Tamil Nadu Urban Infrastructure Financial Services Limited (TNUIFSL)

Final Report

Conversion of City Corporate Plan to Business Plan for Kumbakonam Municipality

June 2007

ICRA Management Consulting Services Limited

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List of abbreviations

BOT	Build –Operate –Transfer
CAGR	Cumulative Annual Growth Rate
CIP	Capital Investment Program
CCP	City Corporate Plan
FOP	Financial and Operating Plan
GLR	Ground Level Reservoir
IMaCS	ICRA Management Consulting Services
KuM	Kumbakonam Municipality
LPCD	Litres per capita per day
MSW	Municipal Solid Waste
OHT	Over Head Tanks
PPP	Public Private Partnerships
STP	Sewerage Treatment Plant
SWM	Solid Waste Management
TNUDF	Tamil Nadu Urban Development Fund
TNUDP	Tamil Nadu Urban Development Program
TNUIFSL	Tamil Nadu Urban Infrastructure Financial Services Limited
UGD	Under Ground Drainage

Executive Summary

The Tamil Nadu Urban Infrastructure Financial Services (TNUIFSL) mandated ICRA Management Consulting Services (IMaCS) for conversion of City Corporate Plan (CCP) of Kumbakonam Municipality (KUM) into a Business Plan. The CCP for Kumbakonam was prepared in 2002, under the Tamil Nadu Urban Development Project - II (TNUDP-II) to develop vision, strategies and tasks to be carried out by KUM. Subsequently, KuM has prepared a Vision Plan, identifying various projects that it plans to undertake during 2004-09. The objective of this study is to enable effective implementation of projects envisaged in its CCP and Vision Plan through preparation of this report on conversion of the City Corporate Plan to a Business Plan.

City profile and growth potential

Kumbakonam is a special grade municipal town, located 313 km from Chennai on the South, 90 km from Trichy on the East, and 40 km from Thanjavur on the Northeast. The town is famous for Mahamagam festival, which is celebrated once in 12 years.

Parameter	Details
Population (2001)	140021
Decadal Growth (1991-2001)	0.4 %
No. of Wards	45
Sex Ratio	1010
Literacy rate – 2001	78 %

The population growth has slowed down during the last couple of decades. This has primarily been due to Kumbakonam's geographical constraints in terms of limited land area and industrial potential. Kumbakonam is a temple town in the vicinity of large-scale agricultural activity, which supports trading and commercial activities. Thus there are limited avenues for primary activities within the town. A significant 44% of the land is non-urban area due to the presence of rivers, lakes, water bodies, agricultural land etc, while vacant areas accounts for less than 2 % of the land available. Select interventions identified in the CCP in this regard are highlighted below

- **Decongesting city areas** - The limited land available in the town makes it congested and there is a need to direct commercial activities to the periphery of the town.
- **Focused heritage area restoration** - KuM needs to undertake some focused actions to restore and preserve its heritage areas.
- **Water front development** - Encroachment and pollution have led to degradation of the town's canals/water fronts. These issues need to be addressed on priority.
- **Master Plan** - The CCP observes that there is a need for better coordination among nodal agencies with respect to land-use management and preparation of town planning schemes.

Kumbakonam has potential to leverage its heritage infrastructure and spur economic development through tourism initiatives. But this would require focused interventions in terms for restoring heritage sites and in providing necessary infrastructural facilities relating to connectivity, hospitality and sanitation.

Municipal Services - Status assessment, gaps and actions being taken

Exhibit 1 presents a summary of service levels and status with respect to select indicators in Water Supply, Sanitation, Transportation, Street lights and Solid Waste Management.

Exhibit 1 - Status of Municipal services

Sl. no	Parameter / Indicator	Value	Issues and Gaps
A. Water Supply			
1	Total Water Supply (MLD)	16	• **Demand – Supply** – With the augmentation scheme, Kumbakonam appears to have adequate water supply in place for its future needs. • **Scope for adding water connections** – Water connections account for only 50 % of the number of properties assessed and indicates the scope for adding more connections. • **Collection efficiency** - Overall collection efficiency had declined steeply over the last few years. The low current collection efficiency (27%) is a major cause for concern, especially considering KuM's high debt.
2	Water Connections - nos.	11700	
3	Public Fountains - nos.	720	
4	Daily Per Capita Supply (LPCD)	~ 100	
5	Storage Capacity / Daily Supply (%)	56 %	
6	Pipe length / Road Length (%)	100 %	
7	Water connections / properties (%)	50%	
Actions required / being taken: • Initiated a pilot project for providing 24x7 water supply in select wards to be subsequently scaled up in whole town. • Planning installation of meters at various stages in the supply chain from head works, transmission system and distribution to minimise leakages and to have a centralised control of the network.			
B. Sanitation			
8	UGD network (Yes/No/In progress)	In progress	• Currently implementing UGD scheme with assistance from NRCP • Kumbakonam needs UGD to the tune of 105 kms. Out of this 84 kms has been completed and the balance 29 kms needs to be done. The municipality has estimated a requirement of Rs.2900 lakh for this purpose.
9	% population with septic tanks	62%	
10	Number of Public conveniences	71	
11	Length of Storm drains (km)	75	
12	Est. access to sanitation (%)	71 %	
13	Storm Drains - % of road length	73 %	
Actions being taken: • Proposal for extending UGD scheme to uncovered areas has been sent. • Plans for 'Green area' near proposed Sewerage Treatment Plant maintained by Self-Help Groups proposed. • Storm water drains cover only 73% of the road network.			
C. Roads, Transportation and Street Lights			
14	Total Length of Roads	103	• Nearly 92% of the road network is surfaced, but require substantial overhaul after completion of UGD scheme.
15	Total number of Street Lights	~ 4350	
16	BT + CC roads / Road length (%)	80 %	
17	Road length per Street Light (m)	23 m	
Actions being taken: • Upgradation of roads at an outlay of Rs. 5.5 crore being undertaken • Rs. 28 crore proposal submitted for upgradation of roads covered by UGD scheme			

D. Solid Waste Management			
18	Total Waste Generation (MT)	85	• Need for additional land for disposal yard. • Daily collection levels need improvement • Potential for expanding scope of door-to-door collection.
19	Collection - % of waste generated	88 %	
20	Compost yard area -available	5.65	
21	Compost yard - required (Acres)	14	
22	No. of Vehicles for SWM	23	
23	Rated Tonnage of vehicles (MT)	60	
24	Compost Yard - Gap - Acres	(8.4)	

Actions being taken:

- Land acquisition near STP site planned - 24 acres at an outlay of Rs. 1 crore. Maintenance by SHGs envisaged
- Collection force augmented by inducting 120 unemployed youth
- Segregation and anerobic composting in place

Analysis of financial performance

Exhibit 2 provides a summary of the financials of KUM, along with a) an analysis of the growth and b) change in composition of various revenue and expenditure heads.

Exhibit 2 - Financial analysis

Year	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	CAGR %
INCOME						
Taxes	**385**	**389**	**404**	**441**	**442**	4%
Property Tax	366	364	379	401	402	2%
Prof. Tax	19	25	25	40	40	20%
User Charges / Fees	**189**	**201**	**408**	**450**	**229**	5%
Water Charges	80	95	138	101	59	-7%
Sewerage Charges	3	3	58	118	123	155%
Service Charges / Fees	107	103	211	231	47	-18%
Other Income	**100**	**71**	**46**	**49**	**33**	-24%
GRANTS /CONTRIBUTIONS	**190**	**176**	**364**	**304**	**475**	26%
ASSIGNED REVENUE	**134**	**129**	**315**	**269**	**302**	22%
TOTAL (excl. PPI)	**998**	**966**	**1,537**	**1,512**	**1,481**	10%
Prior Period Income (PPI)	16	6	9	32	54	36%
TOTAL INCOME (incl.PPI)	**1,014**	**973**	**1 ,546**	**1,544**	**1,535**	11%
EXPENDITURE						
Salaries	550	521	557	598	560	0%
Repairs & Maintenance	89	250	265	255	188	20%
Admin	59	55	46	64	48	-5%
Prior Period Expenditure	10	2	-	3	5	-14%
TOTAL OP. EXPENDITURE	**708**	**828**	**869**	**920**	**802**	3%
OP. SURPLUS	**306**	**144**	**677**	**624**	**734**	24%
Depreciation	439	246	199	270	297	-9%

Finance Charges	111	57	84	104	93	-4%
TOTAL EXPENDITURE	**856**	**448**	**960**	**998**	**1,123**	7%
SURPLUS (After Dep and Interest)	**158**	**525**	**586**	**546**	**412**	27%

a) There has been a **growth in operating surplus** (CAGR-24%) during FY 2001-2005. However this has been achieved primarily by growth in Grants/ Devolution income (CAGR-26%) and assigned revenue (CAGR-22%).

b) There has been hardly any growth in **KuM's own income** (CAGR – 1%), which coupled with the poor collection efficiencies is a major cause for concern

c) **KuM has an outstanding loan of Rs. 2516 lakh in FY 2005.** Finance charges have declined from 11% of income to 6% of income over the last five year. However, overall debt servicing is likely to increase, as repayment of water supply loan (Rs. 1700 lakh) becomes due. KuM wold need to improve its financial position and its collection efficiencies in order to meet its debt servicing obligations in the future.

Capital Investment Plan

We have compiled the felt needs of the city under various service areas, based on

- Review of projects recommended in the City Corporate Plan
- Status and progress on projects identified as part of the Vision Plan (2004-09)
- Consultations with stakeholders and
- Discussion with officials

Exhibit 3 provides a summary of the CIP for KUM.

Exhibit 3 Capital Investment Plan along with phasing - Short Term (2006-10 and 2011-15)

Segment	Outlay	Phasing	
		2006-10	2011-15
Water Supply	2,000	1,000	1,000
Sewerage and Sanitation	2,900	2,000	900
Storm Water Drains	1,000	500	500
Solid Waste Management	850	500	350
Roads	1,525	750	775
Street Lights	75	50	25
Remunerative Infrastructure	2,000	1,000	1,000
Slum Development	9,000	3,000	6,000
Education	55	30	25
Others	71	50	21
TOTAL	**19,476**	**8,880**	**10,596**

Priority Projects

Priority projects identified by the municipality are listed below. These projects and the capital expenditure estimates given above have been arrived at based on projects identified in the City Corporate Plan prepared earlier and based on discussion with Chairperson, Commissioner and municipal officials.

1. Completion of ongoing UGD scheme. Additional areas left out in the current scheme of approximately 29 km of roads as identified also need to be taken up.
2. Restoration and upgradation of roads in view of the poor condition following implementation of UGD scheme and heavy rains last year.
3. Pilot project for providing 24x7 water supply in select wards to be subsequently scaled up in whole town and Installation of meters at various stages in the supply chain from head works, transmission system and distribution to minimise leakages and to have a centralised control of the network.
4. Remunerative projects, largely through private participation and BOT basis, specifically relating to tourism development as listed below:
    a. Park along with recreation facilities at Srinivasa Nagar
    b. Museum at Government arts college
    c. Recreation facilities at Tank in Electricity Board office on Mayiladuthurai Road
    d. Light/sound show, handicrafts and Description of heritage importance covering Mahamaham and other aspects of Kumbakonam at unused tank area at Vanathurai
    e. Provision of open theatre and park at Ayikulam land
    f. Provision of evening bazaar for selling handicraft and other items at the vegetable market at Darasuram to utilise the facility more effectively.
    g. Creation and operation of a horticultural (flower) gardent at the Sewerage Treatment Plant site through Self Help Groups
    h. Development of municipal land in TS. NO. 79 part, 74 part, 75 part in block no. 1 Ts ward 5 to develop a Shopping Mall on the Ground floor, and Community Hall on First Floor and mini A/c Theatre in First Floor
    i. Office complex, Library and Community centre at Nataraja Chettiar School in Kumbeswaran Park.

