drawl of water from all the sources is 34.90MLD. The primary problem with the water supply system is inequitable distribution across the corporation limits. The per capita water supply should ideally be in the range of 110 to 120 LPCD. To achieve this level, water supply has to be augmented to a level of 47.34 [431152(0.49*120+0.51*100)]. At a uniform per capita water supply rate of 120 LPCD for all zones, the ultimate demand in 2015 will be 62.15MLD. Thus, there would be a shortfall of 27.25MLD.

It is necessary to carry out a detailed assessment of yield expected from each of the eight head works by installing water meters and conducting yield tests. It is also important to explore the possibility of increasing the drawl by implementing augmentation measures in the existing head works. A couple of projects have already been initiated and are underway. These include the Thatchanallur project under which, source augmentation work like setting up of infiltration wells and commissioning of OHT are underway. Similar work is in progress in wards 17 and 18 in the Palayamkottai zone.

Investment requirements in different areas:

Area	Description of works	Quantity	Unit	Unit cost (Rs.Lakhs)	Total cost (Rs. Lakhs)
Distribution system					
	Replacement of existing lines	100	Km	1	100
	Installation of new lines	150	Km	1	150
Transmission system					
	Replacement of existing lines	10	km	6	60
	Installation of new lines	20	km	6	120
Source					
	Bore well	500	Nos	0.3	150
	Infiltration Well	8	Nos	20	160
	Pumpsets	2	Nos	15	30
	Pumping main	30	Nos	10	300
Storage & Treatment					
	OHT (5lakh liter capacity)	4	Nos	30	120
	Ground level reservoir (1 lakh liter capacity)	2	Nos	5	10
	Chlorination plant (10 MLD capacity)	8	Nos	2	16
	Treatment plant (4 MLD capacity)	1	Nos	150	150
Capacity building studies					
	Consultancy	1		32	32
Others					
	Energy saving devices	8	Nos	1.0	8
	Study about equitable distribution system	1		200	200
					1606

Total Project Cost: Rs. 1606 lakhs

5.2.2 Rs. 11170 lakhs required for sewerage and sanitation facilities

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

Project title – Implementation of sewerage project and construction of public conveniences

Project manager – Executive engineer (for O&M – Municipal Engineer)

Description:

Underground Drainage (UGD) Scheme, Public Conveniences (PC)

Justification:

Ten of the 55 wards of the corporation have a sewerage system since 1989. Now, the facility is being extended to 50% of the areas, where the terrain is suitable for the setting up of the UGD. The corporation has also identified the sources for funding the project. The project is under execution and is expected to be completed by 2006. The disposal point of the sewerage water is located at Ramayanpatti village in an extent of 65 acres with a sewerage treatment plant (STP) in an extent of 74.05 hectares (183 acres); the existing waste stabilization ponds system for 24.20 MLD, which is about 36% of the ultimate quantity, would be adequate for treating short-term waste generation. The treated sewerage water will be used for the cultivation of cash crops. The project would thus control the pollution of the Thamaraiparani river, canals and tanks in the city.

Under the ongoing sewerage projects, 48 community toilets are being constructed in the slum areas. The need for additional PCs for the areas where the sewerage system is not implemented may be assessed; the required numbers of PCs will have to be constructed.

Investment requirements in different areas:

Area	Description of works	Quantity	Unit	Unit cost (Rs.Lakhs)	Total cost (Rs. Lakhs)
Distribution lines					
	Revamping				500
	Replacement of existing lines	10	Km	2	20
	Installation of new lines	50	Km	2	100
	UGD for phase II				10000
Public conveniences					
	Sanitary complexes (10 seater)	100	Nos	5	500
Septic tanks					
	Upgradation of existing tanks	50	Nos	1	50
					11170

Total Project Cost: Rs. 11170 lakhs

5.2.3 Rs. 403 lakhs required for SWM

Department-in-charge – Health department

Project title – Improving SWM

Project manager – Health officer

Description:

Procurement of dust bins and push carts/ tricycles

Justification:

Currently 60% of the wards have a privatised primary collection system. The corporation undertakes the secondary collection and disposal for all the wards. However, there are no specific plans to extend the privatisation to other wards after the retirement of the employees in these wards; the ULB intends to carry out its operations by filling up the required vacancies through its own employees.⁹ In order to improve the efficiency of solid waste collection, additional vehicles are necessary. The corporation has taken action to improve the existing collection and disposal facilities. An incineration plant has also been proposed for bio-medical waste disposal.

Investment requirements in different areas:

Area	Description of works	Quantity	Unit	Unit cost (Rs.Lakhs)	Total cost (Rs. Lakhs)
Primary collection					
	Tricycles	1000	Nos	0.16	160
	Push carts	250	Nos	0.12	30
	Storage bins	100	Nos	0.4	40
Secondary collection					
	Dumping stations/Bins	250	Nos	0.5	125
Secondary transportation					
	Compactors	2	Nos	40	80
	Dumper Placer	4	Nos	15	60
	FEL/JCB	2	Nos	20	40
Disposal site					
	Facilities at disposal site		each		250
	Bio processing plant		Nos		250
	Scientific landfill	60	acre		0
	Compost yard	30	acre		0
Others					
	Salary and staff welfare (Uniform compost)	1		50	50
	Sanitary material	1		125	125
					1210

The cost of scientific landfill and compost yard has already been paid for and hence additional investment is not required

Total Project Cost: Rs. 1210 lakhs.

⁹ It was not possible to estimate the cost through outsourcing, as the exact age profile of the employees was not available with the corporation

5.2.4 Rs. 7797 lakhs required for roads and drains

Department-in-charge – Engineering department

Project title – Improving the road and drain service

Project manager – Executive engineer

Description:

Formation of new roads, improvement of existing roads and drains

Justification:

55 % of the municipal roads of 681 kms is provided with BT and 19.8% is provided with cement concrete surface. Since the sewerage system is being implemented in 208 kms length of roads all these roads have to be restored and resurfaced. 76.3 kms lengths of earthen roads will also be upgraded to BT roads. As a short-term measure the following proposals are made to improve the roads and traffic management: The pucca drains account for 78% of the municipal roads. For effective disposal of storm water, SWD is essential for the entire length of roads. Hence, new SWD are necessary for a total length of 150 km costing Rs. 150 lakhs. Additionally, minor maintenance works for the existing drains needs to be undertaken at a cost of Rs. 25 lakhs. In addition to the projects in roads and SWD, improvement measures in the existing traffic management systems need to be undertaken. This includes setting up of automated and manual traffic signals. Over the last few years, it can be seen that the population growth is concentrated in the Melapalayam and Tirunelveli town areas. Hence, traffic management systems should be first commissioned in these areas.

Investment requirements in different areas of Roads:

Area	Description of works	Quantity	Unit	Unit cost (Rs.Lakhs)	Total cost (Rs. Lakhs)
Black Top Roads					
	Formation	250	Km	12	3000
	Restoration	200	Km	8	1600
	Upgradation to Cement concrete	50	Km	12	600
	Widening	50	Km	12	600
WBM Roads					
	Upgradation to Black top	50	Km	10.0	500
Cement concrete					
	Formation	25	Km	12.0	300
Restoration of flood affected road					
	Restoration and resurfacing of roads where sewer for	208	Km	8	1664
	Ring road through the periphery of corporation	109	Km	15	1635
Traffic Management					
	Installation of new system		Nos		150
Others					
	Flyover at Vannarpettai	1	each	650	650
	Road over bridge/Road under bridge	1	each	678	678
					7582

Investment requirements in different areas of Storm Water Drains:

Area	Description of works	Quantity	Unit	Unit cost (Rs.Lakhs)	Total cost (Rs. Lakhs)
Pucca					
	New construction	150	Km	1	150
	Upgradation	50	Km	0.5	25
Others					
	Cover slabs for Pucca drains	20	Km	2	40
					215

Total Project Cost: Rs.7797 lakhs

5.2.5 Rs. 536 lakhs required for street lighting services

Department-in-charge – Engineering department

Project title – Improving the streetlights

Project manager – Executive engineer

Description:

Providing lighting at strategic locations

Justification:

The average spacing of streetlights is 45m, compared to the norm of 30m. Currently, the entire operations and maintenance of street lighting in the corporation limits is privatised. The corporation pays Rs. 5.5 lakhs per month to the private operator, who is responsible for the replacement and maintenance of lights. The corporation also pays the electricity charges. The investment identified provides additional sodium vapour lamps, tube lights and timer switches. However, providing solar lamps, energy saving lamps etc., in place of conventional lamps may be explored. The possibility of identification of sponsors for providing and maintaining lamps at strategic locations may also be explored.

Investment requirements in different areas

Area	Description of works	Quantity	Unit	Unit cost (Rs.Lakhs)	Total cost (Rs. Lakhs)
Tube light					
	Installation	2000	Nos	0.05	100
	Electronic choke	2000	Nos	0.00	4.4
Sodium vapour					
	Installation	4000	Nos	0.08	320
High Mast lamps					
	Installation	10	Nos	6	60
Others					
	Energy savers	BOT Basis	Nos		
	Timer switches	400	Nos	0.07	28
	Providing Metal Halide with ornamentation lamps	200	Nos	0.12	24
					536

Total Project Cost: Rs.536 lakhs

5.2.6 Rs. 1732.5 lakhs required for other services

Department-in-charge – Engineering department

Project title – Setting up slaughterhouses, parking spaces, improving hospitals, improving market facilities

Project manager – Executive engineer

Description:

Improving the conditions of daily and weekly markets, improving the social and physical infrastructure of the city

Justification:

There are several projects that require immediate attention and would improve the overall living conditions of the city. Currently, the corporation has invested substantially in improving the basic

infrastructure in all its schools. Several other projects have been envisaged. These include setting up slaughter houses, improving the conditions of the hospitals and schools, providing parking spaces, setting up parks and playfields etc.

