Tamil Nadu Urban Infrastructure Financial Services Limited

City Corporate Plan cum Business Plan for Chidambaram Municipality

Final Report

April 2008

ICRA Management Consulting Services Limited

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Executive Summary

The Tamil Nadu Urban Infrastructure Financial Services (TNUIFSL) mandated ICRA Management Consulting Services (IMaCS) for preparation of City Corporate Plan cum Business Plan (CCP-BP) of Chidambaram Municipality (Chi-M). This exercise intends to enable Chi-M to develop a holistic, structured and consultative approach to fine-tune and define its development priorities going forward.

The objectives of the exercise are three-fold: a) to assess existing demand-supply gaps in service delivery and derive a comprehensive infrastructure improvement plan (including a Capital Investment Plan), b) to identify revenue enhancement and financial improvement measures and c) to develop a Financial and Operating Plan to implement a sustainable infrastructure improvement plan.

City profile and growth potential

Constitution	Second Grade
Area	4.8 sq.km
Wards	33
Population (2001)	58968
Decadal growth %	0.4%
Population Density per ha	123
Slum population (% of total)	28%

Chidambaram is a taluk head quarters and is located in Cuddalore district. Chidambaram is a revered pilgrim center for Shaivites (or worshippers of lord Shiva). The city has grown around the famous Lord Natraja temple, which attracts religious tourists from across the country for its chariot festival and natyanjali festival held annually. This place is also considered a gateway to the famous 'Navagraha temples' circuit. Annamalai University, located on outskirts of the town is a renowned centre for campus and distance education in arts, science, Technology, Engineering and Medicine.

Population growth has shown a decreasing trend in last two decades and projection indicate characteristics of a low population growth over the next couple of decades. This decline is largely due to a combination of structural limitations of the town and outward migration, given limited economic opportunities within the town. Nearly the entire town area has been developed and there is limited scope for increase in population. The economic base of Chidambaram town is largely related to the tourism potential from the Natarajar temple.

There is no significant industrial activity in the town, which is also reflected in the land allocated for industrial usage (<1% of the developed area of the town). A few micro-scale industrial enterprises, such as, weaving and cane furniture has come up in the town. Industry based employment in the town is also only 7% of the total worker population, which is an indication of the low scale of industrial economy of the town. Services and tertiary activities primarily relating to trade and tourism from the major economic activity in the town.

Themes for economic development

A brief SWOT analysis of the town is presented below:

Strengths	Weakness
• Important religious tourism and cultural centre • Transit centre for a large tourism circuit. • Large agricultural belt in the vicinity • Commercial / trading hub for surrounding areas • Presence of Annamalai university	• Limited industrial activity and employment generation potential • Land related limitations and congested areas within town limit • Tourist traffic continues to be highly seasonal
Opportunities	**Threats**
• Scope for promoting Heritage / Religious tourism and nearby attractions • Trade and Education hub for nearby villages • Need to explore potential for reviewing master plan and widening town limits to guide growth in a planned manner.	• Outward migration of skilled workforce • Continued constraints on ability and willingness to pay for urban services in view of limited economic potential

The key economic development themes for Chidambaram town are summarized below:

1. **Actively promote Chidambaram as a transit hub for a larger tourism circuit.** Tourism in the town is largely linked to the Natarajar temple and Annamalai university and peaks seasonally (Natyanjali festival etc.). With tourist places like Pichavaram lake and the Navagraha circuit, Chidambaram could potentially be developed as a nodal centre for tourists visiting religious sites within and around the town all year round. The town can also actively promoted as a weekend destination for tourists from Chennai and Pondicherry. Creation of tourist amenities would enable attracting tourists and provide an avenue for incremental economic opportunities.
2. **Exploit the town's cultural heritage by setting up a centre of excellence in performing arts.** Chidambaram town is famous for its Natyanjali festival and has a tradition in showcasing performing arts. This cultural association can be strengthened by establishing an academy / centre of excellence in the bharatanatynam dance form and related performing arts. This would facilitate greater visibility for the town which could indirectly create economic opportunities.
3. **Build on the presence of Annamalai University to further strengthen Chidambaram's position as an Educational hub.** Annamalai University, a major educational centre is located on the outskirts of the town and also contributes to economic activity in the town. The University is a renowned centre for higher learning with nearly 48 Departments, in 9 Faculties. The university contributes significantly to the floating population in the town and any efforts to improve on the educational infrastructure could lead to greater influx of people into the town and resultant economic opportunities.
4. **Create infrastructure for agricultural extension facilities and trade, given the agrarian nature of adjoining areas.** Cuddalore district continues to be significantly rural (more than 63% rural population vis-à-vis state average of 56%) and agrarian (nearly 2.72 lakh hectares are under cultivation). Therefore, Chidambaram could play a vital important role in agricultural extension support and setting up of terminal markets and related agriculture infrastructure.
5. **Review master plan and explore scope for extending town limits.** The town faces structural limitations for growth, given that more than 88% of the area is already developed. Extension of town limits could facilitate an orderly growth of an urban agglomeration around Chidambaram.

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 Summary of prevailing service levels – key indicators, issues and gaps

Sl. no	Name of the Indicator	Value	Issues and Gaps / Initiatives
Water Supply			
1	Daily Per Capita Supply (LPCD)	~ 76	• With commissioning of proposed improvement scheme, prevailing supply gap likely to be addressed • Bottlenecks prevail in distribution • Connection and Collection efficiency extremely poor, even after factoring slum population • Connection fee perceived to be high and a deterrent.
2	Storage Capacity / Daily Supply (%)	44%	
3	Distribution Network / Road Length (%)	76%	
4	Water connections / Assessed properties (%)	46%	
5	Population per Public Fountain (Nos.)	~ 129	
Sanitation			
6	Presence of UGD network (Yes / No)	Partial	• Poor sanitation conditions. Proposed UGD scheme needs to be accorded highest priority • Public conveniences network needs to be expanded. • Greater thrust on maintenance and upkeep required • Awareness programs to educate populace on importance of sanitation should accompany asset creation.
7	Sanitation coverage	~ 45%	
8	Slum population per PC seat (nos.)	~ 46	
9	Storm Drain Length / road network (%)	127%	
Roads and Street Lights			
10	BT roads / Total (%)	87 %	• Several BT surfaced roads are in poor condition • Flood prone nature of town makes roads particularly vulnerable
11	Road length per Street Light (m)	40 m	
Solid Waste Management			
11	Waste generation per capita (GMS)	641	• Significant gaps in SWM practices • Need for an integrated program to implement SWM rules and regulations on priority. • Proposed improvements in the Dumping yard to be implemented on priority. • Need for greater awareness creation and investments
12	Collection efficiency (% of waste generated)	90%	
14	Disposal area (Acres per 10,000 population for 2027)	2.16	
15	Average vehicle trips	2.02	
16	Source Segregation and Composting (Yes/No)	No	

As seen, Chidambaram has significant gaps in sanitation and in water supply. Surfaced roads account for 87% of total while average distance per streetlight at 40 m is significantly higher than the norm of 30 m. While the town has reasonably good coverage of storm water drains, there is need for improving solid waste management practices including introduction of composting and scientific disposal.

Analysis of financial performance

Exhibit 1 provides a summary of the income and expenditure of Chidambaram Municipality. This summary has been prepared based on information provided by Chidambaram Municipality.

Exhibit 2 Income and Expenditure summary

INCOME Rs.in lacks	2002-03	2003-04	2004-05	2005-06	CAGR%
OWN INCOME	***283***	***321***	***315***	***324***	5%
Property tax	117	126	133	123	2%
Profession tax	14	15	27	17	6%
Other Service Charges & Fees	20	25	27	27	10%
Water & Sewerage Charges s	39	51	54	63	17%
Other Income	91	103	74	94	1%
ASSIGNED REVENUE	***133***	***78***	***52***	***59***	-24%
DEVOLUTION FUND	***105***	***98***	***122***	***50***	-22%
GRANTS & CONTRIBUTIONS	***3***	***2***	***0***	***3***	-1%
PRIOR PERIOD INCOME	***0***	***22***	***2***	***0***	
TOTAL	**524**	**522**	**492**	**435**	-6%
EXPENDITURE Rs.in lacks	**2002-03**	**2003-04**	**2004-05**	**2005-06**	**CAGR %**
Salaries	218	195	197	170	-8%
Operating Expenses	74	102	77	80	3%
Programme Expenses	0	0	1	1	
Administrative Expenses	37	12	14	13	-30%
Finance Expenses	34	121	8	1	-67%
Depreciation	120	108	2	0	-100%
Prior Period Expenses	0	17	0	1	28%
TOTAL	**363**	**447**	**297**	**266**	-10%
SURPLUS- (Ex.cl depn)	**161**	**75**	**195**	**170**	**2%**
Operating Ratio (Total Exp/ Total inc) All are in percentage					
Excluding depreciation	69%	86%	60%	61%	69%
Including deprication	92%	106%	61%	61%	80%
Debt Servicing				**Rupees in lacks**	
Loan Interest	10.73	85.15	4.00	1.03	100.91
Loan Repayment	17.12	11.86	10.90	4.88	44.76
Percentage of Income	**5%**	**19%**	**3%**	**1%**	**7%**

Source: Chi-M accounts.

Overall, revenue declined by 6% while expenditure declined by about 10% during FY 03-06. The revenue decline appears to be on account of decrease in devolution fund and assigned revenue, even though own income of the municipality has shown an increase of 5%. Most of the expenditure heads have shown a decline particularly, Salaries and finance charges.

Capital Investment Plan

The CIP has been prepared based on

- Status and progress on projects identified as part of the Vision Plan (2004-09)
- Consultations with stakeholders and feedback on our presentation to the Council.
- Discussion with Chi-M officials and review with TNUIFSL and CMA

Exhibit 3 provides a summary of the CIP for Chi-M.

Exhibit 3 Capital Investment Plan summary

Segment	2008	2009	2010	2011	2012	2008-12	2013-17	2018-27	TOTAL
Water Supply	10	200	250	-	-	460	25	154	639
Sanitation	9	1,326	1,326	1,326	44	4,032	67	34	4,133
Solid Waste Management	24	-	37	-	-	61	179	102	342
Transportation and street lights	14	14	489	489	489	1,495	259	1,550	3,304
Urban Services for the poor	417	-	-	-	861	1,278	4,304	-	5,582
Others	132	526	11	6	56	731	50	100	881
TOTAL	**606**	**2,066**	**2,113**	**1,821**	**1,450**	**8,056**	**4,885**	**1,940**	**14,881**

Priority projects

Priority projects identified for implementation by Chi-M are listed below in Exhibit 4.

Exhibit 4 Priority projects - FY 2008-12

Sl. No	Sector	Project	Cost *Rs. Lakh*	Status	DPR needed
1	Water Supply	Comprehensive Water supply scheme to deliver 135 LPCD	450	DPR under preparation	Yes
2	Water Supply	2 OHTs at Uzhavar Sandhai and Bus stand (2 lakh litres each)	20	Proposed	-
3	Sanitation	UGD scheme	3847	DPR ready. Under TS	-
4	Sanitation	De-silting of 10 water bodies	185	Proposal ready.	Yes
5	Transportation	Restoration of roads post UGD	800	Concept stage	Yes
6	Transportation	Development of new bus stand	600	Concept stage	Yes
7	SWM	1.Completion of compost yard development at Thandeswaranallur 2. Procurement of dumper place bins, Push carts and other equipment	61	Under implementation	Yes
8	Remunerative enterprises	Re-development of fish market and vegetable market	150	Proposal stage	Yes
9	Remunerative enterprises	Slaughter House	20	Ongoing project	-
10	Schools	Amenities in Schools	14		-
11	Health	Maternity centre improvements	12	Proposed	-
12	Urban services for poor	Ongoing project under IHSDP	417	Approved. Ongoing	-
		TOTAL			

Technical assistance requirements

A list of project level / sector specific technical assistance requirements needed from CMA/TNUISFL is given below:

1. Development of a comprehensive GIS for the town with updated information on all urban assets including roads, water supply, sanitation etc.
2. DPR on comprehensive water supply for achieving 135 LPCD water and implementation road map for 24x7 supply.
3. DPR for solid waste management with focus on scientific disposal and mechanised handling.
4. DPR and assistance in project structuring on PPP of remunerative projects identified in Exhibit 4 above (projects 8,9 and 10 above).

Projects by other departments / agencies

Other projects to be taken up for implementation by various Government departments include:

1. **State Highways/National highways** – a) Feasibility study and implementation of Bypass / ring road around Chidambaram, b) Traffic and junction improvements on the 10.5 km of roads maintained by State Highways and National Highway departments.
2. **DTCP** – Review of master plan for the town and adjoining areas
3. **Department of Agriculture / Tamil Nadu State Agriculture Marketing Board** – Feasibility study for setting agri-extension facilities and terminal markets in Chidambaram/adjoining areas.
4. **TWAD –** Feasibility study for comprehensive water supply and roadmap for 24x7 water supply in Chidambaram.
5. **Tourism development –** Development of tourism amenities in and around Pichavaram lake.

Reform Agenda

Chi-M's ability to improve on its financial performance hinges primarily on its ability to sustain and improve on the revenue growth noticeable in recent years.

State level

1. Implement recommendations of the Third State Finance Commission, particularly those relating to the revenue buoyancy including property tax reform and devolution income from GoTN.
2. Ensure stability of tenure of key officials and ensure that except for extraordinary circumstances, there should be a minimum tenure of at least 2 years for all the key positions including Commissioner, Municipal Engineer, Manager, Town Planning Inspector, Sanitary and public health head and Accountant. Further, guidelines need to be clarified and enforced for formal charge handover whenever there is a transfer of officials to ensure continuity.
3. Carry out an independent assessment of skill gaps and manpower needs of ULBs to ascertain the appropriate manpower plan in terms of skill sets and experience/seniority. This is particularly relevant given the recent developments, specifically in urban planning and GIS, municipal

accounting and systems, e-governance and modern practices in infrastructure service delivery including potential for Public-Private Partnerships.