Reform Agenda

ULB level

KUM could potentially increase its own income to Rs.777 lakh by 2010 through focused interventions in the following areas:

1. **Property tax**: – through revision in ARV, widening assessee base and closer scrutiny.
2. **Professional tax** – sustaining a growth in assessments of 6 % in the assessments through widening tax base among traders and self-employed professionals
3. **User charges** - KUM should target achieving 16000 water connections even by FY 2010. Implementation of UGD scheme structured partly on public deposits and user charges could also add to revenues and investment capacity.
4. **PPP / remunerative projects** - KUM also needs to explore land development as a revenue enhancement mechanism and should focus on attracting private sector participation through appropriate BOT/ SPV structures for implementing remunerative projects. Development of tourist amenities and othe remunerative projects envisaged by KuM appear amenable to PPP.
5. **Energy costs** - A savings of 10-15% reduction in energy costs appears imminently achievable. A comprehensive energy audit is required in this regards.
6. **Collection Efficiencies** - KuM's collection efficiency is very low across all its revenue heads namely, property tax, professional tax and user charges and needs significant improvement from current levels. KuM should consider a) a focused one-time drive to clear up its dues and b) strengthening of its collection process and organisation to ensure that the overall levels of efficiency in order to improve and sustain its collection efficiencies.
7. **NGOs / Corporate participation -** Intensify focus on attracting NGOs/advertising revenue for city beautification projects.

Actions from GoTN and GoTN agencies

1. Initiate action to complete ongoing updation of land use and master plan for Kumbakonam municipality on priority to guide future growth of the town in an orderly manner.
2. Revise ARV for property taxes, pending since 1998 at the earliest.
3. Develop model concessions / formats for involving Private sector in various areas including Solid waste, STP O&M, street light maintenance and remunerative projects
4. Incentivise energy conservation and implementation of SWM guidelines through specific grants
5. GoTN should continue its thrust on e-governance, accounting systems and capacity building/training. Specific actions on this have been identified in the report.

FOP, borrowing capacity and investment capacity

The borrowing capacity has been computed as the minimum of NPV of operating surplus, 30% of revenues during the projection period and works out to Rs.2656 lakh

Exhibit 4 Summary of results of FOP

Summary of FOP results	
Revenues – FY 2006 (Rs. Lakh)	1472
Revenues – FY 2015 (Rs. Lakh)	2765
Revenue CAGR % - FY 2006-15	**7.26**
Avg. Cash Operating Surplus	748
Avg. TE (excluding depreciation)/TR (%)	65%
Average Debt Servicing/TR (%)	26%
Borrowing Capacity as a minimum of NPV of	
NPV of 50% of Cash Surplus (without new loans)	2,656
NPV of 30% of Revenue	4,115
Borrowing Capacity	**2,656**
Investment Requirement	19,476
Investment Capacity (assuming 40% loans)	6,640
IC/IR (assuming 40% loans)	**34%**

At an aggregate level, assuming loans to be equivalent to 40 % of investment, sustainable investment capacity works out to Rs. 6640 lakh which is about 34 % of the total investment requirement.

While loans and own funds should be used to finance remunerative projects, KuM should leverage and utilize Grants from schemes like UIDSSMT and IHSDP to undertake non remunerative projects relating to slum development, canal desilting etc. As suggested earlier in the report, KuM should also consider involvement of private sector in implementing remunerative projects.

Details of Capital Investment Plan

Segment	Outlay Rs. Lakh (2007-12)	Ongoing projects and projects envisaged in Vision Plan
Roads	1500	Kumbakonam has around 160 kms of roads. The municipality intends to complete the road works in 2006. Around 48 kms of road works at a cost of Rs.4.94Cr. are being undertaken presently.
Bridges and Culverts	25	
Storm Water Drains	1000	The municipality needs to undertake projects to the tune of Rs. 10 Cr. for storm water drains
Water Supply	2000	Pilot project for providing 24x7 water supply in select wards to be subsequently scaled up in whole town. Installation of meters at various stages in the supply chain from head works, transmission system and distribution to minimise leakages and to have a centralised control of the network.
Solid Waste Management	850	An integrated solid waste management program by procuring vehicles, equipments, establishing compost yards have been planned.
Street Lights	75	Energy savings Proposal through private participation being considered
Tourism projects and Remunerative Enterprises	2000	Construction of shops in bus stand, office buildings, commercial complexes, markets (daily and weekly) slaughter houses and 11 tourism / recreation projects identified by KuM
Education	55	Renovation of elementary schools and noon meal centres
Sewerage and Sanitation	2900	Kumbakonam needs UGD to the tune of 105 kms. Out of this 84 kms has been completed and the balance 29 kms needs to be done. The municipality has estimated a requirement of Rs.2900 lakh for this purpose.
Slum Development	9000	Rs. 1300 lakh already sanctioned under IHSDP
Others	71	Dhobikana, Town beautification, rain water harvesting, etc
TOTAL	**19476**	

1. Introduction

1.1 Background to the study

Kumbakonam is a special grade municipal town and the second biggest in terms of administrative status in Thanjavur district. Under the Tamil Nadu Urban Development Project - II (TNUDP-II), a City Corporate Plan (CCP) was prepared for Kumbakonam Municipality (KuM). The objective of the CCP was to outline a vision for development of the city and to identify strategies and tasks to be carried out by KuM. Subsequently, KuM has also developed a 5-year Vision Plan (2004-09), identifying projects that it plans to undertake during this period. In order to enable effective implementation of projects envisaged in its CCP and Vision Plan, the Tamil Nadu Urban Infrastructure Financial Services (TNUIFSL) mandated ICRA Management Consulting Services (IMaCS) for conversion of City Corporate Plan (CCP) into a Business Plan (BP).

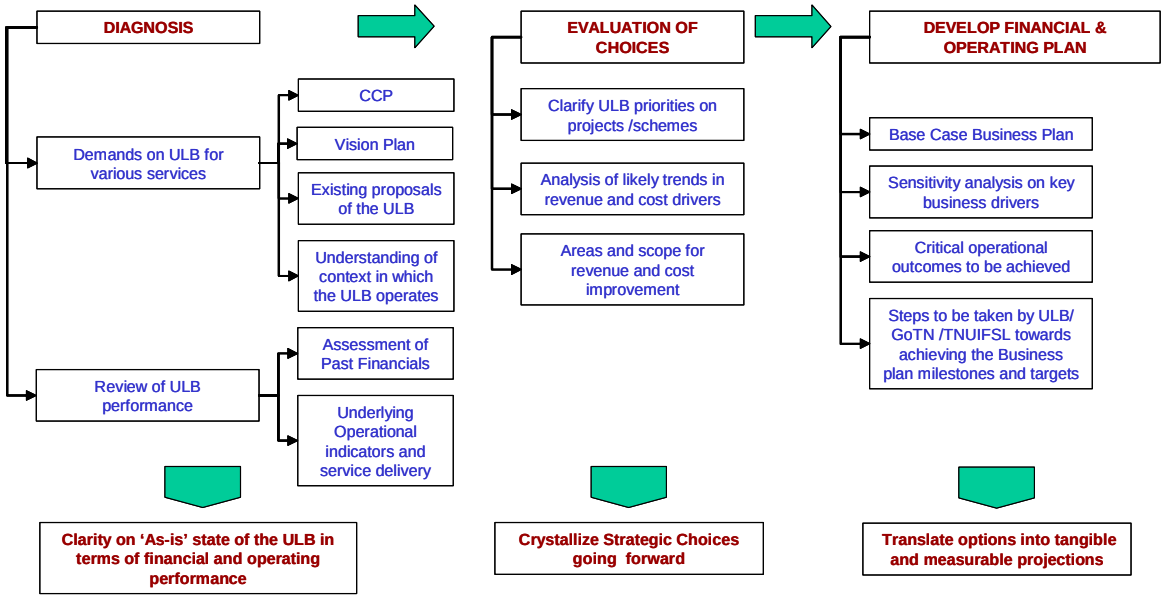
1.2 Scope of work

The scope of work for the study covered a) assessment of the financial and operating aspects of KoM, b) Review issues relating to revenue realisation and cost management and identification of improvement (revenue enhancement and cost reduction) measures and c) Development of a Financial and Operating Plan (FOP), taking into account potential revenue enhancement and cost reduction measures.

1.3 IMaCS approach to the study

Exhibit 1.1 gives a snapshot of IMaCS' approach to the study. IMaCS's approach to the study involved four steps as detailed below:

Exhibit 1.1 IMaCS approach to the study



1.3.1 Step I – Diagnostic review

The diagnostic review involved an assessment of the current status of KuM, its activities and financial performance, review of the City Corporate Plan (CCP) and discussions with TNUIFSL and KuM. We had the opportunity to interact with the Commissioner and had extensive interactions with officials and select ward members of the municipality during our field visits.

We collected relevant information on the performance (operational and financial) from KuM. Our review was focused on the following areas:

- Financial position
- Operational performance
- Demands on urban services in the town/municipality

The diagnostic review was directed towards achieving a clear understanding of the operating and financial performance of KuM.

1.3.2 Step II – Evaluation of options for financial improvement and projects

Based on the diagnostic review, we crystallised the options for KuM covering a) analysis of potential for revenue enhancement and cost management and b) Felt needs in terms of projects and estimate of capital outlay.

1.3.3 Step III – Projection of financial statements and estimation of investment and borrowing capacity

We have projected financial statements for KuM under two scenarios namely, a) base case and b) with potential improvements. Under both scenarios, the optimum borrowing capacity and sustainable investment capacity have been computed.

1.3.4 Step IV - Consultations and Finalisation

The Draft Final Report for the study was presented to the office of CMA, officials of KuM and TNUIFSL in April 2006.

Subsequently, the report was discussed with Chairperson and officials in November 2007 to factor the views and aspirations of the Council in the report.

1.4 Structure of the report

This report presents our findings and recommendations from the study and is organised as follows:

- **Section 1** Introduction
- **Section 2** Kumbakonam - a brief profile
- **Section 3** Review of operating performance
- **Section 4** Analysis of financial performance
- **Section 5** Potential areas for improvement
- **Section 6** Business plan and investment capacity of KuM

2. Kumbakonam - a brief profile

2.1 Location and connectivity

Kumbakonam is a special grade municipal town and the second biggest in terms of administrative status in Thanjavur district. It is located 313 km from Chennai on the South, 90 km from Trichy on the East, and 40 km from Thanjavur on the Northeast. The town is a religious centre, with the presence of a large number of temples. It has gained importance as a commercial and industrial (small-scale) centre during the last quarter of the 19th century. The town is famous for Mahamagam festival, which is celebrated once in 12 years. The town has over 188 temples of various historical periods scattered throughout the town. The town is bound by the river Cauvery on the north and river Aresalar on the south.