Investment requirements in different areas

Area	Description of works	Quantity	Unit	Unit cost (Rs.Lakhs)	Total cost (Rs. Lakhs)
Slaughter houses					
	New constructions	4	Nos	50	200
Hospital/Health center					
	Improvement	5	Nos	40	200
Bus stands					
	Improvement	2	Nos	100	200
Markets - Daily/Weekly					
	Improvement	2	Nos	50	100
	New constructions	1	Nos	200	200
School buildings					
	Improvement	10	Nos	40	400
	New constructions		Nos		0
Parks and Playfield					
	Improvement	141	Nos	2.50	352.5
	Gasifier	2	Nos	40	80
					1732.5

Total Project Cost: Rs. 1732.5 lakhs

Overall investment requirement for Tirunelveli is Rs. 240.51 crores

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 'Base Case' and 'Improved Case'. In the former case, a 'Business As Usual' scenario is assumed, while in the latter case, several improvement measures across the revenue items are assumed. The analysis highlights that the town's investment capacity is sustainable only under the 'Improved Case'. If the town continues to function in the 'Business As Usual' scenario (without the UGD project), then, it would be able to sustain only 26% of the investment required, which would affect the service delivery levels adversely

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 corporation 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; these would maximise investment sustenance and achieve the goals set for provision and maintenance of basic services.

The investment has been identified on the basis of an iterative process, taking into account loan, grant and ULB contribution. This further highlights the key needs for future development and other immediate requirements contemplated by the corporation.

6.1 Need for a FOP

Under a 'Business As Usual' scenario, the corporation's existing revenue surplus is not utilized effectively due to various reasons viz. lack of an integrated approach to town development, inability to identify the priority sectors for investment, inability to raise the required finances for funding and inability to tap other sources of funds due to the lack of a comprehensive FOP. Moreover, in the absence of a FOP, new projects would not be undertaken and that would adversely impact the position of the town. In the event of the town not undertaking new projects, 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 a FOP has been developed; this aids in harnessing the existing strengths of the town and also reducing the inefficiencies in the system so that the town develops significant financial strength to undertake projects. To develop a FOP, several activities have 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 corporation's current financial position. The investments are derived from the expected amounts of surplus that would be generated in the future. The entire surplus cannot be used for capital works, as the corporation would also have to provide for additional O&M expenses for the upkeep of the newly created 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 the percentage of capital cost. A financial model has been created to depict the financial position of the corporation. 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 assumptions made while forecasting property tax, water tax/charges and other tax items are essentially based on growth in assessments, tax demand, rate revisions and collection performance.

Other taxes

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

Revenue grant

Recurring revenue grants like the SFC grant are predetermined amounts based on the criteria specified by the Second State Finance Commission (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 rates, subject to a minimum of 7% p.a. and maximum of 12% p.a. These grants mainly include the SFC developmental grant, Tenth Finance Commission (TFC)/ Eleventh Finance Commission (EFC) grant.

6.2.2 Revenue expenditure

The items of revenue expenditure under current heads of expenses and for current service levels are projected on the basis of 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 corporation that would accrue due to new investments is also considered as incremental O&M expenditure.

6.2.3 Capital income and expenditure

The corporation receives capital grants from the government under various state and central government sponsored schemes for specific capital works. The income under such grants has not shown any specific trend during the last five years. In addition to the regular scheme-based capital grants, the Government of Tamilnadu (GoTN) also extends grants for capital works for various capital projects.

The grants under the capital projects would not have any impact on the financial health of the corporation. Hence, the items under the capital head are not considered for forecasting in the FOP. At the same time, the grants received under this head are scheme-specific grants, which means that these should be utilised for the same purpose for which they have earmarked.

6.3 Property tax and water tax improvements have the maximum impact

The main areas of intervention, where improvement potential exists are listed below. The objective is to enhance 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

The estimates of improvement potential for the various revenue sources are based on discussions with municipal officials. The investment potential is quite high, but would require immediate and sustained effort from the corporation. Both an increase in rates and the introduction of new charges would 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 these changes. The largest share of the gain would come from efficiency improvements indicating that the success of the projects is more dependent on the corporation than on any other stakeholder. This would mean identifying areas of intervention and motivating employees with incentives/rewards towards better delivery of responsibility. The administration should also identify the defaulters and take strict action against them. The support of the council is of utmost importance for such initiatives.

6.4 Property tax / general tax have a lower coverage

Additional revenues of around Rs.5.5 Cr (in current value terms) are possible under this head by bringing additional properties into the property register and improving collections

6.4.1 Current scenario

There are about 104,356 residential and 24,464 commercial properties in the property register. Of these, about 67% of the properties have paid tax during the last five years. This highlights the potential to increase the total tax collected under this head. The property tax collection for the year 2004-05 was Rs.452 lakhs with an average collection per property of Rs.257 p.a. Taxes are also collected from vacant land and state government properties. The details of the properties for the last five years are presented in Table 18.

Table 18. Property details for the last five years

Details	2000-01	2001-02	2002-03	2003 -04	2004 -05
Properties Register					
Residential Properties	97892	99,075	100,385	102,958	104,356
Non-Residential Properties	18797	20,054	22,327	22,771	24,464
Vacant Land Sites	7837	8,299	8,584	8,937	9,237
Total	124526	127,428	131,296	134,666	138,057
No. of Properties that Paid Tax During the Year					
<i>Residential Properties</i>	69072	69,634	73,147	67,415	66,702
<i>Non-Residential Properties</i>	13230	13,417	15,770	15,405	17,433
<i>Vacant Land Sites</i>	3245	3,511	3,827	4,033	4,372
Total No. Of Tax Payees	85547	86,562	92,744	86,853	88,507
Tax payers as a % of properties in register	69%	68%	71%	64%	64%

6.4.2 Improvement measures

Improvements in revenue collection are possible for this particular tax head largely through an increase in the average tax collection per property. As per CMA Circular Roc No.77232/2004/R1 dt.28-12-04, a property survey was carried out; the identified unassessed buildings were assessed and special notices were served. The corporation has identified 63 unapproved layouts; in the past, it has regulated around 22 unapproved layouts. However, the corporation has the potential to bring more properties under the tax net. At the same time, the corporation should focus on improving its collection efficiency.

Improvement in collection efficiency: The average property tax collection efficiency in 2004-05 was low at 35%. A target efficiency of 80%, over a five-year period till 2010-11 has been considered. This increase in collection efficiency would generate an additional amount of Rs.928 lakhs (in current value terms).

Inclusion of unauthorized properties: With the current population to property ratio being at 4, the probability of adding new properties into the register is very low. However, collection tax from the properties already highlighted in the register would fetch additional revenue.

Together, the above measures have a potential of generating Rs.1155 lakhs (in current value terms)

Rate increases: Property tax in the corporation is assessed on the basis of Annual Rental Value (ARV) that is based on several parameters viz. basic value of the property, depreciation, type of occupancy and the nature of building. The quinquennial revision of the property tax was last carried out in 1998. The property tax rates are around 27.5%. In current terms, the rate revision would yield another Rs.1552 lakhs (in current value terms) over the next ten-year period.

Property Tax	% of ARV
General Purpose Tax	10.50
Water Tax	6.50
Drainage	
Lighting Tax	3.00
Scavenging Tax	2.50
Education Tax	5.00

6.5 Water charges

Water charges are an important component of ULBs' own revenues and show the maximum potential of improvement.

6.5.1 Current scenario

At the end of 2004-05, there were around 34,023 connections (30,670 domestic and 3353 non-domestic connections) yielding approximately Rs.183 lakhs. The ratio of water connections to properties is low at 26%. The per capita monthly collection was Rs.58 in 2004-05 with the average collection efficiency being 40% in the last five years (both arrears and current). Water rate revision was done in 2003.

Table 19. Water connection details for the last five years

No. of Connections	2000-01	2001-02	2002-03	2003-04	2004-05
Connections details					
Domestic	26118	27934	28014	29085	30670
Commercial	2422	2561	2653	2757	2883
Industrial	331	385	406	420	470
Total	28871	30880	31073	32262	34023
Connections that paid tax					
Domestic	26218	28,361	31,549	32,684	31,691
Commercial	1580	1,774	1,918	2,058	1,978
Industrial	245	276	330	370	320
Total	28043	30,411	33,797	35,112	33,989

6.5.2 Improvement measures

Efficiency improvement measures would generate an additional Rs.4411 crores (in current value terms). The additional revenue would be generated on account of three heads viz. increase in connections / supply, collection efficiency gains and revision in tariff

Increase in connections: The number of water connections would increase so that at least 80% of the properties are covered in comparison to the current 26%. This would mean a substantial gain and would lead to an increase of Rs.3643 lakhs (in current value terms).

Collection efficiency gains: The collection efficiency of the corporation in terms of water charges is estimated to increase to 75% over a period of five years from the existing 35%. This increase in efficiency would lead to an additional revenue collection of Rs.768 lakhs (in current value terms).

Rate increases: We have considered a conservative 30% hike in rates every four years. This would generate additional revenue of Rs.1758 lakhs (in current value terms).