4. Address critical operational areas through focused training and capacity building interventions, particularly in the areas of a) Engineering and project development, b) Accounting and Finance and c) Use of CAD/GIS applications in Town Planning and Engineering functions.
5. CMA, GoTN should continue its technical assistance efforts to ULBs to improve their accounting systems and practices. The setting up of the Debt Monitoring Cell to reconcile and provide updated information on the debt status of the ULBs is also a positive step in this direction.
6. CMA, 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. TNUDF could consider a grading system to categorise ULBs on the basis of quality of accounting and reporting practices.
7. Create and enforce technical standards with specific applicability to municipal projects construction and execution particularly in the areas of a) integrated road asset creation and management, b) Detailed Flood management strategy and guidelines for storm water drain construction and c) Building on ongoing initiatives in Solid Waste Management through greater emphasis on implementation of scientific waste processing and disposal mechanisms
8. CMA, GoTN along with TNUIFSL should develop a framework for PPP covering specific policies and guidelines and model concessions for PPP in urban services including Water supply, Sanitation, Solid waste management, Street light maintenance and remunerative projects.
9. ULBs should be required to establish the practices of an independent systems audit to be conducted annually. This would enable ULBs to establish greater accountability and build in robust processes for disaster recovery and security of the IT architecture of the ULB.
10. Facilitate creation of a formal institutional mechanism to manage functional overlaps among nodal agencies/state level agencies and the ULB at the city level.

ULB level

Chi-M could potentially by FY ending 2012 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 through widening tax base among traders and self-employed professionals
3. **User charges** – through increased penetration of water connections and new sewerage connections could potentially triple user charges income from the current levels.
4. **PPP / remunerative projects** - Chi-M 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.
5. **Energy costs** - A savings of 10-15% reduction in energy costs appears imminently achievable and could translate to annual savings of nearly Rs. 5-7 lakh on the current cost base of Rs. 40-50 lakh.
6. **Collection Efficiencies** – Collection efficiencies in taxes as well as user charges indicate significant scope for improvement.
7. **NGOs / Corporate participation -** Intensify focus on attracting NGOs/advertising revenue for city beautification projects to reduce reliance on grants for such projects.

FOP, borrowing capacity and investment capacity

Exhibit 5 provides a summary of the results of the FOP prepared for a 20 year horizon. As can be seen, Chi-M's revenues could potentially go up to **Rs. 1817 lakh** by 2012 and **Rs. 3429 lakh** by 2017 (8.7% CAGR).

Exhibit 5 Financial and Operating Plan – summary

Estd. Revenues – FY 2008 (Rs. Lakh)	702
Estd. Revenues – FY 2016 (Rs. Lakh)	1,817
Estd. Revenues - FY 2027 (Rs. Lakh)	3,429
Revenue CAGR % - FY 2008-17	10.9%
Revenue CAGR % - FY 2008-27	8.7%
Average TE (excluding depreciation)/TR (%)	69%
Average DS/TR (%)	30%
Average DSCR	1.01
Borrowing Capacity	3891
Investment Requirement	14,911
Investment Capacity (at 50% loan)	7,782
IC/IR (including Urban Service for Poor)	52%

Based on the projections and norms (Minimum of NPV of 50% operating surplus or 30% of revenue), the borrowing capacity of Chi-M works out to **Rs. 3891 lakh**. At an aggregate level, assuming loans to be equivalent to **50%** of investment, sustainable investment capacity works out to Rs. **7782 lakh**, which translates to only **52** % of the total investment requirement (including slum rehabilitation).

Therefore Chi-M would require significant grant support to implement its CIP in full. While Loans and own funds should be used to finance core infrastructure projects which also have an identifiable revenue component (such as UGD), Chi-M should utilize Grants from schemes like UIDSSMT and IHSDP to undertake non remunerative projects relating to slum development, canal de-silting etc. Further, Chi-M should get private sector participation to implement land development projects (such as re-development of markets).

1. Introduction

1.1 Background to the study

The Tamil Nadu Urban Infrastructure Financial Services Limited (TNUIFSL) intends to assist Chidambaram Municipality (also referred to as Chi-M in this document) in strengthening and improving its financial position for effective capital investment management and urban service delivery. As part of its project development and capacity building role, TNUIFSL retained ICRA Management Consulting Services Limited (IMaCS) for assistance in preparation of a City Corporate Plan cum Business Plan for Chi-M.

This exercise intends to build on internal efforts of Chi-M and the Vision Plan prepared by Chi-M in FY 2005 that identified projects and development priorities in various areas of municipal functioning and also enable Chi-M to develop a holistic, structured and consultative approach to fine-tune and define its development priorities going forward. The objectives of the exercise are three-fold: a) to assess existing demand-supply gaps in service delivery and derive a comprehensive infrastructure improvement plan (including a Capital Investment Plan) required, b) to identify revenue enhancement and financial improvement measures and c) to develop a Financial and Operating Plan for a 10-year period to implement a sustainable infrastructure improvement plan.

1.2 Objectives, Scope of Work and study modules[1]

1.2.1 Objectives of the study

The objectives of this exercise as defined by TNUIFSL were to:

a) Define the growth directions and service up-gradations in relation to the activity mix / growth
b) Look at the demand for the projects specified by the ULBs, and identify gaps in services to broadly outline infrastructure needs
c) Identify specific capital improvement needs with regard to priority city infrastructure in both slums and other areas
d) Define revenue enhancement and revenue management improvements required to sustain the rehabilitation proposed
e) Identify reforms required in local administration and service delivery and management changes required at the local level to improve O&M of assets
f) Suggest measures to address common growth and infrastructure issues.

1.2.2 Scope of work

A brief summary of the scope of work for the study is given below:

[1] *Compiled from the Terms of Reference document prepared by TNUIFSL*

a) Assessment of demand for projects identified by ULB.
b) Assessment of the financial and operating aspects of Chidambaram
c) Review issues relating to revenue realisation, asset management and institutional constraints
d) Development of a Financial and Operating Plan (FOP), taking into account potential revenue enhancement and cost reduction measures
e) Prepare a draft Memorandum of Association between ULB and TNUIFSL that will outline base line indicators and the performance targets on the same.
f) Initiate consultations with council and local stakeholders on the priorities; redefine priorities and work with the Council to resolve on adoption of the City's FOP and CCP actions.
g) Finalize Action Plan for the City, with a resolution from the council on the priorities and commitment to implement revenue and management improvement measures.

Annexure I provides the detailed Terms of reference and scope of work provided by TNUIFSL.

1.2.3 Study outputs and modules

We have clubbed overlapping and related study outputs defined in TNUIFSL's RFP into the following modules:

- **Module I** - Rapid Urban Assessment
- **Module II** - Strategic Plan, Capital Investment Needs and Asset Management Plan
- **Module III** - Project risk, environmental and social assessment
- **Module IV** - Financial and Operating Plan
- **Module V** - Policy Interventions and Technical Assistance requirements

1.3 Approach and Methodology

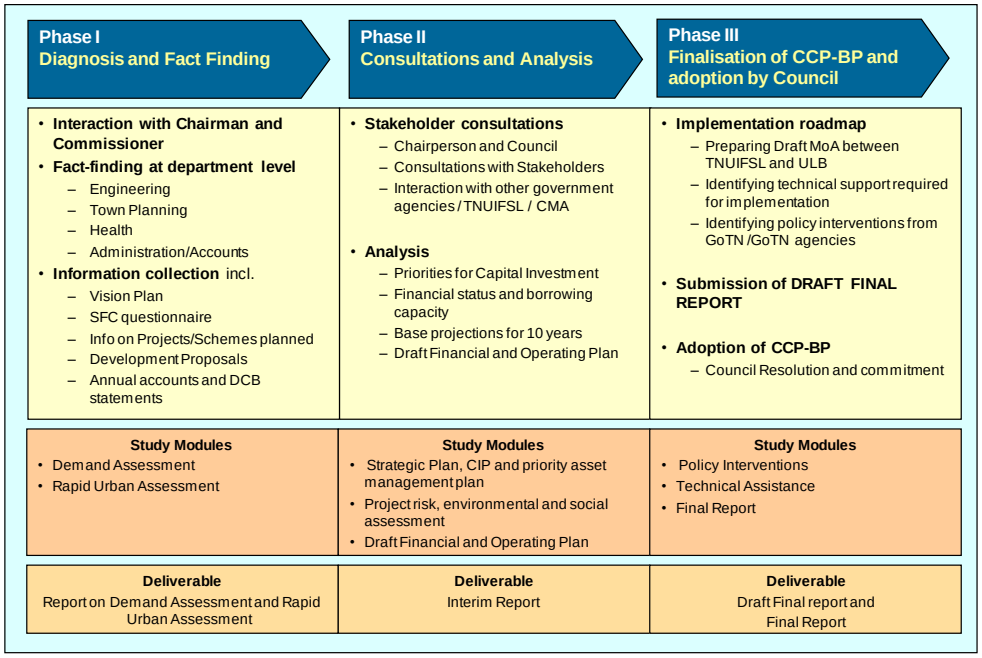
We conducted this study in three phases. Exhibit 1.1 provides a snapshot of the approach and methodology along the study modules and the deliverable(s) covered in each phase.

1.3.1 Phase I – Diagnosis and Fact-finding

The diagnostic review was directed towards achieving an understanding of demographic and economic profile of the town along with a review of the operating and financial performance of Chidambaram municipality. During this phase, we focused our fact gathering on the following:

- Understanding of the city context and characteristics in terms of demographics, land-use and economic development
- Assessment of current status and requirements for various urban services
- Review of operational performance and service delivery of Chi-M in infrastructure segments
- Compilation of information on ongoing and proposed schemes and projects.

Exhibit 1.1 IMaCS' approach and methodology



Our methodology for this phase covered the following:

a) Primary research

- We had interactions with the Commissioner and officials in various departments of Chidambaram municipality. The objectives of these interactions were to get a first-hand view of the perspectives of these officials with respect to the overall status of the town and the issues in delivery of urban services.

b) City Visits

- Our team made several reconnaissance visits to different parts of the town to understand the spatial characteristics of the town and to get hang of the 'visible' issues facing municipal management in the town.
- During these visits, IMaCS' team also had informal dipstick interactions with the local populace to capture select perceptions on the town and its municipal administration.

c) Collection of information on aspects relating to the town and municipality

- We spent substantial time during this phase in perusing various documents and information available with Chi-M and in follow-up discussions with ULB officials on the information gathered. In preparing this report, we have relied on the information provided by the ULB.

Phase I of the study culminated with the submission of Rapid Urban Assessment Report.

1.3.2 Phase II - Consultations and Analysis

In phase II, we validated the findings of our rapid urban assessment report through extensive consultations in the town. The activities during this phase included:

a) Consultations with the Council - The focus of these consultations was to understand issues in urban services and to discuss options and drive a consensus on the future vision and strategy for

the town. We also deliberate on the ongoing and proposed projects in order to understand and factor the council's priorities. Refer Annexure II for minutes of the discussions

b) Public consultations – We also had public consultations with key stakeholders in the city. . The objective of this session is to complement the information gathered from our interactions with the council members to facilitate a wider participation of stakeholders in this exercise. Annexure III provides minutes of our meeting with the public stakeholders.

c) Analysis and finalisation of Capital Investment Plan – Based on the findings of the rapid urban assessment and consultations with Council and stakeholders, we arrived at the Capital Investment Requirements for the town for the next 20 years. (i.e., 2008-2027).

Phase II of the report culminated with the submission of the report on Strategic Plan, Capital Investment Plan and Asset Management Plan report for the municipality. The report was presented to TNUIFSL, CMA and officials of Chidambaram municipality before moving on to Phase III.

1.3.3 Phase III – Finalisation of report

This phase involved finalizing the contours of the City Corporate Plan cum Business Plan of Chidambaram municipality. During this phase we crystallized

a) Reform agenda to be adopted by Chi-M including revenue enhancement options.
b) Policy interventions and technical assistance required for Chi-M to implement the CCP-BP.
c) Assessment of borrowing capacity of the municipality and preparation of a sustainable Financial and Operating Plan for the municipality.

1.4 Organization of this report

This document presents our Final Report of the study and is structured along the sections given below. Prior to finalisation, the Draft Final Report was submitted and reviewed by TNUIFSL, CMA and Chi-M. The report with the incorporated changes was presented to the municipal council, which passed a **Council Resolution**[2], approving the report in its meeting on **28.02.08**

- Section 1 Introduction
- Section 2 City profile and demographics
- Section 3 Economic profile and Land use
- Section 4 Rapid urban assessment – services, issues and gaps
- Section 5 Urban Governance and management
- Section 6 Analysis of financial performance
- Section 7 Vision and strategic plan, CIP and asset management plan
- Section 8 Project profiles including analysis of risks and ESA considerations
- Section 9 Reform Agenda and Technical Assistance
- Section 10 Financial and Operating Plan

2. Town profile and city demographics

2.1 Town Profile

2.1.1 District overview

Chidambaram is a taluk head quarters and is located in Cuddalore district. The present Cuddalore district was formed in 1993. Cuddalore district lies between North Latitude between 15° 5'/11° 11' and 12° 35' and East Longitude between 78 ° 38' and 80°. Cuddalore district encompasses an area of 3678 sq. km and includes 681 village panchayats, 16 town panchayats, 13 panchayat unions and 5 municipalities. On the Revenue Side, it includes 3 revenue divisions, 6 Taluks respectively and 896 revenue villages.

2.1.2 Historic and religious significance

Chidambaram is a revered pilgrim center for Shaivites (or worshippers of lord Shiva). The city has grown around the famous **Lord Natraja temple**, which attracts religious tourists from across the country. Dedicated to Lord Nataraja, this ancient temple, built during the Cholas reign, is unique not only in it being devoted to the art of Bharatanatyam, but also as one of the rare temples where Shiva is represented by an idol rather than the customary shiva lingam. This place is also considered a gateway to the famous **navagraha temples tourist circuit** and all the important temples are very near to this place. The town is very famous for its **chariot festival,** which is organised annually in the city and also **natyanjali** festival which held annually in the temple.

Annamalai University one of the biggest universities in South India is near this town. This famous university is located on outskirts of the town and is well known through out the country for its facilities for on campus and distance education and research in all most all branches of arts, science, technology, engineering and medicine.

2.1.3 Location and connectivity

Chidambaram is in proximity to the coastline at an elevation of 5 meters from the MSL and has a coastal climate that shows little variations. The general topography of the town is flat with forests and vegetation surrounding the town. The town receives rainfall from northeast monsoons, which last from October to December. Average annual rainfall is about 100 mm.

The town is located at a distance of about 250 km south of Chennai. This town is geographically situated 97° 44' East longitude and 11 24' North latitude. It is located at a distance of about 250 Km Southe of Chennai and well connected by major district roads with the adjoining towns such as Cuddalore and Pondicherry at a distance of 20 Km and 43 Km respectively. It is also connected by

[2] Copy enclosed with Executive Summary of report

road with Sirkali towards south and Bhuvanagiri towards North west direction at a distance of 20 Km and 43 Km respectively.