2.2 Social and demographic characteristics

Kumbakonam with a total land area of 12.5 sq. km had a population of 140,021 in 2001.

The population of Kumbakonam was 140,021 in 2001, implying a growth of 4.3%% over the population of 48,003 in 1991. Exhibit 2.2 below shows that the population growth has slowed down during the last couple of decades. This has primarily been due to Kumbakonam's geographical constraints in terms of limited land area and industrial potential. There has also been an outward migration from the town during this period.

Exhibit 2.1 Population trend

Year	Population		Decadal Growth rate %
	Population	Variation	
1951	91648	2460	36.81
1961	92581	933	1.02
1971	113130	20549	22.20
1981	132832	19702	17.41
1991	139449	6617	4.98
2001	140021	572	0.4%

Source: Census of India

The urban agglomeration[1] of Kumbakonam recorded an overall literacy rate of 86.36% with female literacy of 76.76%, while the sex ratio was 1010 females per 1000 males. Thus Kumbakonam compares favourably in terms of literacy and sex ratio compared to state averages on these indicators and even relative to overall urban population.

The increase in the proportion of population living in slums is also a cause for concern. KuM has recently carried out a survey to update the population in slums and the level of service amenities provided to various slum areas within the town. The survey covered 45 streets / areas in 31 wards in

[1] Source: http://gisd.tn.nic.in/census-paper2/Statments/stat_7_4.htm

the town that have slums and also prepared the level of urban service amenities in these areas. This survey also highlights the need for a greater focus on slum rehabilitation and resettlement.

2.3 Economic Development

2.3.1 Composition of workforce

Only 30% of the population was engaged in economic activity (in 1991) indicating the limited opportunities and the need to exploit new opportunities to promote the economy. The occupational pattern for the city (available only as of 1991) indicates that more than 60% of the workforce is engaged in the tertiary sector. There are limited avenues for primary activities within the town and less than 2% of the workforce was engaged in primary activities.

2.3.2 Economic activities

Kumbakonam is a temple town in the vicinity of large-scale agricultural activity, which supports trading and commercial activities. The CCP observes that there are only about 194 industries exist in the town, of which 57 are rice and flourmills. Only two units employ more than 100 workers and manufacture tobacco products.

Heritage / Handicraft activity, particularly handloom silk weaving and bronze sculpture making are a prominent occupation in the town

Kumbakonam has a fairly large silk weaving segment, well-known for its Thirupuvanam sarees in the market. The CCP observes that silk weaving activity forms the second largest occupation after agriculture in Kumbakonam and estimates that about 5000 families are employed directly / indirectly in the silk weaving sector in the town. An estimated 50 lakh sarees are being produced annually from this cluster and sent to markets both in India and abroad. Apart from the Thuvarkurichi area, which is an important cluster for weaving activity, weaving is also located in Nayankara Chetty street, old Aranmanai street and along the community temples including Birman koil, Karumpaiyira Vinayakar temple and Kalika Parameswari temple.

Kumbakonam is also home to a well-know bronze handicraft cluster. The Tamil Nadu Handicraft Development Corporation (Poompuhar) was set up in Swamimalai to train artisans and foster this art. The CCP points out that in spite of a market among hotels, temples and offices, the art of bronze sculptures has not been leveraged to its full potential and indicates that there is significant export potential especially to the markets of Singapore and Malaysia.

The important commercial activities of the town are Arecanut products, brass vessels and textiles. Commercial activities are generally concentrated in and around the temples and market areas. The CCP observes that three markets namely, Kamarajar market, Nehru market and Fish market support bulk of the commercial activities. Exhibit 2.2 captures the key commercial areas and the type of activities in Kumbakonam.

Exhibit 2.2 Commercial centres and activities

Area	Activity
Ayikulam road	Lodging, Hardware
Dr. Moorthi road	General shopping Nehru market
Chakkarapani South street	Godowns, whole sales markets
Kumbeswarar North street	Brass, stainless steel vessels
TSR Big street	Jewelry, Banks, financial services
Head Post Office road	Automobiles, Lodging
Town hall Road	General shopping
Thanjavur Road	Textiles
Kamarajar market	Vegetables

The CCP highlights the need to guide future commercial developments in the periphery of the town and calls for a comprehensive approach to evolve suitable plan for protecting the heritage value of the temples in the town.

2.4 Heritage development and tourism potential

There appears to be potential for Kumbakonam to leverage its heritage infrastructure and spur economic development through tourism initiatives. But this would require focused interventions in terms for restoring heritage sites and in providing necessary infrastructural facilities relating to connectivity, hospitality and sanitation.

There are more than 180 temples in Kumbakonam, six of which particularly attract a large number of devotees every year. As a result Kumbakonam has a significantly high floating population. The CCP stresses the need to focus on protecting the heritage areas around the temples, especially in the context of the limited urban areas available within the town and observes that the Directorate of County and Town Planning (DTCP) has initiated the process of identifying heritage development and recommends the following measures in this regard.

- Delineation of heritage zone for a radius of 1 km
- Factoring the heritage aspects in the Land-use master planning process
- Formation of a heritage committee to review the process and development around the area.

2.4.1 Heritage areas

Heritage areas in Kumbakonam comprise:

- **Temples -** The prominent temples in Kumbakonam include Adi Kumbeswarar temple, Sarangapani temple, Somessar temple, Nageswaran temple, Ramaswamy temple, Chakkarapani temple and Pana Pureeswarar temple.
- **Religious Institutions -** Kumbakonam is home to the famous Maharaja Kala Shre Govindha Theekshidar Veda Kavya Pada Salai, which is engaged in training youth in vedic literature and other religious activities. Sankara madam, Govinda Kudi and Ahobila madam are other major institutions in Kumbakonam

- **Environmentally sensitive areas -** These include the numerous holy tanks and riverfront areas and include the renowned Mahamaham tank (famous for its Mahamaham festival held every 12 years during which devotees throng to Kumbakonam to take a holy dip in the tank), Porthamarai Theertham, Paga Theertham and Ghats of River Cauvery and Arasalar
- **Minor Heritage areas -** These include the traditional settlements of various social groups. The traditional houses are linear and endowed with architectural features including the Columnar Thinai, Madam, Muttrum etc.

Absence of organised parking areas around the temples and creation of shops and commercial establishments in their vicinity is leading to devaluation of these heritage structures. Some heritage structures are in dilapidated condition and are in need of restoration. Water in the temple tanks tend to become polluted and act as breeding ground for mosquitoes. There is also a need to limit the development of high rise buildings in the temple area to protect the view of these heritage structures. The limited road width and approach geometry becomes a constraining factor during the Mahamaham festival. Encroachments and residential developments are affecting the river front and leading to environmental degradation.

2.5 Land use management

2.5.1 Issues in land-use

The town extends for an area of 12.58 sq.km with the local planning area extending for 64.02 sq. km. Exhibit 2.2 provides a snapshot of the land use pattern in Kumbakonam.

Exhibit 2.2 Land-use in Kumbakonam

Sl. No	Type	Area (in Hectare)	% of total
1	Residential	403.68	32.09
2	Commercial	34.61	2.75
3	Industrial	15.27	1.21
4	Roads	125.44	9.97
5	Public and semi-public	81.46	6.48
6	Services and utilities	15.64	1.24
7	Open space and recreation	2.11	0.17
8	Vacant	17.18	1.37
9	Non urban use	562.61	44.72
	Total	**1258.00**	**100**

A significant 44% of the land is non-urban area due to the presence of rivers, lakes, water bodies, agricultural land etc, while vacant areas accounts for less than 2 % of the land available. Thus Kumbakonam faces significant limitations for spatial growth.

Being a temple town, residential areas account for nearly 32% of the total land area. Roads account for nearly 10% of the total area while public/semi-public areas account for nearly 7 % of the land area. Land for commercial activities accounts for less than 3% of the total area. The CCP points out the congestion due to this within the city areas and points out the need to direct commercial activities to the periphery of the town.

2.6 Strategy for development

We have highlighted below some key interventions for effective land use management, some of which have been suggested in the CCP as well:

- **Decongesting city areas** - The limited land available in the town makes it congested and there is a need to direct commercial activities to the periphery of the town including provision for slum rehabilitation and re-settlement.
- **Focused heritage area restoration -** KuM needs to undertake some focused actions to restore and preserve its heritage areas.
- **Water front development -** Encroachment and pollution have led to degradation of the town's canals/water fronts. These issues need to be addressed on priority.
- **Master Plan -** The CCP observes that there is a need for better coordination among nodal agencies with respect to land-use management and preparation of town planning schemes.

3. Review of operating performance of KuM

This section presents a review of the status of infrastructure development undertaken by KuM.

3.1 Water Supply

3.1.1 Sources and distribution

Kumbakonam had its supply earlier through two schemes from river Cauvery (headworks at Valayapettai) and river Coleroon (head works at Kudithangi) at a distance of 3.5 km and 11 km respectively. However these two schemes were able to supply only 7.78 MLD as against the requirement of 13.22 MLD (for a population of 150,000 at 90 LPCD). Therefore, a new combined water supply scheme (with a designed capacity to serve 250,000 by 2026) was implemented. This augmentation scheme was done at a cost of Rs. 17 crore with loan assistance from HUDCO and TUFIDCO. The details of the new scheme is provided in Exhibit 3.1

Exhibit 3.1 Water Supply in Kumbakonam - key aspects

	Scheme I
Source	Coleroon (Infiltration wells)
Location of Head works	Kudithangi
Distance from the City	6 km
Collection well capacity	3 lakh litres
Yield	2000 LPM
No. of OHTs	5
Throughput capacity of OHTs	15 MLD
Distribution pipeline length	100 km
Daily Supply	
Domestic	15.8 MLD
Commercial	1 MLD
Number of public fountains	720
Estimated Loss of water	5%

The water is drawn by pumping and transmitted to 9 Overhead Tanks located in various parts of the town. In the initial stage water drawn from river Cauvery is directly transmitted to the town. In addition, water is also drawn from Coleroon river and conveyed to Valayapettai Ground level reservoir, from where it is transmitted. For the purpose of distribution the town is divided into 10 supply zones with a total distribution length of 105 km. There are 9 OHTs in different areas with a total capacity of nearly 7.5 MLD. Currently the local body provides a net supply of nearly 16 MLD per day after losses.

3.1.2 Level of access

The DCB statement provided to us (as of March 2005) indicates that Kumbakonam had 10,275 water connections. We understand from our discussions with KuM that the water connections have increased to 11,700 during the current year. Apart from this KuM has nearly 720 water fountains across the town.

Exhibit 3.2 Water Supply – Service level

	Actual	Norm
Per Capita Supply (LPCD)	~ 100	90
Leakage / Losses (% of supply)	0.5%	5-10
Treatment capacity (% of supply)	100	100
Distribution coverage (% of road length)	100	100
Adequacy of Storage (% of net supply)	56%	50
Water connections (Nos)	11,700	
Coverage (% of properties assessed)	50%	
Public stand posts (Nos)	720	

Source: CCP, IMaCS analysis, SFC questionnaire -2005

3.1.3 Key issues

Some of the key issues with respect to water supply are highlighted below:

- **Demand – Supply –** With the augmentation scheme, Kumbakonam appears to have adequate water supply in place for its future needs.
- **Scope for adding water connections –** Water connections account for only 50 % of the number of properties assessed and indicate the scope for adding more connections. However, the high number of public fountains could constrain the ability of KuM to add more connections.
- **Poor collection efficiency -** Overall collection efficiency had declined steeply over the last few years and was only 32% in FY 2005. The low current collection efficiency (27%) is a major cause for concern, especially considering the significant debt servicing obligation that KuM has.