6.6 Shops & market rent

Currently, the corporation collects around Rs.186 lakhs through rents from 1379 shops. On an average, shops and market rent has been contributing approximately 6% of the total own revenues. Shop lease is increased once in three years and usually extended to the existing tenant. The main area of improvement would be collection efficiency. The collection efficiency in 2004-05 was 71% (both arrears and current); an increase in the collection efficiency to 80% would increase the revenues by Rs.126 lakhs (in current value terms). A revision in the tax rate every five years would fetch the corporation additional revenue of Rs.74 lakhs (in current value terms)

6.7 Others

The other heads of revenue include trade licenses, building license fees and miscellaneous. The trade license and building license fee generate approximately 1.87% 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 generate an additional Rs.85 lakhs (in current value terms). The main components of 'Miscellaneous' include professional tax and entertainment tax. Incremental gains from these sources is expected to be Rs.40.98 lakhs in current value terms as shown below in Table 20.

Table 20. Revenue potential for other sources

Category	Current level	Additional revenue
Trade Licenses	24.22	18.0
Building License fees	39.49	11.4
Miscellaneous	118.45	55.6
Total	182.16	85.0

Note: All figures in Rs. lakhs for 2004-05

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

6.8 Implementation measures

Revenue improvements under various heads are already identified above. In order to accrue the same, a will have to adopt two pronged approach – a) one that focuses on achieving revenue improvement very early so that investment capacity is scaled up and b) one that sustains these improvements and builds a recurring revenue generation capacity. Accordingly the following two approaches are suggested:

1. Immediate revenue improvement measures to increase the investment capacity
2. Long term measures to create a sustainable revenue generation capacity

The above approach would need to have five broad areas of focus-

1. **Small special cells** with expertise in specific areas such as GIS and IT. In addition, in the transition stage, the department will also have special cells to focus on one time assessment activities and legal changes.
2. **A high value group** is expected to be constituted to focus on commercial properties, institutions and large residential properties. The group would be provided MIS support by the full time co-ordinator for property tax.
3. **Outsourcing** is expected to be utilised in the proposed system. Outsourcing would require special skills in contract design, procurement, monitoring and in dispute management.
4. A systematic approach for **new assessments** and integrating the different databases of the corporation will also be an area of focus. The department structure will include a group of employees who will be tasked with updating the database of properties.
5. Lastly, the revenue department will be **decentralised** at the zonal or ward level. This decentralised department will undertake the core functions of collections and enforcement for both property tax and user charges.

In case of water charges, the following activities need to be carried out:

1. ULB should develop a volumetric metering, billing and collection system for water supply. This should cover -- redesigning of processes for collecting meter readings, redesigning of the billing system and the principles collection and enforcement.
2. It should unify decentralised collection staff across departments. Based on the outcome of the new operating structure the department would be reoriented to ensure that the manpower of the department is optimised so as to ensure better collection alongwith non duplication of efforts.
3. Design and implement a billing system, which should be linked with the GIS database and the accounting system.
4. Improve enforcement against defaulters by modifying byelaws with adequate recourse to ULB within the current framework of laws for enforcing disconnections on defaulters.

6.9 Areas of Expenditure reduction

There are several areas of expenditure reduction across all departments; tapping into these areas could lead to an increase in the revenue surplus of Tirunelveli. Table 21 highlights these key areas of expenditure reduction, which, if implemented would enhance the revenue surplus position of the corporation.

Table 21. Areas of Expenditure reduction

Department	Sector	Area	Estimated reduction in O&M cost
Engg. Department	Water	<ol style="list-style-type: none"> 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 	40%
	Roads and drains	<ol style="list-style-type: none"> 1. Private Sector Participation (PSP) could be envisaged in project management at two levels viz. contract management and contract execution <ol style="list-style-type: none"> 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: 20% SWD: 30%
	Sanitation	<ol style="list-style-type: none"> 1. Savings in usage of materials for sanitation works 	10%
	Street lighting	<ol style="list-style-type: none"> 2. Introducing telemetry system 	35%
Health department		<ol style="list-style-type: none"> 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 	25%
Revenue department		<ol style="list-style-type: none"> 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 health department. By amalgamating these 	

Department	Sector	Area	Estimated reduction in O&M cost
		<p>departments on the basis of functionality, costs could be substantially reduced as well as pilferage in collection could be tracked.</p> <ol style="list-style-type: none"> 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.	

6.10 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 for 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.

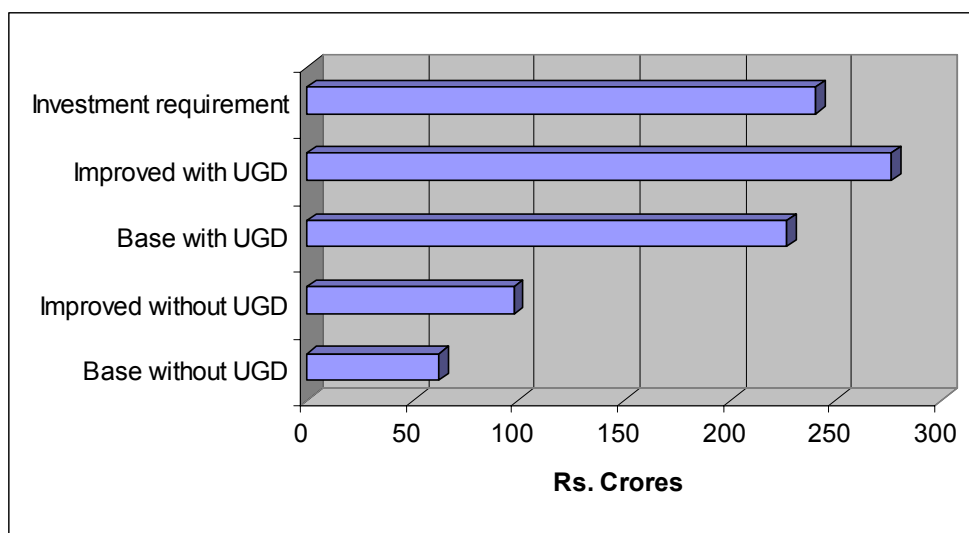
We have highlighted a list of actions in Annexure VIII that could be incorporated to increase the collection efficiencies.

6.11 Maximum investment potential of the town is Rs. 27631 lakhs

The FOP, as mentioned above has been estimated under 2 scenarios viz. Base Case and Improved Case. Based on the Demand Gap analysis and discussions with the town, the identified investment capacity, as mentioned in Section 5 is Rs. 24952 lakhs, which is based on the immediate requirement of the town, in the next 5 years. Under the 'Improved' scenario and implementing the UGD project, the town can sustain up to 115% of the investment requirement.

Scenario	Investment Capacity (Rs. Crores)	% of required investment
Base without UGD	62.51	26%
Improved without UGD	97.88	41%
Base with UGD	226.92	94%
Improved with UGD	276.31	115%

The town can sustain the complete investment



6.11.1 Summary – Improvement measures mandatory to sustain the required investment

It is observed that Tirunelveli Corporation can sustain only 26% of the identified investment in the base case. The corporation can undertake the complete investments, if improvement measures are undertaken by way of improved collection efficiencies, better coverage, new tariffs and upward revision of tariff. Moreover additional investment would facilitate wider coverage of the system and consequent increase in the tax-base; further enhancing investment sustainability.

In addition to this, the corporation is required to undertake steps towards improving its affordability by several means such as enhancing revenue collection; revising property and water taxes, shop rent, building license rates; introducing new taxes such as underground charges and SWM cess; collecting advertising fees, cable charges, and innovation in revenue generation.

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

In order of criticality with respect to contribution towards improved scenario, the ULB will have to focus on property tax and water charges, as both these contribute largest share of revenue. Any improvement in these two items would result in multiple impacts on the revenue collection. Hence the ULB have to focus on improving collection efficiencies, improving coverage followed by revision in rates.

7. ASSET MANAGEMENT PLAN

Tirunelveli Municipal Corporation has several assets that require regular maintenance for sustenance of reasonable service delivery levels. Tirunelveli's average O&M cost during the period 2000-01 to 2004-05 was Rs.2330 lakhs, which is almost 69% of its revenues. Given the high impact the O&M expenses have on the finances of the corporation, 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 corporation 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 corporation 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 Corporation 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 corporation.

7.1.1 Activities of Asset Management Plan (AMP)

Asset identification and facilities audit

All movable and immovable equipment, immovable municipal properties, assets of corporation 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 corporation 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

Corporation 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 compiled 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

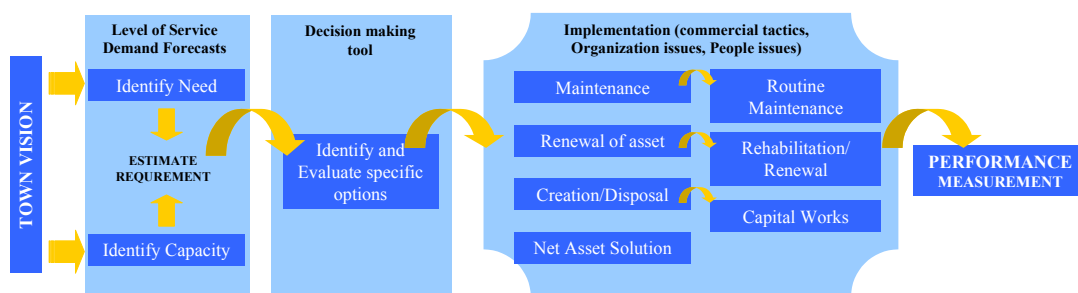
Management of assets is an evolving process that improves as the understanding of asset conditions; their performance and operational costs improve. The benefits of implementing the asset management plan would include:

- 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 ISO 9000 concept

Asset Management Plan – Process

Typical Asset Management Planning Process



7.2 Planning of Tirunelveli municipal assets

In order to prepare the AMP, it is imperative to know the potential of the municipal assets. The details of assets of the Tirunelveli Corporation 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 corporation. In addition to these vehicles, the corporation 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 22. Motor vehicles owned by the corporation

Number of Motor Vehicles owned	Number	Original Value
General Administration	12	6833
Water Supply	13	240647
Public Health	32	409
Street Lighting	1	23587
Others	3	16650
Details of Conservancy Vehicles	Number	Age (Years)
Tractors	2	14
Mini Trucks	11	7
Trucks	3	15
Tippers	3	7
Push carts	15	3
Dumper Placer	1	6
FEL/JCB	1	6
Others (Auto, Bullock carts)	18	10

Plan for vehicle maintenance

Vehicles owned by the corporation are poorly maintained. As a result, the life span of the vehicle gets reduced considerably. Hence, the corporation 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 corporation 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 23. Typical structure of the register for maintenance contract

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

7.2.2 Remunerative asset

Most of the assets created by the corporation are under the central or state government supported schemes. Since the assets are remunerative in nature, it becomes more important for the corporation 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 corporation to auction the shops in the open market so as to get the optimum returns from the investment.