2.1.4 Details of connectivity to town

6. **Airport –** Chennai airport is about 250 km from Chidambaram town.
7. **Railway –** Chidambaram falls on the Villupuram-Mayiladuthurai railway line, which has been taken up for, gauge conversion (from metre gauge to broad gauge). Press articles indicate that this work is expected to be completed during the current financial year.
8. **Roads –**National Highway 45A runs through the city. It is well connected with Tiruchirapalli, Chennai,Pondicherry and other parts of the state. Distances of Chidambaram from major urban centres in the state and near to this municipality are shown in the exhibit 2.1 below.

Exhibit 2.1 Distances from other urban centres in Tamil Nadu

Urban Centres	Distance in Kms
Chennai	250
Madurai	335
Pondicherry	70
Cuddalore	50

2.2 Chidambaram municipality

Since 1998, the town is functioning as Selection Grade Municipality. The Chidambaram Town became a III rd grade Municipal town as per G.O.Ms NO 33, Finance Department 25-3-1873 and then upgraded as II nd grade Municipal town in G.O Ms No 2302 RD & LA dt 11-4-1949. During the year 1974, the town was upgraded as I grade Municipal Town as read in G.O.Ms No 1815 RD & LA dt 9-8-1974.

Chidambaram municipality comprises 33 wards and extends over an area of 4.8 sq.km with an official population of 58,968 (2001 census).

2.3 Population

Exhibit 2.2 provides a snapshot of the population growth over the last few decades.

Exhibit 2.2 Population growth trend

Year	Population	Census households	Growth Rate (%)	
			Decadal	Annual
1961	40,694	8,671		
1971	48,819	9,323	20.0%	1.84%
1981	55,920	9,982	14.5%	1.37%
1991	58,740	11,148	5.0%	0.49%
2001	58,968	12218	0.4%	Neg.

Source: Census 2001, UFA report –TNUDP-III

As per the latest census, Population of Chi-M was 58,968 (~ 12,218 households). The town contributes to 0.1% of the total population of the state and about 2.5 % to the total population of the district. About 7.5% of the total urban population of the district Cuddalore reside in Chidambaram. The town is the third most populated town in the District after Panruti and Cuddalore.

The town witnessed population growth during 1960-80s, which can be attributed to growing concentration of commercial activities in the town and provision of physical and social infrastructure providing livelihood opportunities for a large section of the population.

Population growth rate has however shown a decreasing trend in last two decades. While census data for 2001 seems to indicate an sharp decline in population, there seems to be some discrepancy in this figure. The voter population details shown in municipal records (people > 18 years old) itself is 52,753. This corresponds to 91% of the reported Census population of the town in 2001, which appears very high compared to the corresponding figure of 75% for the state as a whole. However, it can be said safely that the town is getting saturated and the population growth has slowed down significantly in the last couple of decades. This decline is largely due to a combination of limited land available within the town for further growth and outward migration given limited economic opportunities within the town. Nearly the entire town area has been developed and there is limited scope for significant increase in population. Discussions with municipal officials reveal that the town has a significant floating population with more than 100,000 tourists visiting the Chidambaram temple every year.

2.3.1 Literacy Rate and sex ratio

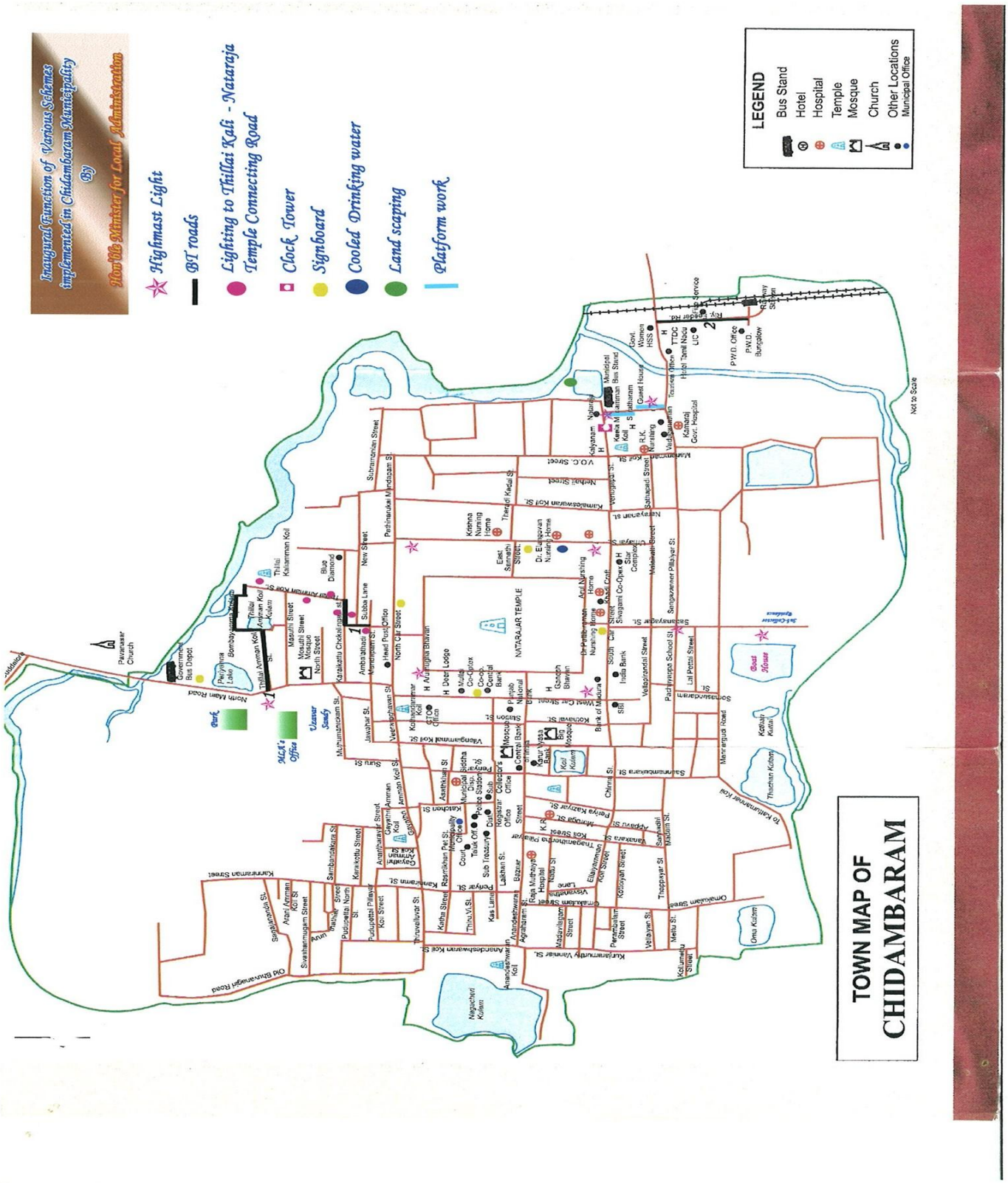
Exhibit 2.3 provides details of the male and female population of the town along with details of Literates.

Exhibit 2.3 Literacy and sex ratio

Particular	Male	Female	Total	Sex Ratio
Population	28445	29288	57733	**1030**
Literates	23686	21983	45669	
Literacy % - Chidambaram	94%	84%	89%	
Literacy % - State - Urban	**88.97%**	**75.99%**	**82.53**	**982**

Source: http://www.census.tn.nic.in

As seen, literacy rates in the town are higher than the overall urban literacy scenario in Tamil Nadu. The sex ratio for Chi-M at 1030 is substantially higher and healthier than the state average of 982 (as per Census 2001)


Inaugural Function of Various Schemes implemented in Chidambaram Municipality By
Hon'ble Minister for Local Administration
Highmast Light
BT roads
Lighting to Thillai Kali - Nataraja Temple Connecting Road
Clock Tower
Signboard
Cooled Drinking water
Land scaping
Platform work
LEGEND
Bus Stand
Hotel
Hospital
Temple
Mosque
Church
Other Locations
Municipal Office
TOWN MAP OF CHIDAMBARAM
Not to Scale

2.3.2 Ward wise population

Wards 2, 3, 6,7,16.22,23,30 and 33 had population more than 2,000 at the time of Census 2001. The average population per ward in 2001 was 1749 and the median population was 1694. The town has a population density of about 120 persons per hectare and a literacy of 65% as per the latest census data. Population of the town is largely concentrated in the central region of the town correlating to the higher residential density in the central parts of the town, around the Natraja Temple. Most of the development activity has also centred around this temple.

2.4 Population projections

Population projection for Chidambaram town has been made using the following methods:

a) Arithmetical Increase Method
b) Geometric Increase Method
c) Incremental Increase Method

Annexure IV provides details of the computations underlying the population projections. Exhibit 2.4 provides the summary of the population projections made for the town.

Exhibit 2.4 Population Projections

Year	Arithmetic	Geometrical	Incremental	Average
2011	63,469	61,818	60,927	62,071
2016	65,720	63,295	60,953	63,322
2021	67,970	64,807	60,343	64,373
2026	70,221	66,354	59,098	65,224
2031	72,471	67,939	57,217	65,876

As seen, the population of Chidambaram town could be about 66,000 in the next two decades. The town area is getting saturated and further growth would require exploring the scope for extending the area of the town. This growth also needs to be factored in planning for urban services. The next two sections detail the current status and the gaps with land-use management and urban service delivery.

3. Economic status and Town planning

3.1 Economic development

The economic base of Chidambaram town is largely related to the tourism potential from the famous Chidambaram Natarajar temple. Chidambaram town is the headquarters of Chidambaram taluka and is an important religious centre.

There is no significant industrial activity in the town, which is also reflected in the land allocated for industrial usage (>1% of the developed area of the total town). A few micro scale industrial enterprises, such as, weaving, that has come up in the town. Industry based employment in the town is also only 7% of the total worker population, which is an indication of the low scale of industrial economy of the town. Services and tertiary activities primarily relating to trade and tourism from the major economic activity in the town. This is also reflected in the occupational pattern which is detailed below.

3.1.1 Occupational pattern

Exhibit 3.1 below provides a summary of the Census data of year 2001 on occupational pattern of the town's population is reflective of the economic opportunities and employment potential. Worker pulat

Exhibit 3.1 Occupational distribution in Chidambaram town (2001)

Sector	Employment	Percentage (%)
Primary	5%	912
Secondary	7%	1277
Tertiary	88%	16059
Total	100%	18249

Source: Census 2001

As seen, the primary sector employs only about 5 % of the total workers population in the town. This implies low level of agricultural activity. With limited scope for large industrial activity, secondary sector employment is marginal as well. Bulk of the employment in the town falls in the tertiary sector. Services and Trading sector is the single largest employer, employing more than 88% of the total population in the town. This is thus reflective of the pre-dominance of services in the economy of the town. Sector wise overview of economic activities in the town and the district are detailed below:

3.1.2 Primary Sector

In terms of economic activities, the town is the local and regional marketing centre for trading of agricultural produce of farmers from neighbouring villages. Paddy is the most traded agricultural product in Chidambaram.

Exhibit 3.2 provides details of area under cultivation and production (during 2004-05) of various agricultural products in Cuddlore district, vis-à-vis the state of TN. A notable factor is the contribution of Cuddalore district to the production of paddy, pulses and sugarcane to the state's overall production.

Exhibit 3.2 Details of Agriculture production - Cuddalore district vis-à-vis Tamil Nadu

Crop	Area under cultivation			Production		
	Cuddalore	Tamil Nadu	% of total	Cuddalore	Tamil Nadu	%
Paddy	114,599	1,872,822	6 %	315,702	5,061,622	6 %
All Cereals	126,005	2,696,555	5 %	331,678	5,929,613	6 %
Black Gram	31,563	226,364	14 %	N.A	N.A	N.A
All Pulses	35,859	590,250	6 %	11,999	216,431	6 %
Sugar-cane	29,734	222,188	13 %	3549,318	24,457,244	15 %
Gingelly	4,201	72,725	6 %	1,438	33,840	4 %

Source: www.tn.gov.in . N.A Not available

3.1.3 Secondary Sector – Manufacturing Base

There is no significant industrial activity in the town, which is also reflected in the land allocated for industrial usage (less than 1% of developed area of the total town), in the town's approved master plan. Industrial activities in the town comprise of household activities and cane furniture manufacturing. All these industrial activities put together, offer employment to only a few hundred persons and the potential for economic activity arising out of secondary sector appears marginal.

3.1.4 Tertiary sector- Commercial Services

Chidambaram is a well-known religious centre as well as a centre for learning. Lord Natraja's temple occupies the central theme of the town and draws religious tourists from all over the country and also overseas. The temple is unique in the sense that both Lord Shiva and Lord Vishnu are worshipped in the same temple. The town itself is built with the temple at the centre. The oldest part of the town is spread concentrically around the temple. Tourists visiting the town form the key driver for commercial activities in the town.

Apart from the temple, Chidambaram tourism offers an array of excursion options including the following

- **Pichavaram**, located 16 km east of Chidambaram, is a favourite tourist spot. 16 km from Chidambaram Pitchavaran ranks among the most exquisite scenic spots with abundant and varied tourism resources. The backwaters, which are interconnected by the Vellar, cut coleroon system offers abundant scope for water sports and rowing. The pitchvasow forest offers waterscape and backwater cruise.
- **Neyveli**, located about 30 kms from Chidambaram, is one of the biggest industrial complexes in the country and well known for mining of lignite.

- **Kalvarayan hills** situated 150 kms north west of Chidambaram on the western side of Kallakurichi Taluk is spread over an area of 600 sq. kms. Situated at a height that ranges between 315 mts. to 1190 mts., these hills are ideal for trekking.
- **Tarangambadi**, is another tourist destination. Once the site of a Danish settlement, this location has the remains of the Dansborg fort built by Ore Gedde, the commander of the Royal Dutch Navy, in the 17th century

Annamalai University, a major educational center is located on the outskirts of the town and also contributes to economic activity in the town. The University which started with only seven departments in 1929 has, over the last 75 years, developed into a mighty institution of higher learning with nearly 48 Departments, in all 9 Faculties.

From interactions with the local stakeholders, it was revealed that the town hosts a floating population of about 100,000 across the year comprising mainly of religious tourists to the Natraj temple. This flow of tourists has been a major driver of economic development in the town spurring the creation of services and commercial enterprises.