3.1.4 Plans

KuM has initiated a pilot project for providing 24x7 water supply in select wards to be subsequently scaled up in whole town. KuM is also planning installation of meters at various stages in the supply chain from head works, transmission system and distribution to minimise leakages and to have a centralised control of the network.

3.2 Sanitation

Kumbakonam is currently implementing an Underground sewerage system with assistance from the National River Conservation Directorate (NRCD)

Kumbakonam is in the process of implementing a comprehensive Underground drainage scheme with assistance from NRCD at an outlay of Rs. 60 crore. Nearly 80 km of the pipeline for the project has been completed with nearly 25 km work in progress. KuM is also in the process of deciding the configuration and other details for the Sewerage Treatment Plant. KuM is contemplating O&M of the Sewerage Treatment Plant through private sector participation. Exhibit 3.3 provides details of the existing sanitation facilities in Kumbakonam.

As per information from the CCP, nearly 62% of the population has access to septic tanks, while another 9% have access to low cost sanitation. Nearly 28% of the population do not have access to organised sanitation facilities. There are nearly 71 public conveniences of which 9 are pay and use toilets. The CCP observes that nearly 20 of these are in damaged condition.

Exhibit 3.3 Sanitation facilities – coverage of population

	% of households
Septic tanks	62%
Low cost sanitation	4%
Public conveniences	5 %
Total	71%
% of households without access	29 %

Source: CCP

Kumbakonam needs UGD to the tune of 105 kms. Out of this 84 kms has been completed and the balance 29 kms needs to be done. The municipality has estimated a requirement of Rs.2900 lakh for this purpose.

3.3 Storm water drains

Storm water drains are provided in approximately 73% of the total road length within KuM limits. Exhibit 3.4 provides the details.

Exhibit 3.4 Storm water drain network

Details	Length in km	% coverage
Open pucca / surfaced	40.00	30%
Kutcha / unlined	63.00	43%
Total Drains (km)	103.00	73%
Roads without drains	38.00	27%
Total Road Length (km)	**141.00**	**100%**

Source: CCP

Nearly 61% of the existing drains are Kutcha and unlined, which require upgradation to pucca surfaced drains. During our interactions with KuM, officials pointed out the need to develop the roads / storm water drains in an integrated manner and that they plan to undertake this development on completion of the ongoing UGD scheme.

3.4 Solid Waste Management

Kumbakonam generates nearly 85 MT of solid waste per day, of which nearly 75 MT (or 88%) is collected. Exhibit 3.5 gives the current status of solid waste management. The disposal yard is located in Sesambadi villages about 12 km from the town and is not adequate (vis-à-vis the norm of 1 acre per 1000 population). KuM is in the process of adding another 15 acres of land.

The CCP observes the need to add additional equipment for waste collection and to enable 100% coverage. It also suggests involvement of private participation/involvement of NGOs in primary waste collection.

Exhibit 3.5 Solid Waste Management - current status

Generation / day	
Domestic	32
Commercial	22
Industrial	11
Public and semi public	14
Market waste	10
Total	**89**
Collection / day	75 MT
Disposal yard / area	**1/ 5.6 acres**
Method of disposal	20 T per day through anerobic composting

Source: Discussion with KuM officials

KuM's Vision Plan outlined the following priorities with respect to Solid Waste Management

Action	Outlay (Rs. Lakh)
Development of modern compost yard	92.00
Development of 2 transfer stations	48.20
Cost of land for additional yard	15.00
Awareness program	1.80
Total	157. 00

3.5 Roads and transport characteristics

Exhibit 3.6 provides details of the road network under the jurisdiction of KuM.

Exhibit 3.6 Road network

Type	Municipal Roads		State Highways		Total	
	km	%	km	%	km	%
BT. Roads	78.19	64	18.71	100	96.90	69
Cement Concrete pavement	19.75	16			19.75	14
W.B.M roads	8.85	7			8.85	6
Earthen Roads	15.5	13			15.5	11
Total	**122.29**	**100.00**	**18.71**	**100.00**	**141.00**	**100.00**

KuM maintains a road network of 122 km of which surfaced roads (both B.T. and CC) constitute 80 %. In addition, about 18.7 km of highway roads traverses the KuM area.

The roads in Kumbakonam are in bad condition due to the digging for the ongoing UGD project and the heavy rains in the last few months. Kumbakonam's Vision Plan indicates an outlay of Rs. 530 lakh for improving nearly 59 km of roads within the municipality during FY 2006 and FY 2007

3.6 Street lights

Exhibit 3.7 provides details of streetlight infrastructure in Kumbakonam. Nearly 72 % of the lights are tube lights and 28 % are sodium vapour lamps. Tube lights are provided in interior streets, while sodium vapour lamps are provided at the major roads and junctions. The average length of road per street light works out to 23 m as against the municipal norm of 30 m.

Exhibit 3.7 Existing Street Lighting Facilities

	Total	
	No	%
Sodium Vapor Lamps	1420	32.7%
Mercury Vapor Lamps	17	0.4 %
Tube lights	2897	66.7%
High Mast lamps	9	0.2 %
Total	**4343**	**100.0%**

KuM's Vision Plan envisages an outlay of Rs. 44.6 lakh for streetlights involving

- Solar lights (40 nos.) – Rs. 8.0 Lakh
- Automatic timer switches (70 nos.) - Rs. 10.0 Lakh
- Energy Saver for SV lamps - Rs. 20.0 Lakh
- Replacement of damaged switch boxes- Rs. 6.6 lakh

3.7 Other facilities

3.7.1 Market facilities

There are three important markets serving the town. In addition, Uzahavar Sandhai, an area earmarked for wholesale/retail marketing of vegetables is also in operation. There is heavy congestion in all three markets. Considering the constraints in the Nehru market, a new market has been

constructed at Darasuram at an outlay of Rs. 500 lakh. In addition, KuM has also modernised the fish market at an outlay of Rs. 100 lakh.

3.7.2 Bus stand

A new bus stand has been in operation in Kumbakonam since 1995. With over 50 bus bays and shops, the bus stand provides a range of facilities to the commuters. However, the demand for shops in the bus stand has been low. The CCP highlights that the bus stand infrastructure is adequate to meet the needs of the town.

3.7.3 Burial grounds

There are 4 burial grounds maintained by the municipality. All burial grounds are provided with lighting facilities and approach roads, water supply and burning sheds. Since the burial grounds are located adjacent to the river front, they pose environmental hazards. KuM has a proposal to develop a new Electric Crematorium.

3.7.4 Slaughter house

There are 3 slaughterhouses operating within KuM, but facilities within these are limited. There is a need to improve the hygiene conditions in the slaughter house and the CCP observes that there is a need to create a modern slaughter house in the town

3.7.5 Slum Development

KuM has conducted a comprehensive survey of slums in the town. As per information available from the survey, there are 45 slums in Kumbakonam with an overall population of 49117. The survey covered 45 streets / areas in 31 wards in the town that have slums and also prepared the level of urban service amenities in these areas. As per estimates prepared by KuM, about Rs. 400 lakh is required for providing infrastructure amenities to the slum population in the short term. The municipality estimates that Rs. 9000 lakh would be required for slum development of which Rs. 1300 lakh has already been sanctioned under IHSDP.

3.8 Capital Investment Plan

We have compiled the felt needs of the city under various service areas, based on

- Review of projects recommended in the City Corporate Plan prepared earlier under TNUDP - II
- Status and progress on projects identified as part of the Vision Plan (2004-09) prepared by KuM
- Discussion with KuM officials and Council members.

Exhibit 3.8 provides project components of the Capital Investment Plan over the next ten years for various services and the estimated outlay for implementing these projects. Nearly Rs. 194 crore of investment is required over the next ten years to address these felt needs.

Priority projects identified by the municipality are listed below. These projects and the capital expenditure estimates given above have been arrived at based on projects identified in the City Corporate Plan prepared earlier and based on discussion with Chairperson, Commissioner and municipal officials.

5. Completion of ongoing UGD scheme. Additional areas left out in the current scheme of approximately 29 km of roads as identified also need to be taken up.
6. Restoration and upgradation of roads in view of the poor condition following implementation of UGD scheme and heavy rains last year.
7. Pilot project for providing 24x7 water supply in select wards to be subsequently scaled up in whole town and Installation of meters at various stages in the supply chain from head works, transmission system and distribution to minimise leakages and to have a centralised control of the network.
8. Remunerative projects, largely through private participation and BOT basis, specifically relating to tourism development as listed below:
    a. Park along with recreation facilities at Srinivasa Nagar
    b. Museum at Government arts college
    c. Recreation facilities at Tank in Electricity Board office on Mayiladuthurai Road
    d. Light/sound show, handicrafts and Description of heritage importance covering Mahamaham and other aspects of Kumbakonam at unused tank area at Vanathurai
    e. Provision of open theatre and park at Ayikulam land
    f. Provision of evening bazaar for selling handicraft and other items at the vegetable market at Darasuram to utilise the facility more effectively.
    g. Creation and operation of a horticultural (flower) gardent at the Sewerage Treatment Plant site through Self Help Groups
    h. Development of municipal land in TS. NO. 79 part, 74 part, 75 part in block no. 1 Ts ward 5 to develop a Shopping Mall on the Ground floor, and Community Hall on First Floor and mini A/c Theatre in First Floor
    i. Office complex, Library and Community centre at Nataraja Chettiar School in Kumbeswaran Park.

Exhibit 3.8 provides a brief snapshot of the felt needs of KuM over the next ten years for various services and the estimated outlay for implementing these projects.

Exhibit 3.8 KuM - Felt needs (2007-12)

Segment	Outlay Rs. Lakh (2007-12)	Ongoing projects and projects envisaged in Vision Plan
Roads	1500	Kumbakonam has around 160 kms of roads. The municipality intends to complete the road works in 2006. Around 48 kms of road works at a cost of Rs.4.94Cr. are being undertaken presently.
Bridges and Culverts	25	
Storm Water Drains	1000	The municipality needs to undertake projects to the tune of Rs. 10 Cr. for storm water drains
Water Supply	2000	Pilot project for providing 24x7 water supply in select wards to be subsequently scaled up in whole town. Installation of meters at various stages in the supply chain from head works, transmission system and distribution to minimise leakages and to have a centralised control of the network.
Solid Waste Management	850	An integrated solid waste management program by procuring vehicles, equipments, establishing compost yards have been planned.
Street Lights	75	Energy savings Proposal through private participation being considered
Tourism projects and Remunerative Enterprises	2000	Construction of shops in bus stand, office buildings, commercial complexes, markets (daily and weekly) slaughter houses and 11 tourism / recreation projects identified by KuM
Education	55	Renovation of elementary schools and noon meal centres
Sewerage and Sanitation	2900	Kumbakonam needs UGD to the tune of 105 kms. Out of this 84 kms has been completed and the balance 29 kms needs to be done. The municipality has estimated a requirement of Rs.2900 lakh for this purpose.
Slum Development	9000	Rs. 1300 lakh already sanctioned under IHSDP
Others	71	Dhobikana, Town beautification, rain water harvesting, etc
TOTAL	**19476**	

3.8.1 Phasing of Capital Investment Plan

The prioritisation and phasing of the CIP during 2006-15 is given below:

Exhibit 3.9 KuM - Phasing of CIP (2006-15)

Segment	Outlay	Phasing	
		2006-10	2011-15
Water Supply	2,000	1,000	1,000
Sewerage and Sanitation	2,900	2,000	900
Storm Water Drains	1,000	500	500
Solid Waste Management	850	500	350
Roads	1,525	750	775
Street Lights	75	50	25
Remunerative Infrastructure	2,000	1,000	1,000
Slum Development	9,000	3,000	6,000
Education	55	30	25
Others	71	50	21
TOTAL	**19,476**	**8,880**	**10,596**

4. Analysis of financial performance

This section provides a summary analysis of the financial performance of KuM. This analysis is based on the information provided by KuM in the formats sent by IMaCS for collection of information on financial performance.