Table 24. Details of remunerative assets owned by corporation

Description	Number	Area
Kalyana mandapam	3	6168.27
Bus Stand	3	6062.49
Taxi Stand	1	
Auto Stand	1	
Office buildings	9	2345.87
Commercial complexes	15	6968.04
Lodges	2	241.63
Pay and use latrines	19	2032.93
Slaughter house	5	335.6
Markets		
Daily	2	13585
Weekly	1	274.4
Others	2	243.64

Note: Area in sq. meter

7.2.3 Social and service related assets

Table 25. Social infrastructure owned by corporation

Social infrastructure	Number	Area
School buildings	33	16500
Office buildings	4	4562.85
Pumping stations	5	80.5
Service oriented assets		
Maternity centres / homes	2	255
Hospitals / Dispensaries	3	985
Noon-meal centres	44	1584
Reading rooms	8	288
TV rooms	5	87.5
Radio rooms	1	12.8
Common bathrooms	16	256
Parks & Play grounds	23	
Maternity centres / Homes	2	255

Note: 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 in terms of their maintenance and rehabilitation. This would ensure reducing costs, improving reliability, and ensuring sustainability. Hence it is imperative for the corporation 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 corporation. The immediate onus lies on the council, who would need to approve the plan and pass the council resolution. Subsequently, the corporation 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 involvement of the lending agency, the state government and the ULB. The investment required would be released over a five-year period from various agencies. The lending agencies provide the loan, while the state government would provide the support through the budgetary grant. The budgetary grant has been assumed at 30% of the total investment requirement.¹⁰ The ULB's contribution is assumed at 10%. The amount and the timing of the financial involvement are highlighted in the table below.

8.1 Implementation schedule

8.1.1 Improved scenario without UGD project

Under this scenario, the corporation can sustain only certain components of the total investment. Hence, UGD component has been removed and only key components in 'Others' like schools, Gasifier have been included

Table 26. Project phasing – Investment without UGD

Sector	I year	II year	III year	IV year	V year	Total
Water Supply	321.20	321.20	321.20	321.20	321.20	1,606.00
Sewerage and Sanitation	-	-	-	-	-	-
Roads			2,021.87	2,021.87	2,021.87	6,065.60
Storm water drains	71.67	71.67	71.67			215.00
Street Lighting	268.20	268.20				536.40
Solid Waste Management	302.50	302.50				605.00
Others	340.00	340.00				680.00
Total	1303.57	1303.57	2414.73	2343.07	2343.07	9708.00

Table 27. Key activities – Investment without UGD

Stakeholders	Actions	Pre - Project	I year	II year	III year	IV year	V year	VI year onwards
Financial								
TUFIDCO/TUFISIL	Release of loans		912.5	912.5	1377.7	1327.6	1640.1	
Govt. of Tamilnadu	Release of grants		391.1	391.1	724.4	702.9	702.9	
Tirunelveli municipality	ULB contribution			0.0	312.6	312.6		
Public	Initial contribution for new projects like UGD							
Physical								
Council	Resolution to undertake the project/ Signing the MoU							
Implementing agency	Implementation of the projects							
TUFIDCO/TUFISIL	Monitoring of the implementation							
Govt. of Tamilnadu	-do-							
Nammakal municipality	Monitoring of the implementation							
	Repayment of loans							
Self Help Group (Public)	Feedback/Highlighting pitfalls							
	Providing ground level support							

¹⁰ For Karnataka ULBs, under the World Bank aided projects, it has been assumed at 40%. Since, we would like to adopt a progressive approach in making the ULBs self reliant, the grant level has been reduced to 30% in this case

All figures in Rs. Lakhs

8.1.2 Improved scenario with UGD project

The investment capacity is based on the UGD charges with domestic connections charges Rs. 6000 for a new connection and a monthly charge of Rs. 130. For commercial connections, it would be Rs. 11000 and a monthly charge of Rs. 240 and industrial would be charged Rs. 11000 for new connection and a monthly charge of Rs. 400¹¹. Under this scenario, the town can sustain the complete investments and would have a surplus.

Table 28. Project phasing – Investment with UGD

Sector	I year	II year	III year	IV year	V year	Total
Water Supply	321.20	321.20	321.20	321.20	321.20	1,606.00
Sewerage and Sanitation	2,234.00	2,234.00	2,234.00	2,234.00	2,234.00	11,170.00
Roads			2,527.33	2,527.33	2,527.33	7,582.00
Storm water drains	71.67	71.67	71.67			215.00
Street Lighting	268.20	268.20				536.40
Solid Waste Management	605.00	605.00				1,210.00
Others	866.25	866.25				1,732.50
Total	4366.32	4366.32	5154.20	5082.53	5082.53	24051.90

All figures in Rs. Lakhs

Table 29. Key activities – Investment with UGD

Stakeholders	Actions	Pre - Project	I year	II year	III year	IV year	V year	VI year onwards
Financial								
TUFIDCO/TUFISIL	Release of loans		3056.4	1972.8	2211.8	3245.2	3557.8	
Govt. of Tamilnadu	Release of grants		1309.9	1309.9	1546.3	1524.8	1524.8	
Tirunelveli municipality	ULB contribution			1083.6	1396.2	312.6		
Public	Initial contribution for new projects like UGD							
Physical								
Council	Resolution to undertake the project/ Signing the MoU							
Implementing agency	Implementation of the projects							
TUFIDCO/TUFISIL	Monitoring of the implementation							
Govt. of Tamilnadu	-do-							
Nammakal municipality	Monitoring of the implementation							
	Repayment of loans							
Self Help Group (Public)	Feedback/Highlighting pitfalls							
	Providing ground level support							

All figures in Rs. Lakhs

¹¹ This is based on the charges for Phase I. For domestic, the charge is based on the area of the property. The charge applied here is the weighted average charge

8.2 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 SHG to represent their problems and provide regular feedback to the ULB.

8.2.1 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 (1278) in the city 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 Tirunelveli Corporation is currently losing substantial revenues on this account. Around 1821 unapproved and poramboke 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.

8.2.2 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.

8.3 Actions required during the implementation of the business plan

8.3.1 Land management, urban economy and environment

A strong coordinating mechanism between the corporation 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 corporation to constitute a core planning team consisting of representatives of city 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 city 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 corporation 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 corporation should also constitute a city-level advisory committee (drawn from local chambers of commerce, NGO and responsible citizens) to provide inputs to the planning and development cell mentioned earlier.

8.3.2 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.

8.3.3 Supervisory requirement for revenue section to handle issues

Given the large scale and width (activities across several departments of the corporation) 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 corporation. 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.

8.3.4 An integrated commercial approach

Currently, the facility centre of the corporation 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.¹²

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 30. 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
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 corporation 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

¹² To some extent property tax and water connection data can be integrated. But the utilisation is presently very limited.

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 corporation, external recruitment may be required for the same, failing which the role may have to be carried out by the commissioner.

8.3.5 HRD 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 31. 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 Officer	Penal provisions & dispute resolution
Chief Accounts Officer	Available funding options and Accessing donors

Table 32. 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

8.4 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. Tirunelveli Corporation 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

8.4.1 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.

8.4.2 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.

8.4.3 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.