Hence, the focus for development of Chidambaram will revolve around (1) Provision of infrastructure services to offer good quality of life to the citizens and (2) Provide infrastructure facilities to support service / commercial activities in the town. The Government of India under the Adishankara tourist circuit has allocated sum of Rs 192.50 Lakh for development of road around the temple, lightening and development of parks and providing water supply and car street.

3.2 Land-use

The administrative area of Chidambaram town extends over an area of 480 hectares and the total developed area of the town is 432 hectares, equivalent to 88% of the total area. Almost 55% of the land is under residential / administrative buildings. While commercial space accounts for 5% of the total land area, industrial activity accounts for less than 1%. There is hardly any vacant land area inside the town for further development. The Land use pattern per the 1991 master plan (the latest available with Chi-M) is given below in exhibit 3.3.

Exhibit 3.3 Land use distribution in Chidambaram 1991 and proposed (2001)

Land use	Area in hectares (1991)	Area in hectares (new plan proposed)	Percentage to total LPA
Residential	197.23	265.75	55%
Commercial	15.62	23.62	5%
Industrial	3.63	3.63	1%
Public and Semi Public	30.82	36.82	8%
Educational	7.49	10.91	2%
Transport and Communication	52.76	71.26	15%
Parks and Open spaces	4.88	11.48	2%

Land use	Area in hectares (1991)	Area in hectares (new plan proposed)	Percentage to total LPA
Public Utilities	0.05	0.05	0%
Total Developed Area	**312.48**	**423.52**	**88%**
Vacant land	3.75		
Land under water	56.5	56.50	12%
Non urban areas	107.69		
Total	**480.42**	**480.02**	**100%**

The town is a regional commercial centre and an educational centre because of the existence of the university. The west and south Ratha streets are the main centres of commercial activities, giving way to intense commercial land and building use. The bus stand and railways stations are located in the eastern part of the town. As per the master plan 1991, residential land use occupies the maximum area in the town. Residential land use is 53.46% of the total developed are and 41.06% of the total planning area of the town, reiterating its role as primarily a residential town.

More than 10% of the total developed area is used for public, semi public and educational purposes. Annamalai University is situated 3 kilometers from the university and forms part of the Chidambaram Urban Agglomeration. The municipal office, taluk office PWD office Judicial first class Munsif office and some other public offices are situated in areas marked under this land use. Transport and communication, including roads comprise 14% of the total developed area. About 7.5 hectares of total land area of the town is occupied by the educational institutions, which comprise of municipal schools and does not include the University.

4. Rapid Urban Assessment – services, issues and gaps

This section provides details of the current status and summarizes the key issues:

4.1 Water Supply

4.1.1 Current requirement

As per municipal norms of 90 litres per capita per day (LPCD), the Municipality's current requirement for the year 2001 is **5.3 MLD,** and the existing water availability is 4.6 MLD, (the rate of current provision of water is 76 LPCD) which leads to shortfall of 0.7 MLD of water schemes which, would be required by the municipality in the short term.

Exhibit 4-1: Existing supply

Description	Existing	Norms
LPCD	76	90
Required water supply – MLD	4.6	5.3
Water supply – Duration	Daily	
Water supply – Time in hours per day	3 Hours	

4.1.2 Existing scheme

The existing water supply scenario is outlined below:

Exhibit 4.2 Schemes and sources of supply

Nos.	Source	Type	Year	Distance from town (km)	Supply (MLD)
1	Vakramarai	Channel	1911	6.00	0.7
2	TWAD scheme – Coleroon river	4 Infiltration wells	2001	17	1.6
3	Borewells	7 Bore wells			2.3
	Total				**4.6**

A total of 4.6 Million Litters per day (MLD) of water is supplied to the city by the two schemes. Currently the water is supplied daily for one and half-hours, in the morning and evening. The municipality has two water supply schemes. The protected water supply scheme, Vakkaramari Head Water works, for the town was implemented in the year 1911 also called as the Lawley water supply system. This is a low water supply area and the source of water for this scheme is from North Rajan Channel (Irrigation Channel connected to Coleroon river through a supply sluice situated near head works at Vakramaari village), which is about 6 km from the town. The head works consist of two summer storage tanks of 164 million litres capacity each, pump house pressure filters, DG sets of 50 KVA capacity. The pumped water is conveyed to elevated service reservoirs of 3.86 Lakh litres capacity at west car street.

First stage improvements on this scheme were carried out during 1972 and additional 9.0 lakh litres capacity RCC elevated service reservoirs was constructed adjacent to the existing service reservoirs at west car street. Second stage improvement were completed in the year 1986, old pump sets were replaced with new 40 HP motors. Since the pressure filters at Vackkamari head works were not functioning for the past decade and could not be repaired, water from the summer storage tanks could not be utilised. To meet the water requirements of the city, three shallow borewells were drilled inside the head works and water from these bore wells were pumped to the underground sump and from there the water was pumped to the elevated service reservoirs at the west car street

The GoTN accorded administrative approval for combined water supply scheme for Chidambaram Municipality and Annamalai Nagar. The water supply system is part of the Combined Cauvery Water Supply Scheme at Chidambaram and Annamalai Nagar being maintained by the TWAD board. The new scheme has been handed over to the municipality for maintenance with effect from August 2000. The TWAD board maintains the pumping stations and pumping mains.

The source of water supply for this system is the Kollidam River at Nalamputhur village. Head works comprise of four infiltration wells. Water from this source is supplied to Over Head Tanks at Kanagasabai Nagar and Mana lane. Besides these two sources, the town also has seven deep borewells (700 – 800 feet) for emergency water supply to the town. The details of these bore wells are

Exhibit 4-3: List of Bore wells

SN	Location of bore well	Supplying to
1	Kothaval Street	West Car street OHT
2	Veerapathira Samy Street	West Car Street OHT
3	Lorry Hydrant	For lorry supply
4	Bus Stand	Indira Nagar
5	Min Nagar	Min Nagar
6	Mana Lane	As standby
7	KSN OHT	as standby

4.1.3 Storage

Water is pumped through headwork and transmitted to the Over Head Tanks (OHTs), located at various places in the city. Water is then distributed through localized distribution networks, without treatment, from the respective OHTs. The total capacities of the reservoir work out to 23.87 ML as shown in exhibit given below.

Exhibit 4-4: List of OHT

Overhead Storage Tanks (OHT')	No	Lakh litres	Year	Supply Zone
West Car Old Tank	1	3.87	1915	1
Mana Tank	1	5.00	1986	3
West Car Street – New Tank	1	9.00	1972	2
Kanagasabai Nagar	1	6.00	2001	4
Total	**4**	**23.87**		
Supply per day		**46.0**		

As observed from the table, storage capacity is about 50% of the total water supply and about 44% of demand at 90 LPCD.

4.1.4 Distribution

Water supply within the town is distributed within various zones through localised distribution networks from the above OHTs. The length of the distribution network is 57 km and covers approximately 76% of the road network. The details of water supply connections and tariff as provided to us by Municipality are given below in Exhibit. The overall water connections is 5583 and there are 226 public fountains and 244 hand pumps.

Exhibit 4-5: Water Supply - connections and tariff

Connections	Total	%	Billing system	Tariff Rs. per month
Domestic	5443	98%	Flat rate	40
Commercial	140	2%	Flat rate	100
Total	5583	100%		
Public fountains	226			
Hand pumps	244			

4.1.5 Issues and gaps

Compared to TWAD board recommendations of 90 LPCD of water supply, Chidambaram municipality is able to supply about 78 LPCD to its residents. This considers 10% losses in the supply and distribution system. This is also considering the resident population of the town. This figure would be further lowered, if the large floating population of the town is considered. Some of the key issues that needs to be addressed and would be focused on as part of our deliberations with the municipality as part of the planning process and arriving at the Capital Investment program for Water supply are detailed below:

1. **Requirement of Water supply to meet future needs** -As per municipal norms of 90 litres per capita per day (LPCD), the Municipality's requirement is 7.78 MLD in 2035 to meet its water supply needs completely. The existing water availability is 4.6 MLD, which leads to shortfall of 3.18 MLD of water schemes which, would be required by the municipality in the long term.

2. **Problems in Transmission systems -** From discussions with the municipal engineers it emerged that, the town loses water through leakages from the pumping main due to its improper alignment at Khan Shahib Bridge. Earlier studies have estimated this loss at about 15%.
3. **Water Treatment -** The town does not have water treatment facilities that are required to ensure safe and potable drinking water to the residents of the town. The water supply system had pressure filters, but these have been lying defunct for some time. The municipality pumps potable water from bore wells in Vackkarmari head works.
4. **Leakage and losses -** There is no formal tracking of the level of water leakage and loss in the system. Municipality should institutionalize a periodic assessment of the leakages in the system in order to ensure supply that is more cost-efficient.
5. **Addressing storage and distribution bottlenecks -** While the current storage capacity is sufficient, ward-level issues need to be addressed. The west Car Street OHT is very old and needs refurbishment and maintenance. From the Over Head Tanks, water is distributed to all domestic and commercial consumers by gravity. The length of distribution network is about 76% of the total road length and covers less than half of the assessed properties in the town. Age of the net work, pipe material and its spatial coverage are the three issues of concern relating to the distribution network in the town. In the tail ends of the distribution system, water supply is inadequate due to system loss.
6. **Scope for adding water connections -** Water connections account for only 46 % of the assessed properties and indicate low penetration levels. There appears to be significant scope for increasing the number of water connections within the municipality.

4.1.6 Proposed Projects

To address the above issues, the municipality is planning some projects in the anvil, which is outlined in the exhibit given below:

Exhibit 4-6 Proposed projects and requirements

Proposed under	Scheme	Cost in Lakh	Project rationale	Status
Required. Under examination	Water supply to meet ultimate population demand	1500.00	This project would be required to meet the water needs of the town in the future.	This project is based on the water requirements for the future population. The conceptualization of this project is under progress.

4.2 Sewerage and Sanitation

4.2.1 UGD network

The town has an old UGD system for carrying sewage and storm water separately in the town. About 35% of households in the town have service connections and 10% percent of the total households have resorted to private arrangements, in the form of septic tanks and low cost sanitation units. These together accounts for about 45% of the total households. Rest of the households are not covered and do not have access to safe disposal systems.

Based on the per capita water supply levels of the city it is estimated that around 4.6 MLD of sewage is generated in the town. While the quantum of sewage generated is clearly proportional to the water supplied, the need arises to determine the stress areas in order to provide an underground drainage network. The sullage and sewage from some houses are let into open road side drains, which find their way to the nearest low lying areas within the Municipality. Therefore there is significant wastewater stagnation, unsanitary conditions and mosquito breeding.

The town does not have a sewerage treatment plant. It has a 5-acre oxidation pond. In order to overcome problems, municipality has proposed to provide a sewerage treatment plant and plan for efficient removal and disposal of sewerage. It is proposed to divide the town into four zones along with improvements in the existing sewerage system. Treatment systems in 56 acres area are proposed in the Lalpuram disposal yard. The treatment plant is proposed to comprise of a waste stabilisation pond with the final disposal in the sewerage farm. The total cost of the UGD scheme is estimated to be about Rs. 3847 lakh.

4.2.2 Public convenience

There are 9 Integrated Sanitary Complexes (ISCs) and 37 toilets within municipality. These have about 370 seats between them. Exhibit given below provides details of PCs within the municipality.

Exhibit 4-7: Public Conveniences

	Public convenience	Free	Paid
1	Number of Units	20	17
2	Total No. of Seats	200	170

4.2.3 Storm water drains

Storm water drains carry the wastewater in addition to storm water generated during rains. With a total length of 95 km, the open drainage system covers the entire road network of the town. Although pucca drains covers maximum road network yet these are drains uncovered in the town. Though nearly all the municipal roads have some form of drains in place, there are inadequacies in the design, with lack of connection to main channels. In a number of wards, there is water stagnation in these drains. These drains are also being used for letting out sullage water from households leading to

pollution and poor hygiene conditions. The desilting of these drains are also not done frequently and in some places the houseowners have closed these drains leading to blockage of water flow. If this can be addressed by the municipality then the water flow during rainy season would be streamlined and would result in lesser water stagnation. In addition, such water stagnation leads to breeding of mosquitoes and spreading of various dangerous diseases.

4.2.4 Issues and Gaps

Specific issues relating to sewerage and sanitation in this municipality are highlighted below:

1. **Poor access of household sanitation –** Chidambaram municipality has severe deficiencies in access to basic sanitation. Nearly half the households do not have household level access to protected sanitation, even septic tank or LCS. The proposed implementation of UG scheme could improve the situation. But along with it, it is probably important for the municipality to take up steps and awareness campaigns for encouraging people and households to implemented protected sanitation measures including septic tanks and LCS for safe disposal and prevention of pollution and health related issues.
2. **Need for greater coverage and better maintenance of Public conveniences -** Given the above deficiencies, a significant proportion of slum population and seasonal increase in floating population, there is a need for a greater thrust on providing adequate public conveniences and on their upkeep and maintenance. We believe that there is scope for greater improvement in this area.
3. **Poor coverage, inadequacies in design and dumping of sullage in Storm water drains -** Apart from low coverage being a key concern, especially considering that Chidambaram has been flood prone town in the recent past, the poor state of the existing storm water drains and the inadequacies in their design without adequate linkages to main channels requires substantial attention. Pollution due to dumping of sullage and stagnant pools of water is also visibly disturbing which needs to be addressed.

4.2.5 Projects

To address the above issues, the municipality is planning some projects in the anvil, which is outlined in the exhibit given below.

Exhibit 4-8. Projects

Conceived under	Scheme	Cost in Lakh	Project rationale	Status
UIDSSMT	UGD System	3847	This project is needed to address the sanitation requirements of the town.	The project has been conceptualized and the DPR is being prepared by TWAD. A proposal has been submitted under UIDSSMT.

Conceived under	Scheme	Cost in Lakh	Project rationale	Status
UIDSSMT	Storm water drains to cover 2.835 km	55.00	This project is needed to bring the extension areas under storm water drain network of the town.	The project has been conceptualized and a proposal has been submitted under UIDSSMT. This proposal has been put on hold

4.3 Solid Waste Management

Exhibit given below summarises the status of SWM in the city.