4.1 Income and Expenditure summary

Exhibit 4.1 provides a summary of the income and expenditure of KuM.

Exhibit 4.1 Income and Expenditure of KuM - Last five years

Year	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	CAGR %
INCOME						
Taxes	**385**	**389**	**404**	**441**	**442**	4%
Property Tax	366	364	379	401	402	2%
Prof. Tax	19	25	25	40	40	20%
User Charges / Fees	**189**	**201**	**408**	**450**	**229**	5%
Water Charges	80	95	138	101	59	-7%
Sewerage Charges	3	3	58	118	123	155%
Service Charges / Fees	107	103	211	231	47	-18%
Other Income	**100**	**71**	**46**	**49**	**33**	-24%
GRANTS /CONTRIBUTIONS	**190**	**176**	**364**	**304**	**475**	26%
ASSIGNED REVENUE	**134**	**129**	**315**	**269**	**302**	22%
TOTAL (excl. PPI)	**998**	**966**	**1,537**	**1,512**	**1,481**	10%
Prior Period Income (PPI)	16	6	9	32	54	36%
TOTAL INCOME (incl.PPI)	**1,014**	**973**	**1 ,546**	**1,544**	**1,535**	11%
EXPENDITURE						
Salaries	550	521	557	598	560	0%
Repairs & Maintenance	89	250	265	255	188	20%
Admin	59	55	46	64	48	-5%
Prior Period Expenditure	10	2	-	3	5	-14%
TOTAL OP. EXPENDITURE	**708**	**828**	**869**	**920**	**802**	3%
OP. SURPLUS	**306**	**144**	**677**	**624**	**734**	24%
Depreciation	439	246	199	270	297	-9%
Finance Charges	111	57	84	104	93	-4%
TOTAL EXPENDITURE	**856**	**448**	**960**	**998**	**1,123**	7%
SURPLUS (After Dep and Interest)	**158**	**525**	**586**	**546**	**412**	27%

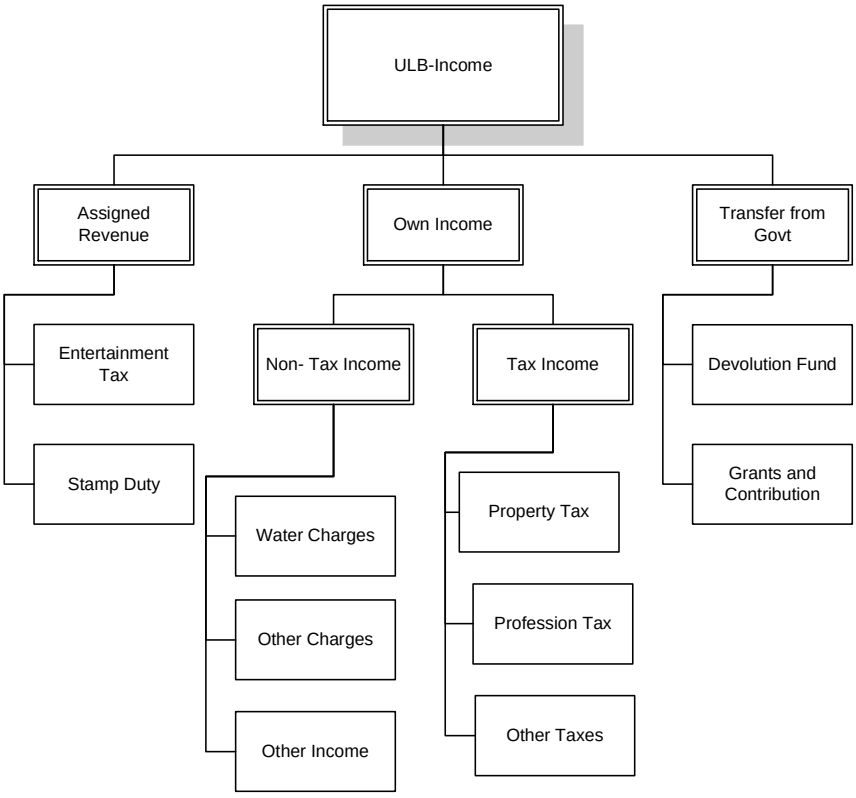
4.2 Revenue streams of ULB in Tamil Nadu

Revenue of ULBs in Tamil Nadu can be categorised along three areas:

- **Own Revenue** - comprising taxes (property tax and professional tax), user charges (water, sewerage, solid waste etc.) and other non-tax income (lease and rents, sale & hire charges etc)
- **Assigned Revenue -** Income generated revenues shared with the ULB
- **Grants and Contributions -** Grants and transfers made by GoTN

Exhibit 4.2 provides a detailed classification of the revenue streams.

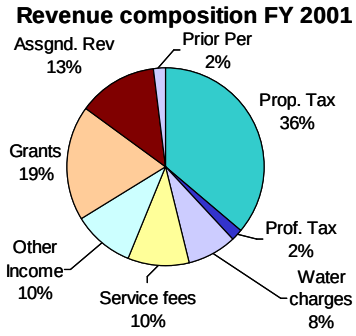
Exhibit 4.2 Revenue streams - ULBs in Tamil Nadu

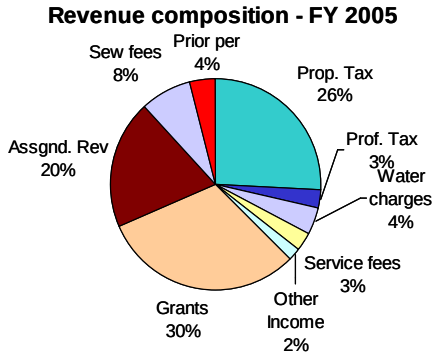


4.3 Revenues

Exhibit 4.3 provides details of revenue of KuM along various heads in FY 2001 and FY 2005.

Exhibit 4.3 Analysis of Revenues





CAGR - FY 2001-05

Property tax	:	2%
Professional tax	:	20%
Water charges	:	4%
Service fees	:	3%
Other income	:	2%
Grants	:	26%
Assigned Revenue	:	22%

4.3.1 Tax Income

Tax income has grown at a CAGR of 4 % over the last five years aided by a 20 % growth in Professional tax and 2% growth in Property Tax. Overall share of tax revenue has declined from 38% of income to 29% of income.

Property Tax

Property tax alone accounted for nearly a quarter of the income of KuM in FY 2005 and is an important contributor of revenues. Exhibit 4.4 provides a summary of key revenue drivers

Exhibit 4.4 Property tax - analysis of key revenue drivers

Year	Collection Efficiency			Properties		
	Arrears	Current	Total	Numbers	Tax/property	Growth %
2000-01	11%	52%	30%	19695	1966	na
2001-02	36%	23%	31%	20450	1915	4%
2002-03	36%	21%	30%	20818	1955	2%
2003-04	10%	61%	29%	21268	2021	2%
2004-05	11%	61%	30%	23699	1815	11%

Following are the key issues in property tax:

a) **Decline in share of property tax -** Even though the property tax has increased in absolute terms, its share in total income has declined from 38% to 29 % over the last five years.
b) **Decline average assessment per property –** In spite of a 4.7 % CAGR in number of assessments, overall property tax revenue has grown at a CAGR of 2% only. This is because there has been a dip in average tax revenue per assessment from Rs. 1966 to Rs. 1815. **The quinquennial revision of Annual Rental Value (ARV) due in 2003 has not been undertaken as of date.**
c) **Low collection efficiencies -** Collection efficiency is extremely low. While collection efficiency in current demand has improved to 61% in the last couple of years, arrears collection efficiency is extremely poor at 10%. Overall efficiencies in property tax collections needs significant improvement.
d) **Break-up of assesses** - Residential segment contributes 97% of the total assessments and 88% of the total property tax demand. Exhibit 4.5 below gives the detailed break-up of assesses

Exhibit 4.5 Property Tax - breakup of assessees

Category of Property	Number of Assessments	%	Annual Tax Demand (Rs. lakh)	%
Residential	25310	97.01%	24522	87.79%
Commercial	73	0.28%	822	2.94%
Industrial	1	0%	2192	7.85%
State Government Properties	7	0.03%	397	1.42%
Public Sector Undertakings	14	0.05%	-	-
Charitable Institutions	0	0%	-	-
Educational Institutions	52	0.20%	-	-
Tourist monuments	28	0.11%	-	-
Others	263	1.01%	-	-
Total	**26091**	**100.00%**	**27933**	**100.00 %**

4.3.2 Professional tax

Exhibit 4.6 provides an analysis of key drivers for professional tax revenue.

Exhibit 4.6 Professional Tax - revenue drivers

	Collection Efficiency			Assesses		
Year	Arrears	Current	Total	Nos	Demand/ Assessee	Total
2000-01	1%	73%	25%	3087	829	na
2001-02	6%	86%	34%	3095	830	0%
2002-03	8%	100%	39%	3109	802	0%
2003-04	10%	79%	35%	3118	1273	0%

2004-05	9%	73%	32%	3142	1264	1%

a) **Share of professional tax in total income** has grown from 2% to 3%.
b) **Demand per assessment** has increased from Rs. 3087 in FY 2001 to Rs. 3142 in FY 2005
c) **Collection efficiency** is poor. While efficiency of current collections was 73% in FY 2005, arrears collection efficiency is only 9%, leading to overall collection efficiency being very low at 32%.
d) **Composition of professional tax assessments** - Exhibit 4.7 below shows the composition of assessments.

Exhibit 4.7 Professional Tax – assessee break up

Category	Number of Assessments	%	Annual Tax demand	%
State/Central/Quasi Govt. Employees	157	5%	795	15%
Traders	2870	91%	3774	70%
Self-employed professionals	92	3%	789	15%
Private employers/ Companies	23	1%	-	-
Private employees	-	-	-	-
Total	**3142**	**100%**	**5358**	**100 %**

4.3.3 User Charges / Fees

User charges have grown at a CAGR of 5%. Share of user charges in total income has declined from 19% in FY 2001 to 25% in FY 2005

Water charges

Exhibit 4.8 provides an analysis of key drivers for water charges.