8.5 Way forward

Several parallel initiatives need to be implemented by all the stakeholders (corporation, 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 MEMORANDUM OF UNDERSTANDING BETWEEN TIRUNELVELI CORPORATION AND 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 disbursement of the funds
- The terms of the loan will be
 - a. Interest rate - 8.5%
 - 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
Tirunelveli Corporation

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	Km.							
	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	%							

Category	Description	Unit	Target - Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Reforms and Action Required by the ULBs
SWM									
	Daily per capita waste generated								
	Primary Collection Capacity	MT							
	Secondary Collection Capacity	MT							
	Door to Door collection coverage	%							
	Total Rated capacity of vehicles/Total waste generated	%							
	Average Spacing between Dustbins	Meters							
SWD									
	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	%							

Category	Description	Unit	Target - Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Reforms and Action Required by the ULBs
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									
	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	%							

Category	Description	Unit	Target - Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Reforms and Action Required by the ULBs
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	%							

ANNEX

I. Assumptions adopted for FOP

Assumptions adopted in forecasting revenue

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 1.61%	Minimum of current CAGR or population/Household size (4)
4	Average property tax demand	Computed based on current average demand per assessment- Rs.2004-05 (Rs. 449). Last revision in demand was implemented in 1998.	Maximum of current CAGR or population/Household size (4)
5	Collection Performance	The current level would continue	Assumed to be increased by 30 per cent in 2006-07 and every 5-years thereon
		Arrears- 14% and Current- 61%	Arrears- 16% to 60% Current- 41 to 85%
B Water tax/ charges			
1	Forecast based on:	⇒ Growth in connections, ⇒ Minimum monthly charge, ⇒ Periodic tariff revisions and ⇒ Collection performance	
2	Growth in connections	Current level of HSC is 26% of property tax assessment	No. of connections to be equivalent to 80% of property tax assessments, gradual increase by 2006-07
3	Minimum monthly charge	Current average demand works out to Rs.58 per connection per month.	The current level would continue
4	Collection Performance	Collection performance is: Arrears- 44% Current- 61%	Upward revision of 30% assumed in 2007-08 and every 5-years thereon
5	New connection charge	New connection fee Domestic – Rs.3000/- Non-Domestic – Rs.5000/- Average – Rs.3128/-	Arrears- 44% to 50% Current- 61% to 85% or current level, which ever is higher
		The current level would continue	To increase by 30% at every five years from 2007-08
C Underground drainage			
1	Forecast based on	⇒ Growth in connections, ⇒ Minimum monthly charge ⇒ Periodic tariff revisions	

Item		Assumption Adopted for Forecast	Base Case	Improved case
2	Growth in connections	Proposed level of connections (20,000)	No. of connections to grow equivalent to no of new properties registered	
3	Minimum monthly charge	--	Rs. 25 per months and a revision at the end of 7 years and every five years thereon	
4	Collection Performance	--	Collection to maintain not less then 90%	
5	New connection charge	Average new connection fee – Rs.5000/-	To increase by 25% at the end of 7 years and every five years thereon	
D Shops and Market rent				
	Forecast based on:	⇒ Growth in shops, ⇒ Minimum monthly charge, ⇒ Periodic tariff revisions and ⇒ Collection performance		
1	Growth in no. of shops	Current level – 1379 (CAGR of 2.06%)	Current level of growth in no of shops CAGR – 2.06%	Increase with respect to growth in non-residential properties – CAGR- 6.91%
2	Minimum monthly charge per shop	Current average demand works out to Rs.1215/shop/ month.	The current level would continue	Upward revision of 7% assumed in 2007-08 and every 5-years thereon
3	Collection Performance	Collection performance is: Arrears- 16% Current- 88%	The current level would continue	Arrears- 16% to 50% Current- 88 to 85% or current level, which ever is higher
E Trade licences				
1	Forecast based on:	⇒ Growth in trade licenses, ⇒ Minimum monthly charge, ⇒ Periodic tariff revisions and ⇒ Collection performance		
2	Growth in no. of trade licences	Current level – 3792	Growth with respect to increase in no of non-domestic properties	
3	Minimum monthly charge per shop	Current average demand works out to Rs.53/license/ month.	The current level would continue	Upward revision of 8% assumed in 2007-08 and every 5-years thereon
4	Collection Performance	Collection performance is: Arrears- 9% Current- 96%	The current level would continue	Arrears- 9% to 50% Current- 96% to 85% or current level, which ever is higher
F Building related taxes (Building license)				
1	Forecast based on:	⇒ Growth in building licenses, ⇒ Minimum monthly charge, and ⇒ Periodic tariff revisions		
2	Growth in no. of building licences	Current level – 1231	New properties based on growth in no of properties.	
3	Minimum monthly charge per shop	Current average demand works out to Rs.221/license/ month.	The current level would continue	Upward revision of 8% assumed in 2007-08 and every 5-years thereon
G 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%.		
H Non-tax income				

Item	Assumption Adopted for Forecast	Base Case	Improved case
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%.
I 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%.
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%.

Assumptions adopted in forecasting expenditure

Item	Assumptions Adopted for Forecast										
1	Establishment expenditure (Salaries) <ul style="list-style-type: none"> ⇒ Annual growth rate of 6% adopted, assuming restrain in engaging daily-wage labour, while the establishment expenses of regular employees is assumed to grow at a higher than nominal growth. ⇒ CAGR/ average growth rates adopted, subject to a minimum of 6 per cent to a maximum of 8 percent per annum. (With the Pay commission revision due, a growth of 15% is assumed in 2006-07) 										
2	Operation & Maintenance and contingencies expenditure on existing services <ul style="list-style-type: none"> ⇒ CAGR/ average growth rates adopted, subject to a minimum of 6 per cent to a maximum of 8 percent per annum. 										
3	Additional O&M expenditure due to new investments (Year additional O&M expenses commence – 2008-09) <table border="1"> <tr> <td>Public Health (incl. Water supply, Sewerage and sanitation, SWM, SWD, etc)</td><td>5.00%</td></tr> <tr> <td>Others (Roads, Street lighting, etc)</td><td>12.00%</td></tr> </table>	Public Health (incl. Water supply, Sewerage and sanitation, SWM, SWD, etc)	5.00%	Others (Roads, Street lighting, etc)	12.00%						
Public Health (incl. Water supply, Sewerage and sanitation, SWM, SWD, etc)	5.00%										
Others (Roads, Street lighting, etc)	12.00%										
4	Loan terms <table border="1"> <tr> <td>Loan period:</td><td>20 years (5+15)</td></tr> <tr> <td>Moratorium period:</td><td>5 years on principal repayment</td></tr> <tr> <td>Year of disbursement:</td><td>2006-07 (1/4/2006)</td></tr> <tr> <td>Repayment method:</td><td>Equal annual instalments</td></tr> <tr> <td>Weighted interest rate:</td><td>8.5%</td></tr> </table> <ul style="list-style-type: none"> ⇒ New Loans to fund CIP - To be repaid in 20 years @ 8.5% - assuming funding mix of 60:30:10 (loan: grant: ULB) 	Loan period:	20 years (5+15)	Moratorium period:	5 years on principal repayment	Year of disbursement:	2006-07 (1/4/2006)	Repayment method:	Equal annual instalments	Weighted interest rate:	8.5%
Loan period:	20 years (5+15)										
Moratorium period:	5 years on principal repayment										
Year of disbursement:	2006-07 (1/4/2006)										
Repayment method:	Equal annual instalments										
Weighted interest rate:	8.5%										
6	Debt Service Coverage Ratio ¹³ <ul style="list-style-type: none"> ⇒ At least 1.25 in all years 										

		Costing Rs. Lakhs
A	Roads	
1	Upgradation	
i	BT to Concrete	50.00
ii	WBM to Black Top	4.50
iii	Earthen to Black Top	10.00
2	New Formation	
i	Concrete	60.00
ii	Black Top	10.00
iii	WBM	7.00

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

II. Current financials

Items	2000-01	2001-02	2002-03	2003-04	2004-05
Opening balance	322	956	-20	-1,418	1,130
Municipal receipts	2,984	2,757	3,430	4,572	3,153
Municipal expenditure	2,349	3,734	4,827	2,024	3,621
Municipal Surplus/deficit for current year	635	-977	-1,397	2,548	-468
Final closing balance	956	-20	-1,418	1,130	662
RECEIPTS					
Own Sources					
Revenue Fund	2,000	1,729	1,498	2,384	1,123
Property tax	380	410	465	462	453
Professional tax	94	103	105	108	118
Entertainment tax	1	2	2	0	0
Trade licenses	13	23	23	23	24
Building license fee	38	37	41	48	39
Shops & market rents	165	171	171	173	186
Development charges	0	0	0	0	0
Others	1,310	984	690	1,569	302
Water Supply and Drainage Fund	247	271	318	451	459
Water tax	153	166	185	185	184
Water charges	94	105	133	266	275
Sub-Total	2,248	1,999	1,816	2,835	1,581
Permanent Revenue Grants					
Devolution of funds (SFC)	328	325	684	967	1,122
Entertainment tax	133	82	147	124	104
Surcharge on Sales tax	193	212	740	434	270
TFC/EFC grants	24	124	31	93	62
Other grants	59	14	13	119	13
Sub-Total	736	758	1,614	1,737	1,571
TOTAL MUNICIPAL RECEIPTS	2,984	2,757	3,430	4,572	3,153

Note: All figures in Rs. Lakhs

Items	2000-01	2001-02	2002-03	2003-04	2004-05
PAYMENTS					
Salaries					
General Administration	62	78	68	65	69
Water Supply	33	33	28	27	26
Sewerage	174	182	178	190	191
Public Health (Sanitation)	137	139	150	140	139
Conservancy	10	10	10	11	11
Public Works (Engg. Staff)	21	18	18	17	17
Street Lighting	35	21	14	22	23
Discretionary Services	347	352	392	334	361
Sub-Total	819	832	857	805	836
Operation and Maintenance					
General Administration	824	374	437	456	1,079
Water Supply	105	121	210	207	239
Sewerage	0	0	0	0	0
Conservancy	18	36	28	30	18
Roads	3	1	11	1	0
Storm Water Drains	0	0	0	0	0
Miscellaneous Items	172	2,134	2,667	106	1,159
Sub-Total	1,317	2,859	3,649	1,097	2,734
Loan & Interest Payments					
Loan repayment	214	42	322	122	51
Loan & Interest Payments	214	42	322	122	51
TOTAL MUNICIPAL PAYMENTS	2,349	3,734	4,827	2,024	3,621