Exhibit 4-9: SWM current status

Particulars	Units	Values
Generation		
Daily Waste Generation	MT	35
Daily Waste Collection	MT	33
Per capita waste generation	Grams	641
Collection efficiency	%	~ 95 %
Compost Yard / Dumping Yard Particulars		
Dumping / Compost Yard area	Acres	4.58
Yard as per norms	Acres	8.62
New land acquired	Acres	5.34
Distance from Town	Km	2
Composting in place?		No
Collection		
Door-to-Door collections	Wards	31
Privatization of collections	Wards	Only market
SWM Vehicles/Equipment details		
Tippers	Nos.	3
Dumper placers	Nos.	2
Lorry	Nos.	1
Earthmover	Nos.	1
Sullage lorry	Nos.	1
Push carts	Nos.	33
Dumper Bins	Nos.	10

4.3.1 Waste generation

Chidambaram generates around 35 MT of waste every day at a rate of 606 grams per capita per day. Other than residential sources, commercial and institutional establishments also contribute significantly to the total waste generated by the town. Managed by the health department of the local body, on an average 33 MT of waste is being collected from all the health zones and disposed off through dumping by the agency, which shows a collection efficiency of 95%. The major contributors to SWM are outlined in exhibit given below.

Exhibit 4-10:Source of SWM

S.No.	Source	Generation %
1	Residential	56
2	Lab	1
3	Commercial Establishment & Market	31
4	Industrial	0
5	Hospital & Nursing Homes	12

4.3.2 Collection and Transportation

The collection system available with the municipality comprises of open masonry bins where the waste is collected by municipal staff and thereafter disposed in the disposal yard. Waste is transported in open vehicles. The vehicular fleet available with the municipality for disposal of solid waste includes pushcarts, tractor-trailers, trucks and tippers.

Door to door collection of waste has been implemented in 31 wards of this municipality. This collection is undertaken thorough pushcarts. Waste collected from these pushcarts is loaded into dumper placer bins located at various places inside the town. Solid wastes from these bins are mechanically lifted and transported by dumper placer lorry to the municipal compost yard. Only the market place has been privatized where the primary collection is done by the market itself and secondary collection is done by the municipal staff. The collection used to be privatized prior to 2006 but the practice has been subsequently stopped. The number of sanitary workers at present is 129 which is also less as compared to the sanction posts of 193. Therefore, the collection suffers from non-availability of staff and materials.

The municipality has implemented a new scheme (service charges scheme) by which garbage from commercial establishments are collected every day by means of a separate lorry. For the above scheme the municipality collects service charges from the establishments depending on the nature of the commercial establishments.

4.3.3 Dumping Yard / Composting

At present, waste is disposed off through dumping in a disposal yard outside the town. Solid waste from the town is disposed by open dumping in a 4.58 acres composting yard at village C. Thandeswaranallur, situated about 2 kilometres from the town.

Being close to residential areas, this landfill site pollutes residential areas and ground water. As per new norms the municipality requires 8.62 acres of land for the year 2025. Additional land of 8 acres of land at Lalpuram village has been identified by the municipality and NOC from TNPCB has been obtained. The fencing work at this site is under progress.

4.3.4 Issues and gaps

Specific issues and gaps in Solid waste management at municipality are highlighted below:

1. **Need for integrated approach to SWM** - There appears to be substantial deficiencies in Solid Waste management within the municipality and this aspect of the municipal management requires immediate attention across the entire chain of activities starting with segregation and collection, transfer and improvement of disposal yard and setting up composting facilities. The municipality is aware of the criticality of this problem and has initiated some steps to solve the same.
2. **Need for segregation** No segregation between bio and non-bio degradable waste is done at present.
3. **Dumping Yard** - The dumping yard on the periphery of the town is in a bad state where dumping has been carried out in an indiscriminate manner. The dumping area is not properly fenced and waste is scattered all over the place. A new dumping yard has been purchased for this purpose
4. **Deficiencies in collection** - There are visible garbage pile-ups in various pockets of the town indicating the need for better collection efficiencies. There may also be a need to intensify awareness campaigns to educate citizens on the need for handling and segregating their waste.
5. **Equipment** - The condition and the capacity of vehicles used in secondary collection indicate the need for upgradation and investment in equipment, both in transfer and in material handling at the disposal yards.

4.3.5 Projects

To address the above issues, the municipality is planning some projects in the anvil, which is outlined in the exhibit given below.

Exhibit 4-2: Projects

Conceived under	Scheme	Cost in Lakh	Project rationale	Status
UIDSSMT	Purchase of vehicles namely 16 Push carts, 11 Dumper placer bins and 1 dumper placer lorry	19.49	This project is needed to augment the SWM effort and cover the left out area under SWM..	The project has been conceptualized and a proposal has been submitted under UIDSSMT.

4.4 Roads and traffic management

4.4.1 Type of roads

As per the latest master plan, roads cover 14.8% of the total developed area in Chidambaram with total road length of 64.12 km. Almost 87% of the total road length is surfaced. Detail of type of roads inside the town is outlined below.

Exhibit 4-3: Road Network

Roads	Length (Km)	% of total
Maintained by the Urban Local Body		
a. Concrete	8.44	13.16
b. Asphalt / Black Top	48.69	75.94
c. Earthen	6.99	10.90
	64.12	**100**
Roads Maintained by the Other Departments		
a. State Highways	5.00	
b. National Highways	6.00	
Total	**75.12**	

The road network is planned with the temple in the middle and four ratha streets around it. A gridiron pattern of roads covers the town thereafter. Although the town's extent is only about 5 kilometers, number of district roads emanate from the town. These roads include

- **Cuddalore road**
- **Pitchavaram Road**
- **Sirkazhi Road**
- **Kattumanarkoil road**
- **Old Bhuvanagiri road.**

These five roads form the main entry and exit to the Chidambaram town. Old Bhuvanagiri road has a 90% content of two wheelers and bicycles in its traffic volumes. Kattumanarkoil road also has a near 90% of traffic made up of two wheelers and bicycles. Motorised two wheelers form almost 30% of the traffic volume in all other roads except in Pitchavaram road where it is 35%. Bicycles make up 30% of the traffic volume on Cuddalore road whole old Bhuvanagiri road it is 60%. For Cuddalore road, 30% of the traffic volume consists of heavy vehicles. Pitchavaram road has 22% of traffic composed of small passengers of cars, jeeps, taxi and auto rickshaws.

As the existing highways and roads run throughout the length and breadth of the town, during peak hours the traffic jam in the town is beyond control. So there is a proposal by the state highways department to construct a bye-pass road, which will not enter the city and reduce the traffic snarls in the town. This would lead to also shifting of the existing bus stand to outside the city and would help in de-congesting the town.

4.4.2 Bus stands

There is one B grade bus stand (as per state government standards) with BT Pavement, Toilets, Cycle Stand, and Shopping Complex. One high mast light, one pay and use toilet and one free toilet serve the bus stand. This bus stand has 46 bays. There are no bus shelters throughout the city for town buses.

Since this town of historical importance, the floating population in this town is very high compared to other towns and hence it is essential to improve the amenities available in the bus stand. Existing pay and use toilet is totally dilapidated condition and has to be rebuilt. There is also a proposal to build a full-fledged toilet complex at the south east corner of the bus stand. Clearly given the congestion, there is a felt need to develop a new bus stand at the periphery of the town and use the existing bus stand as a town bus stand.

4.4.3 Street Lights

The town had 1786 streetlights of which 84% is tube lights as shown in exhibit. The town has 28 streetlights per kilometer of road length with a spacing of 42 meters between lampposts, which is not meeting the norm of 30 meters distance.

Exhibit 4-4: Details of streetlights

Types	Nos	%
a. Tube Lights (Fluorescent Lamps)	1500	83%
b. Sodium Vapor Lamps	339	16%
c. High Mast Lamps	17	1%
Total	6	100%
Distance between lamps	~40 m	

4.4.4 Issues and gaps

Specific issues and gaps with respect to roads and street lighting are summarized below:

1. **Poor quality of roads -** Though nearly 90% of the road network is in the surfaced category, a number of roads are in poor condition.
2. **Inadequate road widths and lack of organised parking facilities -** Increase in the number of vehicles and inadequate road networks are leading to traffic congestion. Further, given the important tourist centers and seasonal spikes in floating population, there is a need to earmark dedicated parking lots and better traffic planning.
3. **Encroachments along the roads -** Informal activities and street vendors along the road margins and illegal encroachments of pedestrian areas and footpaths are the other causes for traffic congestion in the town. There is considerable commercial activity on the streets around the temple, which also is a part of main entry and exit route to the town. Many shops along these roads have encroached the road / footpath which creates congestion in the centre of the town.

4. **Need for planning restoration post UGD scheme -** With the plans to create an UGD scheme in the city, the entire road network in the town would need to be restored. Therefore, it may be appropriate to take up any large-scale upgradation of the road network keeping this in consideration.

6. **Bus stands –** Many of the amenities available in the bus stand have outlived its useful life and needs restoration at the earliest.

7. **Street lighting –** Chidambaram appears to lag to average norms for street lighting (one street light for every 30 m). It also needs to accord priority to improve energy efficiency and to reduce power costs incurred on street lighting.

4.4.5 Projects

To address the above issues, the municipality is planning some projects in the anvil, which is outlined in the exhibit given below.

Exhibit 4-5: Projects

Conceived under	Scheme	Cost in Lakh	Project rationale	Status
UIDSSMT	Laying of BT roads for 8.28 kms at 36 various places`	120.00	These project have been identified based on the traffic study conducted by ULB	The project has been conceptualized and a proposal has been submitted under UIDSSMT. This proposal has been put on hold
	Upgradation of bus stand through addition of 6 bays	4.00		Yet under study
Heritage town development	Providing platform to the North and East Car street	50.00		This project is already being executed under town development scheme
Tourist circuit scheme	Providing platform to the South and West Car street	92.00		This project has already been executed under tourist circuit scheme
UIDSSMT	❑ Providing and laying concrete cement pavements to the bus stand ❑ Reconstruction of public convenience ❑ Construction of cycle stand ❑ Providing yatri nivas near bus stand ❑ Land scaping	150.00	The bus stand, which handles a substantial number of floating population, requires attention and makeover at the earliest as most of the areas of the bus stand are in a dilapidated condition.	The project has been conceptualized and a proposal has been submitted under UIDSSMT. This proposal has been put on hold

4.5 Urban Services for poor

4.5.1 Number of slums / wards

There are 17102 people residing in 3954 houses in 31 slums in the town. Almost 30% of the town's population lives in slums. There is insufficient provision of physical amenities like water supply, storm water drains, community baths, sewers, community latrines, street lights leading to health hazards. There is also, lack of community based facilities like primary education, primary health, and recreational activities

4.5.2 IHSDP/BSUP

The municipality is proposing to execute scheme to the tune of Rs.417.40 lakh under this scheme.

4.6 Social infrastructure

4.6.1 Markets

There are two daily markets in the town. One of the market is situated at West Car street and the other one is at Gnanaprakasham street. Apart from this market there is one uzhavar sandhai situated at Anna kalaiarangam. Two fish markets are being operated at North main road and Omakulam Fish market. There is a need to evolve a plan for modernization and upgradation of all markets. The West car street market upgradation has already been proposed under the Vision Plan of the municipality. s

4.6.2 Schools

Chidambaram serves as a hub for education for surrounding region and thus there are number of institutions in the town catering to the needs at all levels. There are nine municipal schools in the town, which includes primary and middle schools. Besides municipal schools, the town also has a number of Government and private schools offering secondary and higher secondary education. Schools occupy a total of 10.91 hectares of developed area in the town, which is 2% of total developed area of the town. The educational infrastructure available in the town is presented in the exhibit below.

Exhibit 4-6: Details of schools

Nature of Educational Institution	Total	Classrooms	Students
Municipal Schools	9	72	2380
Government Schools	10	120	6600
Private Schools	12	122	5500
Total	31	314	14480

All the primary schools are distributed throughout the town, covering all the remote areas. Higher secondary schools are located in the densely populated parts of the town, whereas the colleges are located both in the central and in outskirts of the town.

4.6.3 Hospitals

Healthcare services are amongst the most vital services provided by the municipal bodies. Chidambaram is served by government hospitals with bed strengths as shown in exhibit given below.

Exhibit 4-7: Details of Hospitals

Hospital	Numbers	Beds Strength
General Hospital	1	282
Municipal Maternity Centers	1	NA
Private Clinics	14	113

Supplementing govt. health care facilities, town has a healthy mix of private health care facilities, private nursing homes with consulting and dispensary to cover the needs of the people of the town.

4.6.4 Crematorium and Burial Grounds

At present, there are no burial grounds available within the municipal limits.

4.6.5 Slaughterhouse

There are 2-slaughter houses. One of them on the north main road is equipped with treatment facilities.

4.6.6 Recreational facilities

There are a total of 8 parks and playgrounds in the town. This includes 4 large municipal parks, of which the municipality maintains two parks, and one of them is maintained by private agency. In the open spaces, avenue plantation is low and the survival rates of trees decreases during summers due to lack of water. There are four cinema theatres in the town with a total seating capacity of 2700. The municipality has also provided for one reading room in the town.

Exhibit 4-8: List of recreational facilities

Ward	Name	Street
Wd-23	Navaneetham Theatre	Venugopal Street
Wd-33	Mariappa Theatre	Railway feeder road
Wd-33	Lena Theatre	SP Kovil street
Wd-33	Vaduganathan Theatre	SP Kovil street
Wd-11	Gandhi Park	Near Municipal Office
Wd-28	Min Nagar Park	Min Nagar
Wd-30	Municipal Boating Place Park	Sirkazhi Road
Wd-21	Govindasamy st Park	V.O.C st
Wd-05	Vageesa Nagar Park	Vageesa Nagar

Ward	Name	Street
Wd-07	Thillaikaliamman Koil st Park	Thillaikaliamman Koil st
Wd-04	North Main road park	North main road (cuddalore road)
Wd-23	Busstand Natarajar park	Venugopal Street

4.6.7 Issues and Gaps

The following are the summary of issues and gaps for the services given above:

Service	Issues
Market	The west car street market is in need of repairs and maintenance. This improvement would involve improvement of approach roads, shelters and parking space.
Slaughterhouse	The basic issues as (1) Lack of facilities like building and treatment facilities. (2) Damaged Building at Ambalpuram slaughter house (3) Lack of treatment plant at Ambalpuram slaughterhouse
Noon meal centers	. The basic issues are dilapidated condition of existing building Inadequate toilet facility and Inadequate dining hall facility.

4.6.8 Projects

To address the above issues, the municipality is planning some projects in the anvil, which is outlined in the exhibit 4.18 given below.