Exhibit 4.8 Water charges - revenue drivers

	Collection Efficiency			Connections		
Year	Arrears	Current	Total	Numbers	Charges/ connection	Growth rate
2000-01	46%	41%	43%	9620	286	na
2001-02	58%	51%	54%	9730	502	1%
2002-03	50%	62%	57%	9880	590	2%
2003-04	20%	44%	34%	10080	636	2%
2004-05	36%	27%	32%	10275	571	2%

a) **No. of connections** - There has been an increase in the number of connections from 9620 in FY 2001 to 10275 connections in FY 2005. Water connections account for only about 43 % of properties assessed, indicating some scope for increasing the number of connections. The

low penetration is also due to the availability of water fountains in several areas (covering nearly 35% of population) which lead to loss of revenue for KuM.

b) **Average water fees / connection** has increased from about Rs. 286 per year per connection in FY 2001 to Rs. 571 per connection in FY 2005.

c) **Collection efficiency** - The overall collection efficiency of 32 % is abysmally ow and needs significant improvement.

Exhibit 4.9 Water charges - category wise connections and tariff

Connections	Metered	Un-metered	Total	%	Billing system
Domestic	7237	4300	11537	98.4%	Flat rate
Commercial	105	95	200	1.6%	Meter Reading
Total	**7342**	**4395**	**11737**	**100%**	
Metering %	**63%**	**37%**	**100%**		

Connection Type	Flat rate	Per KL
Domestic	Minimum Rs50/-PM	Rs 5.00/-
Commercial	Minimum Rs75/-PM	Rs 7.50/-

4.3.4 Assigned Revenue

The share of assigned revenue (which includes transfers of stamp duty and entertainment tax) has sharply increased in the last three years, with overall contribution of assigned revenue to the total increasing from 13% in 2000-01 to 20 % in 2004-05.

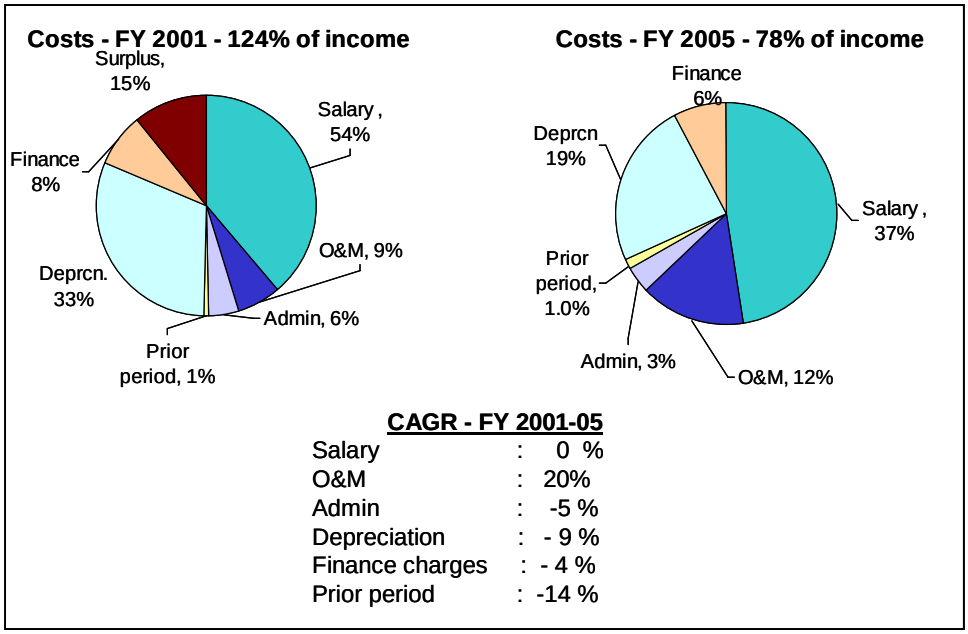
4.3.5 Grants/Contributions

Grants / Contributions from state has been an important revenue head and has grown by 26% in the last five years. They contributed to nearly 31% of revenue of KuM in FY 2005.

4.4 Analysis of Costs

Exhibit 4.10 provides details of costs of KuM along various heads in FY 2001 and FY 2005.

Exhibit 4.10 Costs (as a % of income – FY 2001 and FY 2005



4.4.1 Salary and wages

Salary and wages accounted for more than 54 % of total income in FY 2005 and has increased from Rs 550 lakh in 2000-01 to Rs 560 lakh in 2004-05. Exhibit 4.11 gives segment wise composition of salary expenses. Sewerage sector contributes to nearly 45% of the salary expenses.

Exhibit 4.11 Segment wise salary expenditure

	2000-01	2001-02	2002-03	2003-04	2004-05
Salaries	43.73%	46.03%	48.37%	46.25%	47.06%
Operating Expenses	7.08%	22.12%	23.03%	19.73%	15.76%
Admin Expenses	4.67%	4.86%	4.03%	4.93%	4.02%
Finance Expenses	8.81%	5.02%	7.27%	8.00%	7.78%
Depreciation	34.92%	21.78%	17.30%	20.89%	24.91%
Prior Period Income	0.80%	0.19%	0.00%	0.20%	0.46%
TOTAL	**100%**	**100%**	**100%**	**100%**	**100%**

4.4.2 Operations and Maintenance

Operating and maintenance form the other major component of expenditure. Operating expenses more than doubled from Rs 89 lakh in 2000-01 to Rs 189 lakh in 2004-05, translating to a CAGR of more than 20 % during the period. Exhibit 4.13 provides a sector wise break-up

Exhibit 4.12 Operations and maintenance expenditure - Sector wise break up

Item	2000-01	%	2001-02	%	2002-03	%	2003-04	%	2004-05	%
Roads	2.64	3%	3.44	1%	5.32	2%	41.35	16%	6.12	3%
Water & Sewerage	30.00	34%	79.09	32%	156.29	59%	90.20	35%	70.94	38%
Street Lights	52.89	59%	49.47	20%	101.29	38%	82.70	32%	95.34	51%
Others	3.51	4%	118.22	47%	2.48	1%	40.88	16%	15.32	8%
Total	**89.04**	**100%**	**250.22**	**100%**	**265.38**	**100%**	**255.13**	**100%**	**187.72**	**100%**

Expenditure on streetlights forms the major part of the operating expenses and accounted for 51% of the total O&M expenditure. Expenditure on sewerage and water supply more than doubled during this period to Rs. 71 lakh in FY 2005.

Power costs

Total power charges increased from Rs. 74 lakh in 2000-01 to about Rs 158 lakh in 2004-05 and accounts for more than 60% of the O&M expenditure. Exhibit 4.13 gives the details of power costs out of the total repair and maintenance expenditure relating to Water & Sewerage and Street lights.

Exhibit 4.13 Share of Power cost

Item	2001	%	2002	%	2003	%	2004	%	2005	%
Water and Sewerage segment										
Power	30	100%	62.98	80%	84.94	54%	78.2	87%	70.85	100%
Non power	0	0%	16.11	20%	71.35	46%	12	13%	0.09	0%
Total	**30**	**100%**	**79.09**	**100%**	**156.29**	**100%**	**90.2**	**100%**	**70.94**	**100%**
Street Lights										
Power	44.5	84%	45.35	92%	94.25	93%	70.26	85%	87.84	92%
Non power	8.39	16%	4.12	8%	7.04	7%	12.44	15%	7.5	8%
Total	**52.89**	**100%**	**49.47**	**100%**	**101.29**	**100%**	**82.7**	**100%**	**95.34**	**100%**

Power costs account for 95% of the total O&M expenditure

4.5 Trends in Capital Expenditure

Exhibit 4.14 gives details of capital expenditure by KuM over the last five years and estimated capital outlay to address the felt needs of KuM over the next ten years.

Exhibit 4.14 Capital Expenditure - Last five years

S. no.	Items	2000-01	2001-02	2002-03	2003-04	2004-05	Felt Needs - next 10 years
1	Roads	427.87	146.41	142.91	123.99	160.85	1500.00
2	Bridges and culverts	0.00	0.00	9.70	4.36	0.00	25.00
3	Storm water drains	43.03	14.61	14.83	29.02	15.28	1000.00
4	Water supply	0.07	0.00	1.83	0.00	0.00	67.50
5	Solid Waste Management	0.00	0.00	0.00	0.00	0.00	850.00

S. no.	Items	2000-01	2001-02	2002-03	2003-04	2004-05	Felt Needs - next 10 years
6	Street lights	7.50	0.00	3.51	26.32	16.74	5.25
7	Remunerative enterprises	82.02	47.94	12.73	48.37	2.40	0.00
8	Education	17.70	9.23	2.10	2.33	23.10	55.00
9	Sewerage and sanitation (incl. UGD scheme)	6.09	0.55	5.40	1.04	5.52	500.00
10	Others	358.04	9.24	27.61	143.13	150.30	156.00
	Total	**942.32**	**227.98**	**220.62**	**378.56**	**374.19**	**4158.75**

Source: KuM

4.6 Loans and Finance charges

Exhibit 4.14 gives the details of outstanding loans of KuM at the end of last five years.

Exhibit 4.14 Loans outstanding (FY 2001-05)

S.No	Lending Agency	Amount of Loan	Year of drawal	Interest Rate %	Repay ment period (years)	Total loan repaid			Outstanding loan amount
						Principal	Interest	Total	
1	TUFIDCO	376.90	2003	10.25	6	25.30	32.98	58.28	351.60
2	TUFIDCO	190.18	2004	9.50	10	19.96	20.72	40.68	170.22
3	TUFIDCO	165.00	2003	10.50	10	0.00	22.62	22.62	165.00
4	(IUDP) TNUDP	24.00	2000	10.50	13	2.00	0.00	2.00	22.00
5	TUFIDCO	92.70	2004	9.50	13	7.32	7.50	14.82	85.38
6	TUFIDCO	22.70	2004	8.75	10	0.00	1.50	1.50	22.70
7	TUFIDCO #	1700.00	2005	8.75	10	0.00	0.00	0.00	1700.00
	Total	**2571.48**				**54.58**	**85.32**	**139.9**	**2516.9**

 # This loan has been taken for water supply. Source: KuM

To summarise,

a) There has been a **growth in operating surplus** (CAGR-24%) during FY 2001-2005. However this has been achieved primarily by growth in Grants/ Devolution income (CAGR-26%) and assigned revenue (CAGR-22%).

b) There has been hardly any growth in **KuM's own income** (CAGR – 1%), which coupled with the poor collection efficiencies is a major cause for concern

c) **KuM has an outstanding loan of Rs. 2516 lakh in FY 2005.** Finance charges have declined from 11% of income to 6% of income over the last five year. However, overall debt servicing is likely to increase, as repayment of water supply loan (Rs. 1700 lakh) becomes due.

5. Potential areas for improvement

5.1 Public private partnerships (PPP)

KuM is considering handling the operations and maintenance of the Sewerage Treatment Plant of the ongoing UGD scheme through private sector particaption. KuM should explore more areas to augment its own resources through use of PPPs. PPPs have been found to be very effective in addressing efficiency and asset management (through pre-defined service levels and accountability for operations and maintenance) aspects of infrastructure development. In this regard,

1. CMA, GoTN should develop a **framework for PPP** including specific policies and guidelines.

2. KuM should explore use of private sector participation in undertaking its proposed projects in tourism and recreational facilities. through public private partnerships.