Note: All figures in Rs. Lakhs

III. Base case projection

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	2018-19	2019-20
Opening balance	662.15	1,173.22	2,726.39	2,467.19	3,437.08	4,891.46	6,519.58	7,929.22	9,747.00	12,199.05	14,847.62	17,664.42	20,674.67	23,889.24	27,989.38
Municipal receipts	3,858.15	6,260.25	5,225.61	5,841.48	6,490.94	7,177.59	7,904.69	8,675.87	9,698.24	10,309.69	10,921.60	11,579.07	12,290.72	13,718.86	14,625.31
Municipal expenditure	3,347.08	3,572.47	3,813.69	4,033.57	4,309.88	4,605.64	4,922.23	5,261.13	5,623.95	6,012.38	6,428.27	6,863.18	7,340.01	7,850.62	8,397.44
Impact of debt servicing		50.99	254.95	407.92	437.00	424.63	1,065.22	1,063.97	1,062.61	1,061.13	1,059.53	1,057.79	1,055.91	1,053.86	1,051.64
Impact of additional O&M			20.00	117.52	289.68	519.20	507.60	532.98	559.63	587.61	617.00	647.84	680.24	714.25	749.96
ULB contribution		1,083.61	1,396.18	312.57											
Final closing balance	1,173.22	2,726.39	2,467.19	3,437.08	4,891.46	6,519.58	7,929.22	9,747.00	12,199.05	14,847.62	17,664.42	20,674.67	23,889.24	27,989.38	32,415.64
RECEIPTS															
Own Sources	1,841.61	1,960.24	2,072.79	2,188.24	2,308.77	2,434.92	2,567.49	2,707.18	2,854.54	3,010.40	3,175.49	3,350.57	3,536.31	3,733.65	3,943.48
Property tax	479.41	501.54	521.89	540.77	558.39	574.99	590.72	605.74	620.17	634.14	647.74	661.04	674.12	687.04	699.85
Professional tax	126.73	135.60	145.09	155.25	166.12	177.75	190.19	203.50	217.75	232.99	249.30	266.75	285.42	305.40	326.78
Entertainment tax	1.25	1.34	1.43	1.53	1.64	1.75	1.88	2.01	2.15	2.30	2.46	2.63	2.81	3.01	3.22
Trade licenses	24.33	24.85	26.77	27.34	27.92	28.50	29.10	29.71	30.33	30.97	31.62	32.28	32.95	33.64	34.34
Building license fee	16.95	28.17	28.25	28.36	28.49	28.64	28.80	28.99	29.19	29.40	29.63	29.88	30.15	30.42	30.72
Shops & market rents	192.21	197.97	203.62	209.06	214.46	219.72	224.99	230.29	235.52	240.80	246.17	251.62	257.03	262.55	268.18
Others	1,000.72	1,070.77	1,145.73	1,225.93	1,311.74	1,403.57	1,501.82	1,606.94	1,719.43	1,839.79	1,968.57	2,106.37	2,253.82	2,411.59	2,580.40
Water Supply and Drainage Fund	512.50	2,601.74	1,292.31	1,614.87	1,948.80	2,295.51	2,655.61	3,030.06	3,623.22	3,769.73	3,877.59	3,988.26	4,106.48	4,890.13	5,096.29
Water tax	193.20	201.82	202.96	209.75	216.17	222.27	228.11	233.74	239.20	244.50	249.70	254.81	259.85	264.85	269.81
Water charges	302.16	332.37	365.61	402.17	442.39	486.63	535.29	588.82	647.70	712.48	783.72	862.09	948.30	1,043.13	1,147.45
New water connection fee	17.14	17.42	17.70	18.02	18.27	18.58	18.86	19.34	19.62	19.94	20.25	20.60	20.92	21.26	21.61
New Charge- UGD		337.93	614.82	893.36	1,180.00	1,475.57	1,780.36	2,094.58	2,622.48	2,697.90	2,728.25	2,754.29	2,780.09	3,438.11	3,533.47
Fee from new UGD connections		1,712.20	91.21	91.56	91.98	92.45	92.98	93.57	94.22	94.91	95.66	96.47	97.32	122.77	123.95
Permanent Revenue Grants															
Devolution of funds (SFC)	1,016.86	1,169.39	1,286.33	1,414.96	1,556.46	1,712.11	1,883.32	2,071.65	2,278.81	2,506.69	2,757.36	3,033.10	3,336.41	3,670.05	4,037.06
Entertainment tax	111.10	118.87	127.20	136.10	145.63	155.82	166.73	178.40	190.89	204.25	218.55	233.85	250.21	267.73	286.47
Surcharge on Sales tax	294.14	320.14	348.42	379.21	412.72	449.20	488.89	532.09	579.11	630.29	685.99	746.60	812.58	884.39	962.54
TFC/EFC grants	68.33	75.17	82.68	90.95	100.04	110.05	121.05	133.16	146.48	161.12	177.24	194.96	214.46	235.90	259.49
Other grants	13.61	14.70	15.88	17.15	18.52	20.00	21.60	23.33	25.19	27.21	29.38	31.73	34.27	37.02	39.98
TOTAL MUNICIPAL RECEIPTS	3,858.15	6,260.25	5,225.61	5,841.48	6,490.94	7,177.59	7,904.69	8,675.87	9,698.24	10,309.69	10,921.60	11,579.07	12,290.72	13,718.86	14,625.31
PAYMENTS															
Salaries															
General Administration	73.45	77.85	82.53	87.48	92.73	98.29	104.19	110.44	117.06	124.09	131.53	139.43	147.79	156.66	166.06
Water Supply	27.22	28.85	30.59	32.42	34.37	36.43	38.61	40.93	43.39	45.99	48.75	51.67	54.77	58.06	61.54
Sewerage	202.85	215.02	227.92	241.60	256.10	271.46	287.75	305.01	323.32	342.71	363.28	385.07	408.18	432.67	458.63
Public Health (Sanitation)	147.02	155.84	165.19	175.11	185.61	196.75	208.55	221.07	234.33	248.39	263.29	279.09	295.84	313.59	332.40
Conservancy	11.71	12.42	13.16	13.95	14.79	15.67	16.62	17.61	18.67	19.79	20.98	22.23	23.57	24.98	26.48
Public Works (Engg. Staff)	17.94	19.01	20.15	21.36	22.64	24.00	25.44	26.97	28.59	30.30	32.12	34.05	36.09	38.25	40.55
Street Lighting	24.23	25.69	27.23	28.86	30.59	32.43	34.37	36.44	38.62	40.94	43.40	46.00	48.76	51.68	54.79
Discretionary Services	382.15	405.08	429.39	455.15	482.46	511.40	542.09	574.61	609.09	645.64	684.37	725.44	768.96	815.10	864.01
Operation and Maintenance															
General Administration	1,154.20	1,234.78	1,320.99	1,413.23	1,511.90	1,617.46	1,730.39	1,851.20	1,980.45	2,118.73	2,266.65	2,424.91	2,594.22	2,775.34	2,969.12
Water Supply	258.10	278.75	301.05	325.13	351.14	379.23	409.57	442.34	477.72	515.94	557.22	601.79	649.94	701.93	758.08
Public Health (Sanitation)	6.47	6.85	7.27	7.70	8.16	8.65	9.17	9.72	10.31	10.92	11.58	12.27	13.01	13.79	14.62
Conservancy	19.53	20.70	21.94	23.25	24.65	26.13	27.70	29.36	31.12	32.99	34.97	37.06	39.29	41.65	44.14
Roads	0.25	0.27	0.29	0.30	0.32	0.34	0.36	0.38	0.41	0.43	0.46	0.48	0.51	0.54	0.58
Street Lighting	245.33	260.05	275.65	292.19	309.72	328.31	348.01	368.89	391.02	414.48	439.35	465.71	493.65	523.27	554.67
Miscellaneous Items	683.36	738.03	797.08	860.84	929.71	1,004.09	1,084.41	1,171.17	1,264.86	1,366.05	1,475.33	1,593.36	1,720.83	1,858.49	2,007.17
Loan repayment	93.27	93.27	93.27	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	44.60	44.60	44.60	44.60
TOTAL MUNICIPAL PAYMENTS	3,347.08	3,572.47	3,813.69	4,033.57	4,309.88	4,605.64	4,922.23	5,261.13	5,623.95	6,012.38	6,428.27	6,863.18	7,340.01	7,850.62	8,397.44