Exhibit 4-9: Projects

Service	Scheme	Cost in Lakh	Status
Slaughter house	Modernised slaughter house at Muthumanickam street	94.50	The project has been conceptualized and is under execution
Crematorium	Gasified crematorium	40.00	Pre feasibility study being conducted by anna university
Felt needs	Construction of Commercial Complexes	80.00	
Felt needs	Parks and Play Grounds – 5	50.00	
Felt needs	Daily markets – 1	6.00	
Felt needs	Slaughter houses	9.00	

4.6.9 Other Projects

Apart from the above projects the town is also covered under the Tourism, development program project for which the town has been sanctioned an amount of Rs. 236.50 lakh

4.7 Summary performance vis-à-vis select indicators

Exhibit 4.19 below captures the status of core urban services of the Municipality in terms of key indicators, summarizes key issues, and gaps in these areas. The table summarizes the baseline situation in some critical performance indicators from the analysis presented above and highlights the critical gaps in the core urban services namely, Water Supply, Sanitation, Roads, Street lighting and Solid waste Management

Exhibit 4.19 Summary of select indicators

Sl. no	Name of the Indicator	Value	Issues and Gaps / Initiatives
Water Supply			
1	Daily Per Capita Supply (LPCD)	~ 76	• With commissioning of proposed improvement scheme, prevailing supply gap likely to be addressed • Bottlenecks prevail in distribution • Connection and Collection efficiency extremely poor, even after factoring slum population • Connection fee perceived to be high and a deterrent.
2	Storage Capacity / Daily Supply (%)	44%	
3	Distribution Network / Road Length (%)	76%	
4	Water connections / Assessed properties (%)	46%	
5	Population per Public Fountain (Nos.)	~ 129	
Sanitation			
6	Presence of UGD network (Yes / No)	Partial	• Poor sanitation conditions. Proposed UGD scheme needs to be accorded highest priority • Public conveniences network needs to be expanded. • Greater thrust on maintenance and upkeep required • Awareness programs to educate populace on importance of sanitation should accompany asset creation.
7	Sanitation coverage	~ 45%	
8	Slum population per PC seat (nos.)	~ 46	
9	Storm Drain Length / road network (%)	127%	
Roads and Street Lights			
10	BT roads / Total (%)	87 %	• Several BT surfaced roads are in poor condition • Flood prone nature of town makes roads particularly vulnerable
11	Road length per Street Light (m)	40 m	
Solid Waste Management			
11	Waste generation per capita (GMS)	641	• Significant gaps in SWM practices • Need for an integrated program to implement SWM rules and regulations on priority. • Proposed improvements in the Dumping yard to be implemented on priority. • Need for greater awareness creation and investments
12	Collection efficiency (% of waste generated)	90%	
14	Disposal area (Acres per 10,000 population for 2027)	2.16	
15	Average vehicle trips	2.02	
16	Source Segregation and Composting (Yes/No)	No	

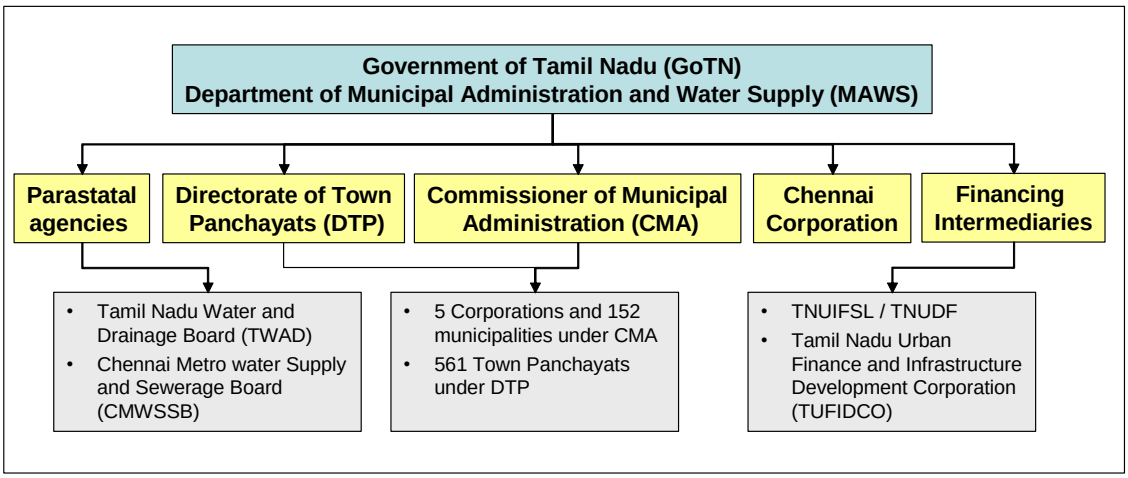
5. Urban governance and management

5.1 Policy oversight and institutional framework – State level

The governance of urban local bodies assumes importance with the adoption of 74th Constitutional Amendment Act. The Act proposes mandatory elections and greater devolution of functions to the urban local bodies including Town Corporations. The enactment of the 74th CAA provides an entirely new framework for the governance of the Urban Local Body. The Act provides for mandatory elections and a substantially larger devolution of functions to the ULBs, including several new areas hitherto not under their control. The Tamil Nadu District Municipalities Act (1920) governs the management of Municipality and Town Panchayats of Tamil Nadu. An amendment to the Municipalities Act (1920) was made in 2003 to provide impetus for environment improvement through Rain Water Harvesting.

The Urban sector in Tamil Nadu comes under the oversight of the Department of Municipal Administration and Water Supply, Government of Tamil Nadu (MAWS). The institutional structure for the urban sector is presented in Exhibit 2.3 below:

Exhibit 5.1 Urban sector - Institutional framework - State Level



Source: Policy notes, MAWS, Government of Tamil Nadu, IMaCS analysis

The department of Municipal Administration and Water Supply administers Urban Local Bodies and also implements development programs for the Urban Local Bodies in the State. The department is also responsible for planning and implementing water supply and under ground sewerage schemes in both rural and urban areas in the State.

5.1.1 Municipal Administration

At present, there are 6 Corporations, 152 municipalities and about 561 Town Panchayats (smaller ULBs) that comprise the urban sector in Tamil Nadu. The institutional framework for municipal administration is described below:

- **Corporations and Municipalities** - There are 6 Municipal Corporations, namely, Chennai, Madurai, Coimbatore, Tiruchirappalli, Salem and Tirunelveli in the State of Tamilnadu. Five Corporations (except Chennai) and 152 Municipalities including 49 Third Grade Municipalities are under the oversight of the Commissioner of Municipal Administration. Recently GoTN has announced upgration of Erode and Tirupur as Corporations.
- **Town Panchayats** - The Town Panchayats are governed by the Tamil Nadu District Municipalities Act, 1920. 1920. There are 561 Town Panchayats in the State. Towns have become drivers of economic growth and offer opportunities for social and economic development of people. The population of the Town Panchayats is 76,46,386, which accounts for 12% of the total population of the State as per Census 2001. Town Panchayats have become service centres drawing huge floating population from adjoining rural areas. The Directorate of Town Panchayats was created in1981, to look after the affairs of the Town Panchayats. The Director of Town Panchayats is the Head of the Department and looks after the affairs of 561 Town Panchayats. The District Collector is the controlling authority for the Town Panchayats at the District level. Under the Directorate, the Department has 16 Zonal offices, headed by Assistant Directors of Town Panchayats.

5.1.2 Parastatal agencies

- **Tamil Nadu Water and Drainage Board** - TWAD is a statutory body formed by the Government of Tamil Nadu, vested with the twin task of providing water supply and sewerage facilities to the entire state of Tamil Nadu except Chennai Metropolitan Area. TWAD came into existence on 14-4-1971.
- **Chennai Metropolitan Water Supply and Sewerage Board** - The Board is attending to the growing needs of and for planned development and appropriate regulation of Water Supply and Sewerage Services in the Chennai Metropolitan Area with particular reference to the protection of Public Health and for all matters connected therewith or incidental thereto. The Board was established under "The CMWSSB Act. 1978' (Act No.28 of 1978) and commenced functioning from 01.08.1978

5.1.3 Financial Intermediaries

- **TNUIFSL / TNUDF** - The Government of Tamil Nadu established the Tamil Nadu Urban Development Fund (TNUDF) on a 'Public-Private Partnership' mode, with the participation of ICICI, Housing Development Finance Corporation (HDFC) and Infrastructure Leasing & Financial Services (IL&FS). The Fund is managed by Tamil Nadu Urban Infrastructure Financial Services Limited. TNUDF provides various services including project advisory, financial advisory and consultancy services to various ULBs through its fund manager, viz. Tamil Nadu Urban Infrastructure Financial Services Limited (TNUIFSL).
- **TUFIDCO** - TUFIDCO, a State owned Organization, was incorporated to extend financial assistance to urban infrastructure schemes in Tamil Nadu. The State Government have also appointed TUFIDCO as a State level nodal agency for the following centrally sponsored schemes including Jawaharlal Nehru Urban Renewal Mission (JNNURM) and Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT)

5.2 Governance structure of Chidambaram municipality

Chidambaram municipality has two wings, namely, a political wing and an administrative wing. While the Municipal Council, headed by a Chairperson and constituting ward level council members constitutes the Political wing and is directly elected by the people, the Executive wing is headed by the Commissioner and consists of various operational departments.

5.2.1 Political wing

The municipal council with a directly elected chairman and 32 other elected councilors, each representing a ward, forms the political wing of the municipality. Three committees viz., appointment committee, contract committee, tax appeal committee have been formed consisting of elected representatives and commissioner as members.

Appointment Committee

The committee is responsible for all appointments in the municipality. It consists of three members including the commissioner.

Contract Committee

A three member contract committee is responsible for approval of all contracts costing up to Rs.5000. Works above Rs.5000 is approved by the municipal council through a sealed tender.

Tax Appeal Committee

This committee addresses appeals filed by the public against orders on revision of taxes. The committee consists of five members comprising of the chairman and four councilors.

5.2.2 Administrative Wing

The administrative wing is responsible for the day-to-day functioning of the corporation and assists the deliberative wing in the decision-making process. The Municipal Commissioner heads the executive wing of the ULB, and various officers in charge of different departments or sections assist the Commissioner in managing the ULB. Apart from its own employees, the ULB also employs daily wage basis workers or contractual workers for services such as street lighting, and sanitation and water supply. These include electricians, watchmen, water boys, drivers, valve operators etc. Certain jobs like sanitary works and garbage clearance are done through contracts, where the usual procedure followed is selection through tenders.

The **Municipal Commissioner** heads the administrative wing of the municipality. The functions of the administrative wing include:

- All executive functions with the Administrative Head (Commissioner)
- Establishment matters such as appointment, transfers, Pay and allowances, etc., correspondence with Government and other departments,
- Public relations, redressal of public grievances, Legal matters etc.
- Sanctioning of estimates and approval of contracts, payments, etc.

5.2.3 Departments of municipality

Various departments under the ULB, share the responsibility of service delivery within the Corporation. The functions of various officials/departments, under the Administrative wing, are elucidated hereunder:

a) Commissioner. The Commissioner is at the apex of this structure and is responsible for all activities carried out by the ULB. The Commissioner is responsible for preparation and certification of all periodical records, returns and furnishes all information as may from time to time be required by the Municipal Council or the Standing committees. He is also responsible for preparation of accounts. At each general meeting, the Commissioner along with some other key officials, discuss various issues with the elected representatives.

b) General Administration Department. - This department is responsible for establishment, other essential matters relating to office, officers, staff and their welfare like preparation of staff pay bills, maintenance of registers for advances, GPF, pension, PF's etc.

c) Engineering and Water Supply Department. This department looks after all the works relating to execution and maintenance of basic amenities like Water Supply, Drainage, Sewerage, Storm water drains, Roads, Street lights, etc. The Engineering department is also responsible for ensuring the quality of works and their execution within the time frame.

d) Accounts Department The Accounts Section is responsible for supervising all financial transactions related to the CMC, advising the Commissioner on all internal financial matters, updating financial receipts and expenditure details in accordance with the utilization of funds, reporting deviations in expenditure of funds in any of the allocated schemes, assisting preparation of the CMC budget, maintenance of accounts regarding stamp duty, SFC Grants, MP Grants, maintenance of petty cash book and general cash book and attending to audit requirements and other such accounts-related duties.

e) Revenue Department. Revenue Officer, heading the Revenue Section, is responsible for collecting taxes such as, trade tax, house tax, advertisement tax, and entertainment tax; development charges; transfer of properties; collection of duty; issuing notices for recovery of tax; and monitoring revenue collections of the ULB.

f) Public Health Department. The is responsible for ULB services such as Solid waste management, public 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 and awareness programs. Besides, this department is responsible for the enforcement of the Public Health Act. The department is also involved in promotion of health awareness programs and implements various State and Central assisted schemes like pulse polio project, SJSRY etc.

g) Town Planning Department. The major function of this department is issue of building license, preparation and implementation of development plans and eviction of encroachments, urban planning and building regulation.

5.3 Manpower position

Exhibit 5.2 provides the manpower position vis-à-vis sanctioned posts as of October 2007.

Exhibit 5.2 Manpower status (as of October 2007)

SL.NO	NAME OF THE POST	SANCTIONED	POSITION	VACANT
General section				
1	Manager	1	1	-
2	Accountant	1	-	1
3	Assistant	5	5	-
4	Junior Assistant	10	8	2
5	Record Clerk	1	-	1
6	Revenue Assistant	10	8	2
7	Revenue Inspector	2	2	-
8	Asst.Programmer	1	-	1
9	Data Entry Operator	1	-	1
10	Typist	1	1	-
11	Watchman	1	-	1
12	Veg.Market Watch man	2	1	1
13	T.B Watchman	1	1	-
	Sub-total	**37**	**27**	**10**
Engineering				
1	Municipal Engineer	1	1	-
2	Assistant Engineer	1	1	-
3	Overseer	1	1	-
4	Electrical Super dent	1	-	1
5	Electrician	1	1	-
6	Helper	2	2	-
7	Agri. Assistant	1	1	-
8	Cleaner	8	5	3
	Sub-total	**16**	**12**	**4**
Health and sanitation				
1	Municipal Health officer	1	-	1
2	Sanitary Inspector	3	2	1
3	Public Health Sanitry Supervisior	8	4	4
4	Public Health Driver	4	3	1
	Sub-total	**16**	**9**	**7**
Maternity and child health				
1	Women Medical Officer	1	-	1
2	Helath Visitor	2	-	2
3	Maternity Assistant	3	3	-
4	Ayyah	3	1	2
	Sub-total	**9**	**4**	**5**
Town Planning				
1	Town Planning Officer	1	-	1
2	Town Planning Inspector	2	1	1
3	Chain Man	2	1	1
	Sub-total	**5**	**2**	**3**
	TOTAL	**83**	**54**	**29**

As seen from the table, vacancy rate is currently very high at about 34% vis-à-vis the sanctioned posts. Such a high proportion of vacancies that too across departments is a cause for concern and needs to be rectified at the earliest.