3. Being part of an heritage circuit, KuM should actively pursue projects that improve the tourist experience in the town. Several initiatives relating to tourism development can be pursued in partnership with private sector investment / corporate donations and NGO/Self Help Group partnerships. Specifically, KuM should

- Encourage **corporate / NGO partnerships** for heritage preservation and city beautification projects, including development and maintenance of parks.
- Consider addition of more **identified parking zones and pay-and-use toilets** in the town. These could be maintained through Self-Help Groups.
- Explore the feasibility of provision of integrated concrete roads with ducts for underground cabling and storm water drains around important heritage/tourist areas and align traffic movement to ensure ease of tourist movement during festivals. This would also enable better tourist experience and better maintenance of heritage centres.

4. TNUIFSL should provide assistance covering **necessary capacity building (in terms of evaluating mechanisms - BOT, SPV etc) and financing for developing projects** through private sector participation.

5.2 Potential for revenue enhancement

5.2.1 Property Tax

Exhibit 5.1 highlights the key issues and recommended interventions with respect to property tax. While a substantial improvement in property tax is contingent upon implementation of ARV revision (due in 2003), there are other interventions that would enable effective property tax realisation.

Exhibit 5.1 Key issues and suggested measures

Issues	Recommended Interventions	Agency
Revision of Annual rental Value (ARV) has fallen due in 2003. The revision is yet to be implemented.	**5. GOTN should implement the SFC recommendation of revision of property tax every three years, linked to inflation. This is will ensure gradual and stable increase, rather than the existing quinquennial revision.**	GoTN
In 1998 when the ARV scheme for assessing property tax was introduced, the old assesses were allowed to pay taxes based on capital value with marginal increase, leading to distortions and non-uniform rates.	**6. All assesses should be taxed on the same basis through a uniform and transparent approach to property tax assessment. Existing anomalies need to be removed at the earliest.**	GoTN / KuM
Survey of properties happens only when the ARV revision takes place. Apart from addition in properties without getting assessed, addition to area in existing properties or conversion of property from residential to commercial category also goes unnoticed leading to revenue loss	**7. Initiate a one-time survey to prepare a comprehensive database of properties available with it with updated information on the area / type and property tax details** **8. Institutionalise a mechanism for conducting surprise checks on a sample basis in all the wards on an ongoing basis and mandatory re-assessment of properties every five years.** **9. Streamline procedures for assessment/ approvals of new properties / expansion of existing properties to encourage self-disclosure of property development / modification** **10. Computerise and web-enable property tax assessment and billing processes** **11. Develop a GIS based system for effective data capture and monitoring**	Ku
On an absolute basis, property tax arrears have shown an increasing trend.	**12. Launch a focused drive on existing arrears** **13. Conduct one time settlement scheme for old arrears and incentivise payments through marginal rebates for arrears pending for more than 5 years.** **14. Work with GOTN to moot creation of a special tribunal for speedy disposal of properties under litigation** **15. Make provisions for the debtors and take steps for writing off bad debts**	GoTN/KuM
While Property tax is payable on a semi-annual basis, no interest /penal charges are levied on late payment.	**16. Implement Payment Due Date along with a 90 day grace period during which payments would involve a nominal interest payment.** **17. Payments beyond the grace period should include a steep penal charge to encourage payments on time.**	GoTN/KuM

Issues	Recommended Interventions	Agency
Tax Dispute cases where the assessee approaches legal recourse without paying any tax.	**18. In case of disputed property tax, the assessee should first pay the tax under protest as in the case of excise or customs and then take the necessary legal recourse. The Act should be modified in such a way that no legal recourse should be available to the assessee without paying the tax under protest.**	GoTN / KuM
Blanket Exemptions to institutions reduce the property tax potential	**19. Exemptions from tax should be provided only to needy institutions. For example blanket exemption to educational institutions (including large self-funded private residential schools) should be reviewed.** **20. All exemptions lead to a revenue loss to the ULBs and should be compensated by GoTN.**	GoTN / KuM

5.2.2 Professional Tax

Professional tax income has grown at a CAGR of 4% over the last five years. Specifically,

21. KuM should focus on widening its professional tax base by bringing more traders and independent professionals within the ambit of professional tax**.** Specifically, KuM should consider **tapping into databases of potential professional tax assesses** including

- **Professional associations** including Institute of Chartered Accountants of India (ICAI), the Bar Council, Medical Council etc.
- **Commercial Taxes Department, GoTN** to get details of sales tax registrations (existing and new) within KuM.

5.2.3 User charges

KuM has been fairly successful in progressively increasing user charges, as reflected in the increase in the average water charges per collection and could augment its revenues through focused interventions including the following.

22. **Increase penetration of connections for water supply.** Currently KuM has about 5,000 connections, which accounts for only 43 % of the properties assessed. KuM should target achieving at least 16000 connections over the next five years. KuM is considering collection of public deposits for water connections on a monthly instalment basis. This is likely to encourage more households to go in for their own water connections. KuM is also considering provision of group connections at a nominal charge in low income areas.

23. **Provide water fountains only in areas with a predominantly low-income population to minimise revenue loss.**

24. **Improve revenue per connection through implementation of either a graded water tariff scheme (as is being considered by CMA, GoTN) or a metering based tariff.** While the metering based system would a better system in principle (charges on the basis of usage) and in terms of incentivising water conservation, ULBs have faced resistance in implementation of metered tariffs.

25. Consider implementing **user charges for door-to-door collection** of Solid Waste.

26. **Adopt measures to improve collection efficiency.** Overall collection efficiency in water charges is very low and needs to be improved. KuM should consider stiff penalties for non-payment of user charges. Specifically KuM should consider implementation of late payment fines and in case of extreme overdue situations, disconnecting supply.

5.2.4 Measures to improve collection efficiency

27. KuM's collection efficiency is very low across all its revenue heads namely, property tax, professional tax and user charges and needs significant improvement from current levels. KuM should consider a) a focused one-time drive to clear up its dues and b) strengthening of its collection process and organisation to ensure that the overall levels of efficiency in order to improve and sustain its collection efficiencies.

5.3 Measures for cost management

5.3.1 Energy efficiency

KuM needs to take steps to address its power costs, which comprise nearly 60% of its operations and maintenance costs. The following steps are needed in this direction:

28. KuM should conduct a **comprehensive energy audit** to identify areas for reducing power consumption and related costs. KuM should implement **automatic time based dimmers** on street light network and ensure that all **pumps / motors are energy efficient.**

29. GoTN should also consider a **specific grant / capital subsidy scheme to incentivise energy conservation initiatives** for not just KuM, but for all ULBs.

30. **CMA, GoTN and TNUDF should develop and implement minimum standards related to energy conservation including installation of energy efficient motors, right sized pumps etc.**

5.4 Other measures / interventions

5.4.1 Accounting /Audit

While all ULBs in GoTN have implemented a double entry accounting system, most of the ULBs including KuM require significant improvement in their accounting practices. Several ULBs have redundant systems involving manual and computerised book keeping and errors often creep into MIS. Often, the MIS in the form of DCB statements and information provided in accounting statements are not reconciled.

31. CMA, GoTN should consider an **outlay for technical assistance** to ULBs to **improve their accounting systems and practices** and to provide adequate training to staff on the concepts of double entry book keeping.

32. Property tax system has been computerised but the software for accounting developed seems to have some errors. TNUDF should take steps to eliminate these teething problems in the accounting software.

33. GoTN should issue an order for phasing out manual books like the property tax DCB registers as the same data is being maintained both manually and also in computer database.

34. The LFA should also be given training in auditing through computer so that the manual books can be avoided in future.

35. GoTN should **insist and implement closing of accounts and audit of the same within a fixed time period** subsequent to the completion of financial year. The government should continue to provide for the payment of common accountants and computer assistant to work in the ULB which it was providing till date. GoTN should also evaluate the option of employing a local CA firm to give guidance and training to ULB staff on a regular basis. CMA,

36. TNUDF should consider a grading system to categorise ULBs on the basis of accounting and reporting practices

6. Business plan and investment capacity

6.1 Financial and Operating Plan – time horizon and scenarios

The FOP has been prepared for a ten-year period i.e., FY 2006-2015 for 2 different scenarios as given below:

- **Scenario I -** Base projections
- **Scenario II –** Projections with 'potential improvements'

The basis and assumptions underlying income and expenditure projections for the FOP are detailed in section 6.2

6.2 Basis and assumptions

6.2.1 Revenues

Property tax

Property tax projections have been arrived at as a product of average tax per assessment and the number of properties assessed. Assumptions on these revenue drivers are given below:

- ***Scenario I –Base case***
  - ❖ Assessments growth – 4.74% per annum (in line with the CAGR over the last five years), with a cap on the number of assessments at 32,000 properties. The base number of assessments has been taken as 23699 properties.
  - ❖ Average tax per property - Rs. 1815 per property assessed, in line with the average tax per property collected in FY 2005.
  - ❖ Arrears collection efficiency - 36 % for FY 2006 (maximum during FY 2001-05) in FY 2002 and assumed to increase by 2 % every year (38% in FY 2007 and so on)
  - ❖ Current collection efficiency - 61 % for FY 2006 (maximum during FY 2001-05) in FY 2005 and assumed to increase by 2 % every year (63% in FY 2007 and so on)
- ***Scenario II – with improvements***
  - ❖ Assessments growth – 8% per annum, with a cap on the number of assessments at 32,000 properties.
  - ❖ Average tax per property - Rs. 1815 per property assessed in FY 2006 with a one-time upward revision of 25% in FY 2007
  - ❖ Collection efficiency are kept at the same levels as Scenario I

Profession tax

Profession tax has been arrived at as a product of average tax per assessee and the number of assessments. Assumptions on these revenue drivers are given below:

- ***Scenario I –Base case***
  - ❖ Assessments growth – 1 % per annum (assumed as the CAGR over the last five years is very low), with a cap on the number of assessments at 10,000. The base number of assessments has been taken as 3142 assessments.
  - ❖ Average tax per assessment - Rs. 1264 per assessment, in line with the average in FY 2005. No revision has been assumed for the base case.
  - ❖ Arrears collection efficiency – 50% for FY 2006 (maximum during FY 2001-05) in FY 2003 and assumed to increase by 2 % every year (52% in FY 2007 and so on)
  - ❖ Current collection efficiency –86 % for FY 2006 (maximum during FY 2001-05) in FY 2002 and assumed to increase by 1% every year (87% in FY 2007 and so on).
- ***Scenario II – with improvements***
  - ❖ Assessments growth – 5 % per annum (in line with the CAGR over the last five years), with a cap on the number of assessments at 10,000
  - ❖ Average tax per assessment - Rs. 1264 per assessment, in line with the average in FY 2005.
  - ❖ Collection efficiency are kept at the same levels as Scenario I

Water Charges

Water charges have been arrived at as a product of average water charges per connection and the number of connections.

- ***Scenario I –Base case***
  - ❖ The number of connections has been assumed to grow at 1.66% per annum, which is based on the past trend in connections growth. The base connections has been taken as 10275.
  - ❖ The average rate of water charges per connection has been worked as Rs.571 per connection based on the data given by the ULB
  - ❖ The base collection efficiency for arrears is assumed at 80% maximum collection efficiency achieved by the ULB during the period 2001-05, with an increase of 1% every year.
  - ❖ For current demand, collection efficiency is assumed at 62 % maximum collection efficiency achieved by the ULB during the period 2001-05, with an increase of 2% every year.
- ***Scenario II – with improvements***
  - ❖ Under this scenario, connections are assumed to grow at 5% per annum.
  - ❖ Average tariff per connection in FY 2006 is assumed at Rs. 571 per connection, with a tariff increase of 5% every three years. Collection efficiency is at the same levels as Scenario I.