IV. Improved case projection

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	2018-19	2019-20
Opening balance	662.15	203.48	1,613.12	1,409.40	2,540.42	4,374.69	6,365.58	8,094.60	9,890.26	12,291.45	14,866.43	17,597.50	20,842.16	24,759.20	29,677.68
Municipal receipts	3,457.29	6,810.89	6,206.10	7,040.94	7,880.54	8,735.10	9,791.01	10,313.11	11,406.02	12,101.39	12,815.72	13,916.44	15,228.46	16,914.65	18,065.99
Municipal expenditure	3,915.96	4,266.65	4,561.80	4,839.84	5,178.86	5,542.24	5,931.74	6,349.27	6,796.87	7,276.74	7,791.23	8,332.48	8,924.00	9,558.30	10,238.53
Impact of debt servicing	-	50.99	254.95	407.92	437.00	424.63	1,346.72	1,345.46	1,344.10	1,342.62	1,341.02	1,339.28	1,337.40	1,335.35	1,333.13
Impact of additional O&M	-	-	20.00	172.71	430.41	777.34	783.54	822.72	863.85	907.05	952.40	1,000.02	1,050.02	1,102.52	1,157.65
ULB contribution	-	1,083.61	1,573.06	489.45	-	-	-	-	-	-	-	-	-	-	-
Final closing balance	203.48	1,613.12	1,409.40	2,540.42	4,374.69	6,365.58	8,094.60	9,890.26	12,291.45	14,866.43	17,597.50	20,842.16	24,759.20	29,677.68	35,014.36
RECEIPTS															
Own Sources	1,337.98	1,570.24	1,746.93	1,868.53	1,950.34	2,005.03	2,218.81	2,283.37	2,366.63	2,455.47	2,551.79	2,974.93	3,124.12	3,284.14	3,422.91
Property tax	587.49	824.74	932.81	1,000.05	1,026.23	1,023.71	1,177.97	1,184.14	1,197.37	1,213.61	1,231.23	1,569.36	1,626.89	1,665.08	1,695.78
Professional tax	127.92	138.15	149.20	161.14	174.03	187.95	202.99	219.22	236.76	255.70	276.16	298.25	322.11	347.88	375.71
Entertainment tax	1.26	1.36	1.47	1.59	1.72	1.85	2.00	2.16	2.33	2.52	2.72	2.94	3.18	3.43	3.71
Trade licenses	25.44	26.43	29.45	30.33	31.05	31.64	32.14	32.41	35.51	36.19	36.91	37.66	38.42	42.27	43.20
Building license fee	69.27	15.57	16.98	17.15	17.33	17.51	17.70	17.90	19.57	19.80	20.03	20.27	20.52	22.47	22.75
Shops & market rents	200.65	211.96	236.83	247.67	256.53	263.43	268.76	268.91	271.77	276.07	281.02	286.45	292.18	316.53	324.37
Others	325.95	352.03	380.19	410.61	443.46	478.93	517.25	558.63	603.32	651.59	703.71	760.01	820.81	886.47	957.39
Water Supply and Drainage Fund	594.49	3,109.50	2,130.37	2,624.24	3,138.43	3,667.72	4,209.19	4,332.51	4,970.56	5,163.80	5,322.02	5,487.93	6,081.23	6,973.32	7,279.78
Water tax	202.32	302.65	486.48	638.64	796.99	954.86	1,108.30	1,364.95	1,391.36	1,415.48	1,438.63	1,461.46	1,865.95	1,928.53	1,975.15
Water charges	307.65	344.57	385.92	432.23	484.10	542.19	607.25	680.12	761.74	853.15	955.52	1,070.19	1,198.61	1,342.44	1,503.53
New water connection fees	84.52	412.15	551.94	568.45	585.36	602.65	620.29	99.29	100.77	102.36	103.94	105.53	139.27	141.47	143.67
New Charge- UGD	-	337.93	614.82	893.36	1,180.00	1,475.57	1,780.36	2,094.58	2,622.48	2,697.90	2,728.25	2,754.29	2,780.09	3,438.11	3,533.47
Fee from new UGD connections	-	1,712.20	91.21	91.56	91.98	92.45	92.98	93.57	94.22	94.91	95.66	96.47	97.32	122.77	123.95
Permanent Revenue Grants															
Devolution of funds (SFC)	1,035.35	1,190.65	1,333.53	1,493.56	1,672.78	1,873.52	2,098.34	2,350.14	2,632.15	2,948.01	3,301.77	3,697.99	4,141.75	4,638.76	5,195.41
Entertainment tax	112.14	121.11	130.80	141.26	152.56	164.77	177.95	192.18	207.56	224.16	242.09	261.46	282.38	304.97	329.37
Surcharge on Sales tax	294.14	320.14	348.42	379.21	412.72	449.20	488.89	532.09	579.11	630.29	685.99	746.60	812.58	884.39	962.54
TFC/EFC grants	69.57	77.92	87.27	97.75	109.48	122.61	137.33	153.81	172.26	192.94	216.09	242.02	271.06	303.59	340.02
Other grants	13.61	14.70	15.88	17.15	18.52	20.00	21.60	23.33	25.19	27.21	29.38	31.73	34.27	37.02	39.98
New Charge SWM	-	203.31	206.45	209.62	212.85	216.13	219.46	222.84	226.27	229.76	233.29	236.89	240.53	244.24	248.00
TOTAL MUNICIPAL RECEIPTS	3,457.29	6,810.89	6,206.10	7,040.94	7,880.54	8,735.10	9,791.01	10,313.11	11,406.02	12,101.39	12,815.72	13,916.44	15,228.46	16,914.65	18,065.99
PAYMENTS															
Salaries															
General Administration	73.45	84.46	89.53	94.90	100.60	106.63	113.03	119.81	127.00	134.62	142.70	151.26	160.34	169.96	180.16
Water Supply	27.22	31.30	33.18	35.17	37.28	39.52	41.89	44.41	47.07	49.89	52.89	56.06	59.42	62.99	66.77
Sewerage	202.85	233.28	247.28	262.11	277.84	294.51	312.18	330.91	350.77	371.81	394.12	417.77	442.84	469.41	497.57
Public Health (Sanitation)	147.02	169.08	179.22	189.97	201.37	213.45	226.26	239.84	254.23	269.48	285.65	302.79	320.96	340.21	360.63
Conservancy	11.71	13.47	14.28	15.13	16.04	17.01	18.03	19.11	20.25	21.47	22.76	24.12	25.57	27.10	28.73
Public Works (Engg. Staff)	17.94	20.63	21.86	23.17	24.57	26.04	27.60	29.26	31.01	32.87	34.85	36.94	39.15	41.50	43.99
Street Lighting	24.23	27.87	29.54	31.31	33.19	35.18	37.29	39.53	41.90	44.41	47.08	49.90	52.90	56.07	59.44
Discretionary Services	382.15	439.47	465.84	493.79	523.42	554.83	588.12	623.40	660.81	700.45	742.48	787.03	834.25	884.31	937.37
Operation and Maintenance															
General Administration	1,154.20	1,234.78	1,320.99	1,413.23	1,511.90	1,617.46	1,730.39	1,851.20	1,980.45	2,118.73	2,266.65	2,424.91	2,594.22	2,775.34	2,969.12
Water Supply	258.10	278.75	301.05	325.13	351.14	379.23	409.57	442.34	477.72	515.94	557.22	601.79	649.94	701.93	758.08
Sewerage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Public Health (Sanitation)	6.47	6.85	7.27	7.70	8.16	8.65	9.17	9.72	10.31	10.92	11.58	12.27	13.01	13.79	14.62
Conservancy	19.53	20.70	21.94	23.25	24.65	26.13	27.70	29.36	31.12	32.99	34.97	37.06	39.29	41.65	44.14
Roads	0.25	0.27	0.29	0.30	0.32	0.34	0.36	0.38	0.41	0.43	0.46	0.48	0.51	0.54	0.58
Street Lighting	245.33	260.05	275.65	292.19	309.72	328.31	348.01	368.89	391.02	414.48	439.35	465.71	493.65	523.27	554.67
Miscellaneous Items	1,252.24	1,352.42	1,460.61	1,577.46	1,703.66	1,839.95	1,987.14	2,146.12	2,317.81	2,503.23	2,703.49	2,919.77	3,153.35	3,405.62	3,678.07
Loan repayment	93.27	93.27	93.27	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	44.60	44.60	44.60	44.60
TOTAL MUNICIPAL PAYMENTS	3,915.96	4,266.65	4,561.80	4,839.84	5,178.86	5,542.24	5,931.74	6,349.27	6,796.87	7,276.74	7,791.23	8,332.48	8,924.00	9,558.30	10,238.53

V. Recast of annual accounts

Analysing the financial strength and making long-term financial projections for ULBs is complicated by the following:

- Budgets are not prepared in a standard format. Variations are observed between ULBs and from year to year within the same ULB. Thus, the financial reports/budgets need to be standardised before analysis.
- The budgets are the only financial document/report prepared by ULBs. The budget is more a statement of receipts and payments than a statement of income and expenses.
- Separate capital and revenue accounts are not maintained.
- The different funds of a ULB are not clearly demarcated. Some receipts and payments of a municipal body do not represent or do not affect its financial health. Hence, these need to be ignored for the purposes for making long-term projections.

Owing to the variations in the preparation of budgets, we have recast them in a standard format as explained below:

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 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, among others, include property tax and water charges, which the ULB levies and appropriates. It has more or less complete freedom on exploiting 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, houses. In the absence of these grants, the ULB is unlikely to incur any expenditure on these activities. Hence, they are not included in the 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 deducted towards dues owed to EB, TWAD and so on. 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.

Only items 1 and 2 are considered while making projections.

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 incurs expenditure on the following broad categories of expenditure

General municipal expenditure, salaries and capital expenditure

Administrative expenses (revenue collection, etc.) and cost in 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, transfer of cesses collected as sub-component of property tax and so on are included under this head. Repayment of debt is an exception in this category, as it has to be factored into long-term projections.

Only item 1, as given above, is considered while projecting a ULB's expenses.

VI. 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 <ul style="list-style-type: none"> KCL adopted a norm of 700 grams
Collection Performance	100%	<ul style="list-style-type: none"> 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 meters 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 130LPCD 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 a population of 30,000 in plains and 20,000 in tribal and hill areas ⇒ One sub-centre for population of 5,000 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 population of 20,000. ⇒ Area: 1-1.5 acres ⇒ 3 beds for every 1000 persons
TCPO	⇒ One health centre for population of 36,000. ⇒ Area: 1-1.5 acres ⇒ One Health clinic for population of 12,000. ⇒ Area: 1-1.5 acre

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

VII. Best practices

Introduction

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)¹⁴

BMC has taken a number of steps to create 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

¹⁴ Best Practices Catalogue, CMAG/September, 1999

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.

Case Studies

(i) Report Card on Urban Services¹⁵

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, Brazil¹⁶

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.