5.4 Role of other agencies

The State Government's line departments continue to play a crucial role in urban basic service delivery. Sectors and agency involvement include:

a) Water Supply & Sewerage. The Tamil Nadu Water Supply and Drainage Board (TWAD) is responsible for creation of water and sewerage infrastructure in the state.
b) Master Plan. The Department of Town and Country Planning (DTCP) prepares the Master Plan and Comprehensive Development Plan (CDP) for the city/town, and the mandate of implementing the Master Plan lies with the ULB.
c) Roads and Highways. Department of Highways, Government of Tamil Nadu maintains the National, State Highways and select arterial roads that pass through the city. Municipal roads are however created and maintained by the ULB.
d) Environmental Protection. The Tamil Nadu Pollution Control Board (TNPCB) is responsible for environmental protection and enforcement of rulings related to the same, passed by competent authorities.
e) Slum Upgradation. The Tamil Nadu Slum Clearance Board (TNSCB) develops improvement schemes for notified/regularized slum settlements in the city/town. Infrastructure provision is financed partly through loans from the Housing and Development Corporation (HUDCO) and partly through grants from GoTN and GoI.

5.5 Reforms undertaken by Chidambaram municipality

5.5.1 Accrual accounting

Fund based accrual accounting has been implemented in the urban local bodies in Tamil Nadu under TNUDP-II and Chidambaram municipality has also been following the system for the last 4-5 years.

5.5.2 E-Governance

E-Governance of Chidambaram Municipality is aimed to provide online citizen services and information to all hierarchies and monitoring performance of Municipality. All Municipal records are computerised and information stored in a central server and linked online on the internet. Property tax, Water Charges, Nontax, Profession Tax and trader license fees and Birth and Death certificate may be obtained from the computerized civic center at the municipal premises. Through the e-governance program, Chidambaram Municipality hopes to provide easy access to the municipality and municipal records to its citizens.

5.5.3 Citizen's Charter

As per the directions of the Government of Tamil Nadu, the Chidambaram Municipality has published its 'Citizen's Charter' during 1998 to bring ULBs function closer to the people. The main focus of this charter is to introduce transparency, responsibility and user friendliness in its service provision and maintenance. Its basic objectives were:

- Provide fast and quality service to the citizens.
- Inform the public about time limits to address the problems, and
- Provide transparency in administration.

This publication of citizen's charter brings people and administration closer and to let people know how much time is required to get works done. If the work is not attended to even after stipulated time, they can approach the Commissioner/ Chairperson. Thus, people's rights are made known to them. This also reduces time on the part of public, as they need not follow the movement of their applications at the municipal office. Further, through this charter, they also create awareness about sanitation, town improvement, tax payment and the like. Based on the time frame given for understanding / compliance, various works/ activities can be evaluated either by citizens or by Chi-M, paving the way for improving performance. Specific interventions in human resource development and systems dealt with in the section 9 - Reform agenda subsequently in the report.

6. Analysis of financials

This section provides a summary analysis of the financial performance of Chidambaram Municipality.

6.1 Income and Expenditure summary of Chidambaram Municipality

Exhibit 6.1 provides a summary of the income and expenditure of Chidambaram Municipality. This summary has been prepared based on information provided by Chidambaram Municipality.

Exhibit 6.1 Income and Expenditure

INCOME Rs.in lacks	2002-03	2003-04	2004-05	2005-06	CAGR%
OWN INCOME	***283***	***321***	***315***	***324***	5%
Property tax	117	126	133	123	2%
Profession tax	14	15	27	17	6%
Other Service Charges & Fees	20	25	27	27	10%
Water & Sewerage Charges s	39	51	54	63	17%
Other Income	91	103	74	94	1%
ASSIGNED REVENUE	***133***	***78***	***52***	***59***	-24%
DEVOLUTION FUND	***105***	***98***	***122***	***50***	-22%
GRANTS & CONTRIBUTIONS	***3***	***2***	***0***	***3***	-1%
PRIOR PERIOD INCOME	***0***	***22***	***2***	***0***	
TOTAL	**524**	**522**	**492**	**435**	-6%
EXPENDITURE Rs.in lacks	**2002-03**	**2003-04**	**2004-05**	**2005-06**	**CAGR %**
Salaries	218	195	197	170	-8%
Operating Expenses	74	102	77	80	3%
Programme Expenses	0	0	1	1	
Administrative Expenses	37	12	14	13	-30%
Finance Expenses	34	121	8	1	-67%
Depreciation	120	108	2	0	-100%
Prior Period Expenses	0	17	0	1	28%
TOTAL	**363**	**447**	**297**	**266**	-10%
SURPLUS- (Ex.cl depn)	**161**	**75**	**195**	**170**	**2%**
Operating Ratio (Total Exp/ Total inc) All are in percentage					
Excluding depreciation	69%	86%	60%	61%	69%
Including deprication	92%	106%	61%	61%	80%
Debt Servicing				**Rupees in lacks**	
Loan Interest	10.73	85.15	4.00	1.03	100.91
Loan Repayment	17.12	11.86	10.90	4.88	44.76
Percentage of Income	**5%**	**19%**	**3%**	**1%**	**7%**

Source :Chi-Mply

Overall, revenue declined by 6% while expenditure declined by about 10% during FY 03-06. The revenue decline appears to be on account of decrease in devolution fund and assigned revenue, even though own income of the municipality has shown an increase of 5%. Most of the expenditure heads have shown a decline particularly, Salaries and finance charges.

Annexure V provides the consolidated balance sheet and income statement of the municipality for the financial years ending 2002-2006. The Demand Collection Balance statements and the loan statement of the municipality for this period is enclosed in Annexure VI. In terms of composition, own income accounted for nearly 74% of the income with taxes (property tax and professional tax) accounting for nearly 60% of the total income. Expenditure was dominated by salaries, which accounted for 40% of total income. Finance charges have declined from 7% of income to negligible levels.[3]

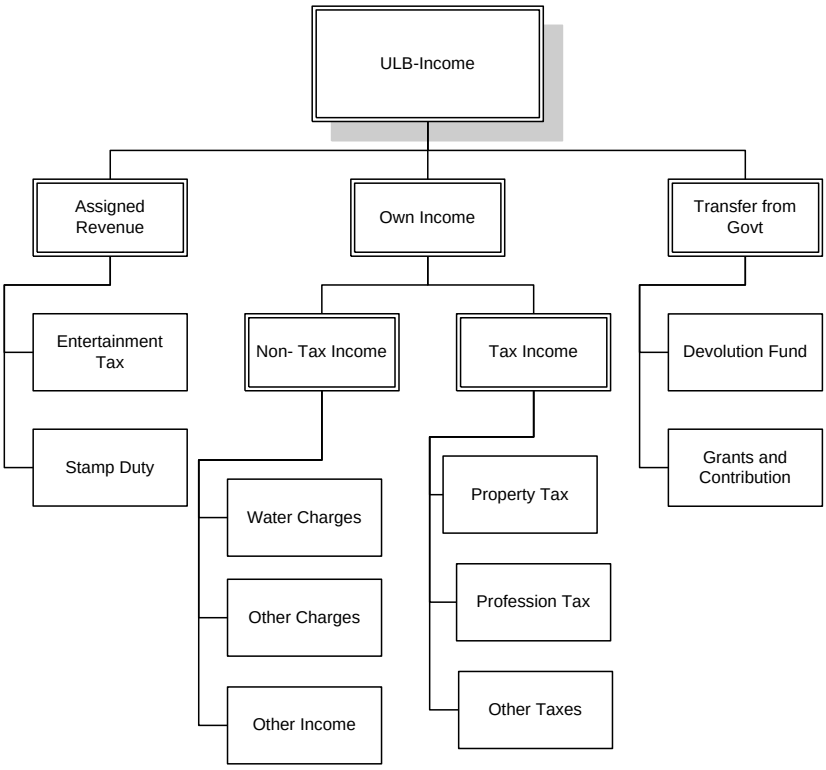
6.2 Revenue streams of ULB in Tamil Nadu

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 6.2 provides a detailed classification of the revenue streams.

Exhibit 6.2 Revenue streams - ULBs in Tamil Nadu



[3] This appears to be in view of the intercept of finance charges from the devolution fund income, which has declined during the period. However, in the absence of break up of SFC devolution income (gross and net figures), we are not in a position to confirm this.

6.3 Revenues

Exhibit 6.1 provides details of revenue of Chidambaram Municipality along various heads between FY03 and FY05. These are based on information provided by Chidambaram municipality. Audited statements till FY 2005 and unaudited statement for FY 2006

6.3.1 Tax Income

Tax income has grown at a CAGR of 2%during FY03 to FY06. While professional tax has grown by 6%, Property Tax revenue growth has been marginal. Share of property tax in overall revenue has increased from 22% in FY 03 to 28% in FY 06, whereas share of professional tax in revenue has increased from 3% to 4% during this period. Revenue from taxes accounts for a third of its total income base.

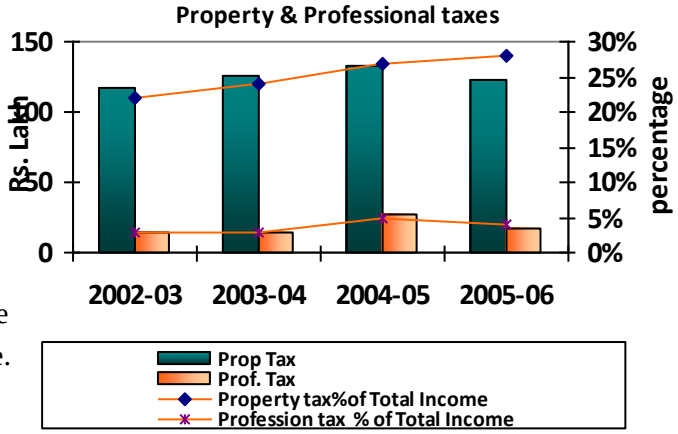


Exhibit 6.3 provides a snapshot of the collection efficiency for property tax.

Exhibit 6.3 Property tax – indicators

Year	Collection Efficiency			Properties		Growth Rate Of properties	Growth Rate of Current Demand
	Arrears	Current	Total	Numbers	Tax/property		
2002-03	17%	54%	35%	10411	1213	NA	NA
2003-04	12%	54%	31%	10809	1250	4%	7%
2004-05	11%	60%	31%	11248	1057	4%	-12%
2005-06	10%	61%	29%	11722	1021	4%	1%
2006-07	24%	50%	33%	12220	1256	4%	28%

a) Almost stagnant property tax revenue - Property tax increased marginally in absolute terms.
b) Stagnant demand per assessment - Though there has been an overall increase in the number of assessments, average demand per property assessed has shown stagnancy at a level of 1%.
c) Low collection efficiencies - Collection efficiency is a cause for concern. While collection efficiency in arrear demand has grown from 17 to 24%, the recovery of current demand needs attention as it has been reduced to 50% from 54%. Overall collection efficiency dipped to 33% in 2006-07

6.3.2 Professional tax

Exhibit 6.4 provides an analysis of key drivers for professional tax revenue.

Exhibit 6.4 Professional Tax –Indicators

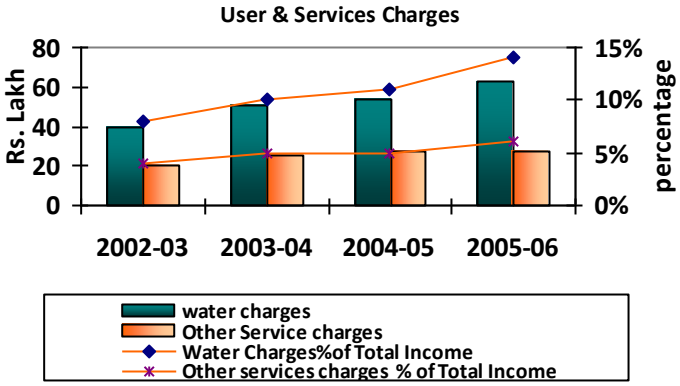
Year	Collection Efficiency			Assesses		Growth rate of Assesses	Growth Rate of Current Demand
	Arrears	Current	Total	Numbers	Tax demand/assessee		
2002-03	7%	80%	36%	1572	916	NA	NA
2003-04	25%	80%	67%	1581	975	1%	7%
2004-05	75%	79%	78%	1590	948	1%	-2%
2005-06	89%	81%	82%	1625	800	2%	-14%
2006-07	39%	78%	70%	1647	1014	1%	28%

Source: ChiM

a) Demand per assessment has increased from Rs. 916 in FY2003 to Rs. 1014 in FY2007.
b) Collection efficiency is low at 70%. Current collection efficiency dipped in 2005-06 but appears to have recovered to 78%. The ULB should take steps to increase collections to at least 95% levels.

6.3.3 User Charges / Fees

User charges have grown by 15%, aided by a 17% increase in collection of water charges and 10% increase in other fee income including lease and rents. Share of total user charges in total income increased from 12% in FY 2003 to 20% in FY 2006.



6.3.4 Water charges

Exhibit 6.5 provides an analysis of key drivers for water charges.

Exhibit 6.5 Water charges - revenue drivers

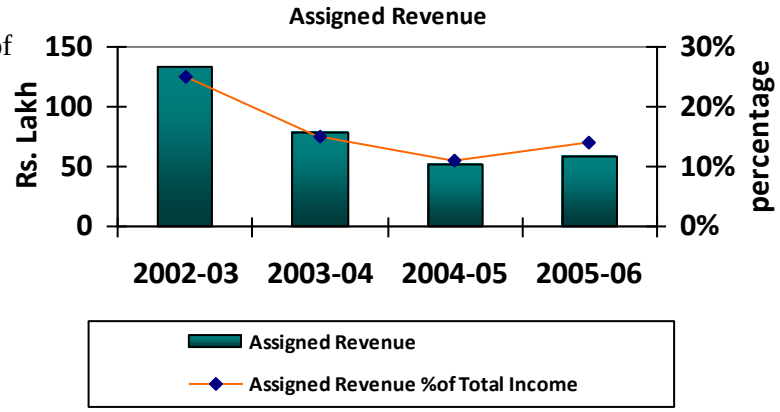
Year	Collection Efficiency			Connections		Growth rate of Connections	Growth Rate of Current Demand
	Arrears	Current	Total	Numbers	water charges per assessee		
2002-03	6%	36%	18%	4750	622	NA	NA
2003-04	13%	35%	21%	4870	651	3%	7%
2004-05	60%	66%	62%	4980	603	2%	-5%
2005-06	51%	38%	43%	5250	544	5%	-5%
2006-07	67%	54%	60%	5400	624	3%	18%

Source:Chi.M

a) No. of connections - There has been an increase in number of connections from 4750 in FY2003 to 5400 in FY2006. The last revision of the water tariff was done in 2002 when the new revised rate was 50, changed from 20.
b) Water tariff / connection remained constant at around Rs 625 over period
c) Collection efficiency - Current collection efficiencies have ranged from a low of 18% (FY 2003) to a high of 60% (FY 2007). Arrears collection efficiency has also increased to 67% in 2007. Overall collection efficiency of 60% reflects a need for significant improvement from the current levels.