Other income

The assumptions made in case of other income is summarised in the table below:

Exhibit 6.1 Assumptions for other income

Item	Base Amount (in Lakhs)	Growth (CAGR %)	Assumptions
Other Taxes	0.06	Negative Growth	CAGR of 2% on the base amount for FY 2005.
Sewerage Charges	-	-	CAGR of 4% on the base amount for FY 2005. It has been assumed that the ULB would give 10,000 connections by the end of FY 2007 and would charge Rs 20 per month from each connection.
Service Charges & Fees	47.29	29.4%	CAGR of 5% on the base amount for FY 2005.
Other income	32.69	Negative Growth	CAGR of 5% on the base amount for FY 2005.
Assigned Revenue	301.71	22.5%	CAGR of 5% on the base amount for FY 2005.
Devolution Fund	266.43	9.0%	CAGR of 5% on the base amount for FY 2005.
Grants & Contributions	74.85 (average of last 4 years)	317.2%	CAGR of 5% on the base amount for FY 2005.

6.2.2 Expenditure

Exhibit 6.2 Expenditure

Item	Base Amount (in Lakhs)	Growth (CAGR %)	Assumptions
Salaries	560.45	0.5%	CAGR of 5% with cost of FY 2005 as the base
Operating Expenses	187.72	20.5%	The expenditure has been assumed as 6% of the gross block of fixed assets (in line with the average over the last five years). An inflation of 5% has also been considered.
Administrative Expenses	47.90	Negative Growth	The growth rate has been assumed at a nominal rate of 5% and has been applied on the base amount, which is for the year 2004-2005.
Depreciation	-	-	Expenditure assumed as 5% of the gross block of fixed assets
Finance Expenses	-	-	Refer 6.2.3 below.

6.2.3 Assumptions - Assets and liabilities

The major assumption adopted for projection of assets and liabilities is given below:

Exhibit 6.3 Assumptions - Assets

Asset Head	Assumptions
Stock Account	The closing balance as given in the last balance sheet by the ULB has been taken as the base figure for projection. It has been assumed that the stock will be 95% of the last year balance
Debtors	This head represents the debtors for the three heads property tax, profession tax and water charges. As they form the major portion of revenue their debtors also have been grouped separately. The calculation of debtors has been done based on the current demand under each category of income and the collection efficiency for each of the category
Other Receivables	The closing balance as given in the last balance sheet by the ULB has been taken as the base figure for projection. It has been assumed that other receivables will be 95% of the last year balance.
Bank Account	This account is the balance based on the cash flows for particular year

The detailed projections for each of the 4 cases are provided in section 6.3.

Loans

All loans taken by the ULB are long-term. The ULB has a loan outstanding of Rs.2516.9 lakh and the scheduling of these loans and interest has been taken into account in the FOP.

Exhibit 6.4 Loan Statement as on 30.09.2005 (Rs in lakh)

S.No	Lending Agency	Amount of Loan	Year of drawal	Interest Rate %	Repayment period (years)	Total loan repaid			Outstanding loan amount
						Principal	Interest	Total	
1	TUFIDCO	376.90	2003	10.25	6	25.30	32.98	58.28	**351.60**
2	TUFIDCO	190.18	2004	9.50	10	19.96	20.72	40.68	**170.22**
3	TUFIDCO	165.00	2003	10.50	10	0.00	22.62	22.62	**165.00**
4	(IUDP) TNUDP	24.00	2000	10.50	13	2.00	0.00	2.00	**22.00**
5	TUFIDCO	92.70	2004	9.50	13	7.32	7.50	14.82	**85.38**
6	TUFIDCO	22.70	2004	8.75	10	0.00	1.50	1.50	**22.70**
7	TUFIDCO	1700.00	2005	8.75	10	0.00	0.00	0.00	**1700.00**
	Total	**2571.48**				**54.58**	**85.32**	**139.9**	**2516.9**

In case of the TUFIDCO loans for Rs 1700 lakh we have assumed the moratorium period of 3 years.

New Loans

The requirement of new loans is related to capital expenditure (Capex) the ULB wants to execute. The loans has been taken as 60% of the total Capex while the grants is assumed at 30% and the own contribution by the ULB is pegged at 10% of the total Capex. The terms of the new loans is assumed as follows

Exhibit 6.5 New loans

Particulars	Assumptions
Rate of Interest on new loan	8% p.a.
Repayment Period of new loan	15 years (inclusive of moratorium)
Principal moratorium period	2 years

Other liabilities

Exhibit 6.6 Other Liabilities

Liabilities	Assumptions
Grants	Closing balance as given in FY 2005 has been taken as the base figure. Grants assumed at 30% of the Capital expenditure, which would be added to grants balance every year.
Current Liabilities	Closing balance as given in FY 2005 has been taken as the base figure. Current Liabilities assumed at 90% of the previous year's balance.

Liabilities	Assumptions
Accumulated depreciation	Closing balance as given in FY 2005 has been taken as the base figure. Every years depreciation has been added to the balance of the accumulated depreciation
Accumulated Surplus	Closing balance as given in the FY 2005 has been taken as the base figure. Every year the cash surplus is added to this account while the contribution for the project from its own funds are deducted from the accumulated surplus.

6.3 Results of Financial projections

6.3.1 Income and expenditure projections

Exhibit 6.7 cptures the Income and Expenditure projections for FY 2006-15 with potential improvements and sustainable borrowings

Exhibit 6.7 Income and Expenditure projections

Income	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Property Tax	460	615	659	705	726	726	726	907	907	907
Profession Tax	42	44	46	48	51	53	56	59	62	63
Water Charges	60	62	64	66	68	70	72	74	77	79
Sewerage Charges	-	-	33	33	50	50	55	78	84	101
Service Charges & Fees	49	50	52	53	55	56	58	60	62	64
Other Income	34	35	36	37	38	39	40	41	43	44
Assigned Revenue	311	320	330	340	350	360	371	382	394	405
Devolution Fund	293	322	355	390	429	472	519	571	628	691
Grants & Contributions	224	239	256	274	293	314	336	359	384	411
Total Income	**1,472**	**1,688**	**1,829**	**1,946**	**2,060**	**2,141**	**2,233**	**2,532**	**2,640**	**2,765**
Expenditure										
Salaries	605	654	706	762	823	889	961	1,037	1,120	1,210
Operating Expenses	197	207	217	228	240	252	264	277	291	306
Repairs & Maintenance	-	-	-	-	-	-	-	-	-	-
Programme Expenses	-	-	-	-	-	-	-	-	-	-
Administrative Expenses	50	53	55	58	61	64	67	71	74	78
Finance charges	217	221	223	222	217	202	184	166	151	143
Depreciation	119	119	183	249	316	382	433	483	534	584
Total Expenditure	**1,189**	**1,254**	**1,384**	**1,520**	**1,657**	**1,789**	**1,909**	**2,035**	**2,170**	**2,320**
Operating Surplus	**283**	**434**	**445**	**426**	**403**	**352**	**324**	**497**	**470**	**445**
Cash Operating Surplus	**402**	**554**	**628**	**675**	**718**	**734**	**757**	**980**	**1,003**	**1,029**

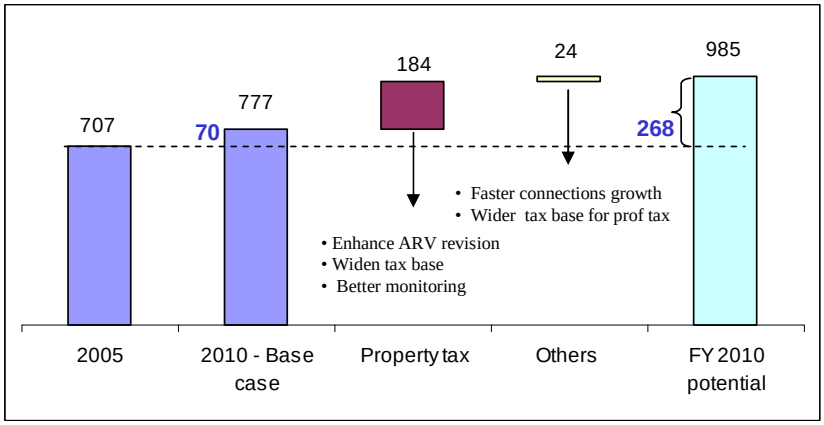
6.4 Impact of potential improvements

Exhibit 6.8 provides a snapshot of the areas and order of improvement in revenue that KUM could potentially achieve.

Specific interventions with respect to revenue realisation and cost management are detailed in section 5 of the report. On an 'as-is' basis, KuM's own revenues (comprising taxes, user charges and other income) could grow from Rs.**704 lakh** in FY 2005 to **Rs. 777 lakh** by FY 2010, implying an absolute growth of 10 **%**. KuM has limited areas for increasing its own income in the short term, in view of the spatial constraints discussed. Areas for revenue enhancement in the short term include:

- **Property tax** – through an enhanced revision in ARV, widening assessee base and closer scrutiny
- **Professional tax** – sustaining an higher assessment growth
- **User charges** - Periodic increases in user charges for water connections

Exhibit 6.8 – Potential for Revenue Improvement (figures in Rs. Lakh)



KuM also needs to explore scope for private sector participation for development of remunerative projects and heritage preservation/city beautification projects that have been identified by KuM.

While there is potential for expenditure control in certain areas (as in the case of energy costs and leakage in water supply), **the focus of cost management should be to shift expenditure from administration to better asset management and service levels.** We have not factored in any cost reduction in the FOP and have assumed that any savings generated from cost reduction would go into augmenting service levels and better asset management.

A comprehensive energy audit is required, given that 95 % of its operations and maintenance expenditure is spent on electricity charges. Plugging leakage in the water supply network and installation of timers and energy savers on the street light network are important interventions needed in the context of KuM's high power costs.

6.5 Key results

The borrowing capacity has been computed as the minimum of NPV of operating surplus, 30% of revenues during the projection period and works out to Rs.2656 lakh

Exhibit 6.9 Summary of results of FOP

Summary of FOP results	
Revenues – FY 2006 (Rs. Lakh)	1472
Revenues – FY 2015 (Rs. Lakh)	2765
Revenue CAGR % - FY 2006-15	**7.26**
Avg. Cash Operating Surplus	748
Avg. TE (excluding depreciation)/TR (%)	65%
Average Debt Servicing/TR (%)	26%
Borrowing Capacity as a minimum of NPV of	
NPV of 50% of Cash Surplus (without new loans)	2,656
NPV of 30% of Revenue	4,115
Borrowing Capacity	**2,656**
Investment Requirement	19,476
Investment Capacity (assuming 40% loans)	6,640
IC/IR (assuming 40% loans)	**34%**

At an aggregate level, assuming loans to be equivalent to 40 % of investment, sustainable investment capacity works out to Rs. 6640 lakh which is about 34 % of the total investment requirement.

While loans and own funds should be used to finance remunerative projects, KuM should leverage and utilize Grants from schemes like UIDSSMT and IHSDP to undertake non remunerative projects relating to slum development, canal desilting etc. As suggested earlier in the report, KuM should also consider involvement of private sector in implementing remunerative projects.

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