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.

¹⁵ Good Urban Government Campaign-September, 2001

¹⁶ Good Urban Governance Campaign-September, 2001

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:

1. It does not facilitate a clear understanding of the actual position of debits and credits and hence matching of accounts becomes difficult.
2. 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.
3. 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 bankability 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)¹⁷

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:

- 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

¹⁷ Municipal Accounting Reforms-Dr. Ravikant Joshi

Case Studies

(i) Budgetary cum financial reforms undertaken by Vadodara Municipal Corporation (VMC)¹⁸

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.

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.

¹⁸ Municipal Budgetary and Financial Control Reforms-Dr. Ravikant Joshi

Case Studies

(i) Professionalization of workforce – Ahmedabad Municipal Corporation (AMC)¹⁹

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/utilities²⁰

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)²¹

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. 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)²²

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 municipality²³

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%.

¹⁹ Urban Finance-NIUA

²⁰ www.etu.org.za

²¹ Urban Finance-NIUA/June, 2002

²² *ibid*

²³ *ibid*

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 Corporation²⁴

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 Palike²⁵

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. 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)²⁶

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.

²⁴ Good Urban Governance Campaign-September, 2001

²⁵ Urban Finance-NIUA/June, 2002

²⁶ *ibid*

VIII. Possible key actions for increasing collection levels

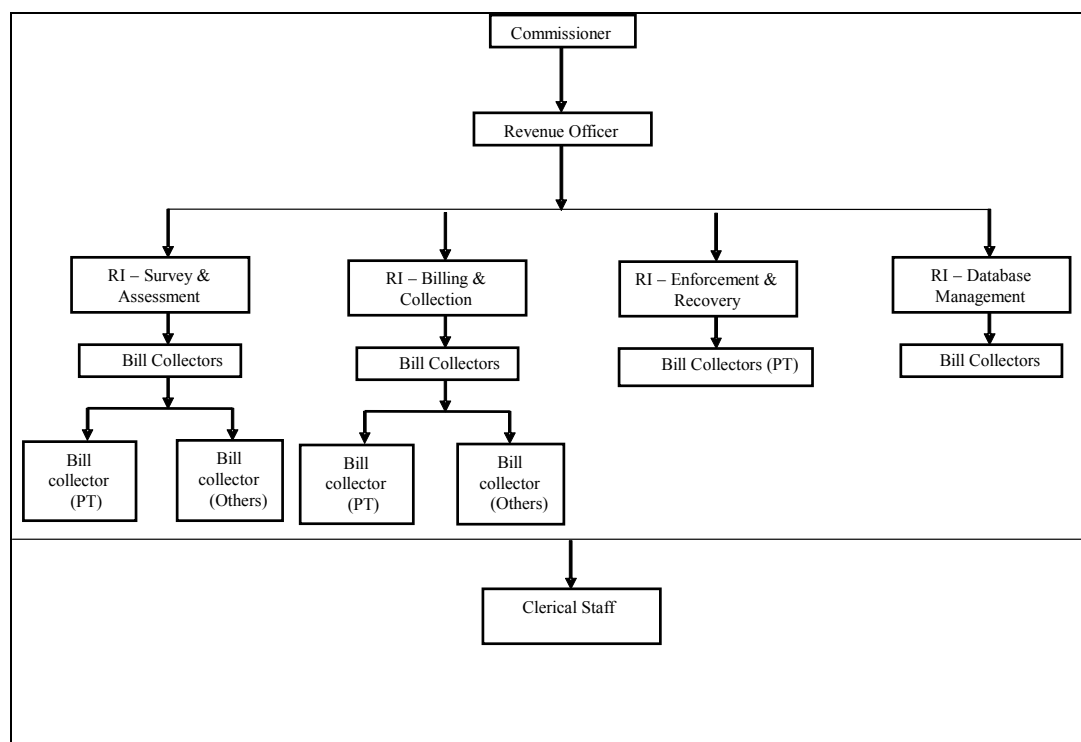
There are certain action points highlighted below for establishing a strong tax administration process in the municipality to cover the entire value chain of property tax right from coverage, assessment, billing and collection to enforcement and are detailed in the following sub-sections. This section 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Assign the role to Bill collector, one each for survey and updation of database
	Link additions to number of properties to town planning	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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 counter²⁷ 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)	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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

²⁷ This method has been adopted by Indore Municipal Corporation and has yielded favourable results

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.

Area	Action	Tasks
Work flow	Define the work flow process for the department	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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 ²⁸ /Name of the owner/property	Demand per year (Rs. Lakhs)	Arrears status

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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> ▪ Advertise in newspapers, local cable network, journals ▪ Put up notices in collection banks, sub registrar office, major utility offices, ROC and municipality

²⁸ Property Identification Number

Arrears recovery	Introduce categorisation, based on value of property tax	<ul style="list-style-type: none"> • 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
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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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> ▪ 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

IX. Comparison of CCP projects and BP projects

Sector	Description	Cost (Rs. Lakhs)	
		CCP	BP
Water supply			
	Source	30.0	640.0
	<i>Pumping machinery and electrical installation</i>	10.0	
	<i>Yield testing</i>	20.0	
	Storage & Treatment	160.0	296.0
	<i>OHT (3 ML capacity- CCP, 5ML capacity - BP)</i>	100.0	130.0
	<i>Repairs to OHT</i>	10.0	
	<i>Conversion of slow sand filter</i>	50.0	
	<i>Chlorination plant</i>		16.0
	<i>Treatment plant – 4 ML capacity</i>		150.0
	Transmission network		180.0
	Distribution network	416.5	250.0
	<i>Replacement of old pipelines</i>	56.0	100.0
	<i>Installation of new lines</i>	359.5	150.0
	Protecting conventional sources	200.0	
	Replacement of valves, installation of flow meters	14.0	
	Energy saving device		8.0
	Leak detection study/Consultancy	15.0	232.0
Total (including escalation)		927.3	1606.0
Sewerage and Sanitation			
	UGD	5000.0	10620.0
	Public convenience	664.5	500.0
	Septic tanks		50.0
Total (including escalation)		6018.8	11170.0
Road & Traffic management			
	Formation	330.0	
	Widening and strengthening	167.0	
	Improvement of Master plan roads	25.0	
	Upgrading and resurfacing	1104.0	1664.0
	BT roads		5800.0
	<i>Formation</i>		3000.0
	<i>Restoration</i>		1600.0
	<i>Upgradation to CC</i>		600.0
	<i>Widening</i>		600.0
	WBM roads		500.0
	<i>Upgradation to BT</i>		500.0
	CC roads		300.0
	<i>Formation</i>		300.0
	Ring road	475.0	1635.0
	Road over bridge	600.0	678.0
	Road under bridge	25.0	
	Flyover	600.0	650.0
	Pedestrian subway	15.0	
	CC pavement	21.0	
	Junction improvement	20.0	
	Traffic management systems	5.0	150.0
Total (including escalation)		3853.3	11377.0

Storm Water Drains			
	Pucca		215.0
	<i>Construction</i>		150.0
	<i>Improvement</i>		25.0
	<i>Cover slabs</i>		40.0
Total (including escalation)		2363.0	215.0
Street lighting			
	Installation of new lights	215.0	484.4
	<i>Tube lights</i>		104.4
	<i>Sodium Vapour</i>		320.0
	<i>High mast</i>	25.0	60.0
	Timer switches	3	28.0
	Ornamentation lamps with metal halide		24.0
Total (including escalation)		232.3	536.4
Solid Waste Management			
	Primary collection	75.0	230.0
	<i>Source segregation</i>	75.0	30.0
	<i>Tricycles</i>		160.0
	<i>Storage bins</i>		40.0
	Secondary collection		125.0
	<i>Dumping stations</i>		125.0
	Secondary transportation		180.0
	<i>Compactors</i>		80.0
	<i>Dumper Placer</i>		60.0
	<i>Dumper Placer Bin</i>		40.0
	Disposal site	100.0	675.0
	<i>Facilities at disposal site</i>		250.0
	<i>Scientific landfill/Bio processing plant</i>		250.0
	<i>Incineration plant</i>	100.0	
	<i>Sanitary material</i>		175.0
	Others	120.0	
	<i>Procuring instruments for anti-mosquito program</i>	30.0	
	<i>Study for setting up scientific landfill</i>	5.0	
	<i>Removal of garbage from irrigation canals</i>	25.0	
	<i>Setting up four PHC</i>	60.0	
Total (including escalation)		327.4	1210.0
Others			
	Slaughter houses		200.0
	Gasifier		80.0
	Market	1120.0	300.0
	Parks and playfields	25.0	352.5
	Transport terminal	15.0	200.0
	Hospitals – Improvement & new construction	15.0	200.0
	School buildings –Improvement		400.0
	Kalyana mandapam		80.0
	e-Governance system	75.0	
	Recreational facilities	178.0	
	Shopping complex	242.0	
	Parking sites	80.0	
	Widening of bridge	30.0	

	Women's hostel	75.0	
	Cattle shandy	5.0	
	Truck terminal	30.0	
Total (including escalation)		2126.3	1732.5
Grand total (In Rs. Crores)		158.48	278.46²⁹

Source: CCP details – CCP for Tirunelveli Corporation prepared by DHV consultants in November 2004.
Extract from Annex 9.

²⁹ This includes the projects to be executed by NHAI. These are Rs. 16.35 crores for ring road, Rs. 6.5 cr for ROB, Rs. 28 lakhs for road under bridge, Rs. 6.5 crores for flyover and 50% of restoration of sewer laid areas.