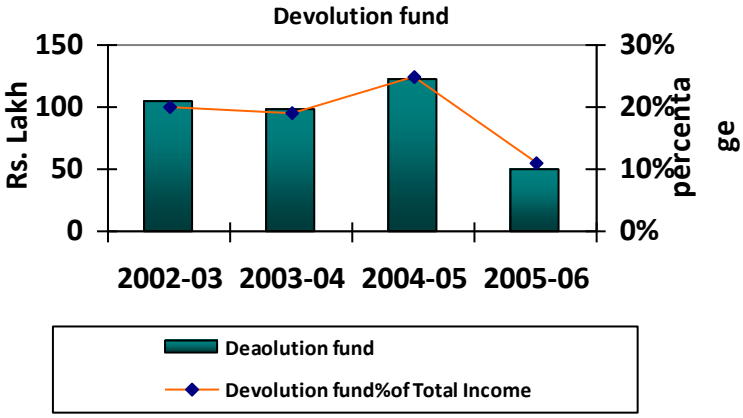
6.3.5 Assigned Revenue

Assigned Revenue (which includes transfers of stamp duty and entertainment tax) declined from Rs 133 lakh in FY 2003 to Rs. 59 lakh in FY 2006. Share of assigned revenue in total income declined from 25% of revenue in FY 2003 to 14% of revenue in FY 2006.



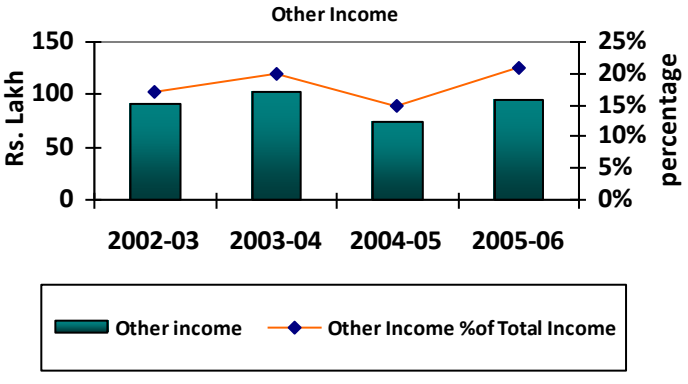
6.3.6 Devolution Fund

Devolution fund increased marginally from slightly more than Rs 104.73 lakh in FY 2003 to nearly Rs 121.90 lakh in FY 2005, but declined to Rs. 50 lakh in FY 2006. The share of devolution revenue in total has declined from 20% in FY 2003 to 11% in FY 2006.



6.3.7 Other Income

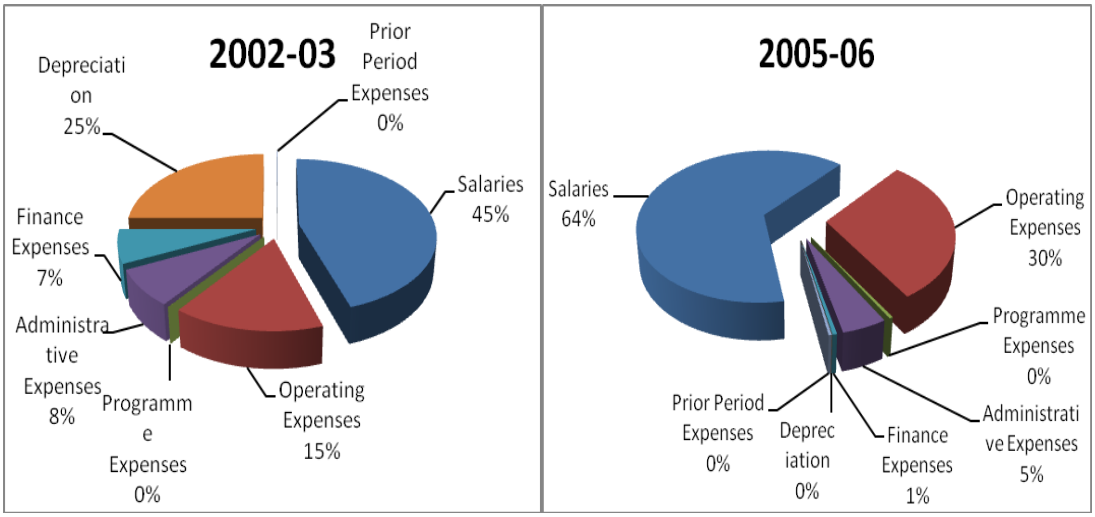
Other Income, marginally went up from Rs. 91 lakh in FY 2003 to Rs. 94 lakh in FY 2006. Its share in total income of the municipality went up from 17% in FY 2003 to 21% in FY 2006.



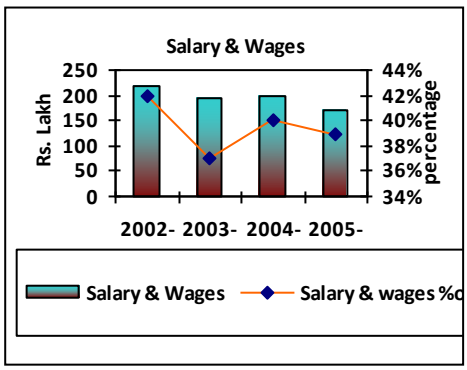
6.4 Analysis of Costs

Exhibit 6.6 provides details of costs of Chidambaram Municipality along various heads between FY 2003 and FY 2005. Though total expenditure decreased drastically from Rs 482 lakh in FY 2003 to Rs 300 lakh in FY 2005, though it showed a tremendous increase in FY 2004 to a level of Rs 758 lakh. Decline in this year is primarily due to increase in finance charges of the municipality and administrative expenditure has shown a steady upward trend over the period.

Exhibit 6.6 Costs (as a % of income) – FY03 and FY05



6.4.1 Salary and wages



Salary and wages declined from Rs. 218 lakh in FY 2003 to Rs 170 lakh in FY 2006 and its contribution declined from 42% of income to 39% of income.

6.4.2 Operations and Maintenance

Repairs and maintenance represents 18% of total income incurred by the municipality. In absolute terms, repairs and maintenance expenditure has been around Rs. 75 lakh to 80 lakh except for a spike in FY 2004.

Exhibit 6.7 Repair and maintenance expenditure - Sector wise break up

Item	FY2002	%	FY2003	%	FY2004	%	FY2005	%
Roads	14.58	20%	13.10	13%	13.30	17%	15.16	19%
Water & Sewerage	10.01	14%	41.75	41%	12.22	16%	12.13	15%
Street Lights	2.64	4%	2.56	3%	4.19	5%	3.38	4%
Others	46.35	63%	44.84	44%	47.13	61%	49.04	62%
Total	**74**	**100%**	**102.25**	100%	**76.85**	100%	**79.71**	100%

Source:Chi M

6.4.3 Power costs

Exhibit 6.8 gives the details of power costs out of the total repair and maintenance expenditure relating to Water & Sewerage and Street lights.

Exhibit 6.8 Power costs - Water & Sewerage and Street Lights (Rs in Lakh)

Item	FY2002	%	FY2003	%	FY2004	%	FY2005	%
Water	**30**	**100%**	**62**	**100%**	**33**	**100%**	**34**	**100%**
Power	20	67%	20	33%	21	63%	21	64%
Non Power	10.01	33%	41.75	67%	12.22	37%	12.13	36%
Street Lights	**25**	**100%**	**24**	**100%**	**24**	**100%**	**22**	**100%**
Power	23	90%	21	89%	20	83%	19	85%
Non Power	2.64	10%	2.56	11%	4.19	17%	3.38	15%
Total	**56**		**86**		**57**		**56**	

6.5 Trends in Capital Expenditure

Exhibit 6.9 gives details of capital expenditure by Chidambaram Municipality during 2001-05.

Exhibit 6.9 Capital Expenditure (Rs in Lakh)

Segment	2001	2002	2003	2004	2005
Roads	20	20	24	14	30
Culverts	5	-	-	-	-
Storm Water Drains	20	1	2	-	-
Water Supply	-	-	5	8	-
Public Health & Sanitation	5	2	50	-	-
Others	-	-	5	2	17
TOTAL	**50**	**22**	**85**	**24**	**47**

Source: SFC Questionnaire

6.6 Loan position

Exhibit 6.10 provides the details of loans outstanding as of FY 2006 provided to us by Chidambaram municipality.

Exhibit 6.10 Loan statement FY 2006

Lending Agency	Amount (Rs in Lakh)	Year of drawal	Interest Rate %	Repayment period (years)	Moratorium Years	Out standing amount
TUFIDCO - Water	203.26	1996	10%	30	5	203.26
TUFIDO (take over finance)	85.17	2002	9%	20	5	78.35
TNUDF	30.00	1995	9%	15	5	8.91
IUDP	16.5	1989	14%	20	5	13.50

Source : Chi M

Of the Rs. 7.35 crore loan outstanding, nearly 4.31 crore or (60% of loan outstanding) pertains to loans provided by GoTN. GoTN has recently announced a one-time loan waiver on Government loans and Chidambaram municipality expects to get a waiver on this loan. This would reduce the loan burden on the municipality significantly.

7. Vision & Strategic plan, CIP and Asset management plan

This section articulates a strategic plan for urban development in Chidambaram town and crystallizes the Capital Investment Plan (CIP) for urban infrastructure needs of the town in the short term (5 years) and long term (20 years). The strategic plan and CIP follow from an analysis and articulation of the potential themes for economic development for the town, a SWOT analysis of the current status of the town and the expectations elucidated by stakeholders of the town namely, elected municipal council representatives and public stakeholders during our consultations with them.

7.1 Potential themes for development

The key development themes for Chidambaram town are articulated below:

7.1.1 Actively promote Chidambaram as a transit hub for a larger tourism circuit

The places of tourist interest in and around Chidambaram have been detailed in section 3 – Economic profile and land use earlier in this report. Tourism in the town is largely linked to the Natarajar temple and peaks seasonally depending on the festivities and cultural season (Natyanjali festival) of the temple and the visitors to Annamalai University.

With a number of places of tourist interest including Pichavaram lake and the Navagraha circuit, Chidambaram could potentially be developed as a nodal centre for tourists visiting religious sites within and around the town all year round. The town also be positioned and actively promoted as a weekend destination for people from Chennai and Pondicherry. Creation of tourist amenities and recreation activities would enable attract and handle larger number of tourists and provide an avenue for incremental economic opportunities.

7.1.2 Exploit the towns cultural heritage by setting up a centre of excellence in performing arts

Chidambaram town is famous for its Natyanjali festival and has a tradition of being a centre for showcasing performing arts. This cultural association of the town can be strengthened by establishing an academy / centre of excellence in the bharatanatynam dance form and related performing arts. This would also facilitate greater awareness and visibility for the town which will indirectly lead to better economic and socio-cultural opportunities.

7.1.3 Create infrastructure for agricultural extension facilities and trade, given the agrarian nature of adjoining areas.

Cuddalore district continues to be significantly agrarian (more than 63% rural population vis-à-vis state average of 56%) and nearly 2.72 lakh hectares are under cultivation in the district. Therefore, urban settlements like Chidambaram play a significantly important role in agricultural extension and farm support as well as in providing trading facilities including terminal markets and other related agriculture infrastructure.

7.1.4 Build on the presence of Annamalai university to further strengthen Chidambaram's position as an Educational hub

Annamalai University, a major educational center is located on the outskirts of the town and also contributes to economic activity in the town. The University which started with only seven departments in 1929 has, over the last 75 years, developed into a mighty institution of higher learning with nearly 48 Departments, in all 9 Faculties. The university contributes significantly to the floating population in the town and any efforts to improve on the educational infrastructure could lead to greater influx of people into the town from adjoining areas.

7.1.5 Review master plan and explore scope for extending town limits

From the land-use pattern of Chidambaram town, it is quite clear that the town faces structural limitations for growth given that more than 88% of the area is already developed. Given this scenario, it maybe necessary to review the master plan for the town and adjoining areas to explore the possibility of extension of town limits. This would facilitate an orderly growth of an urban agglomeration in and around Chidambaram.

7.2 Vision for the town – Aspirations of stakeholders

We had in-depth consultations with the municipal council on the development priorities and vision for the town. Some of the key points that were articulated as a key ingredient in the Vision for the town, apart fro the infrastructural deficiencies that were pointed out are summarized below:

1. **"Premier tourism hub for religious tourism"**
2. **"Educational hub given the presence of Annamalai university"**
3. **"Aggregation centre for agriculture produce of the region"**
4. **"Important tourism transit centre"**
5. **"Vibrant commercial and educational town"**
6. **"Important cultural centre".**

Clearly, there seems to be an inclination to evolve the town's growth along culture and arts, tourism, religious importance and commercial potential among the local public. The economic development themes listed earlier are consistent with this vision and outlook that emerged from our consultations in the town with both the council and public stakeholders.

7.3 SWOT analysis

A brief SWOT analysis of the town is presented below:

Strengths	Weakness
• Important religious tourism and cultural centre • Transit centre for a large tourism circuit. • Large agricultural belt in the vicinity • Commercial / trading hub for surrounding areas • Presence of Annamalai university	• Limited industrial activity and employment generation potential • Land related limitations and congested areas within town limit • Tourist traffic continues to be highly seasonal
Opportunities	**Threats**
• Scope for promoting Heritage / Religious tourism and nearby attractions • Trade and Education hub for nearby villages • Need to explore potential for reviewing master plan and widening town limits to guide growth in a planned manner.	• Outward migration of skilled workforce • Continued constraints on ability and willingness to pay for urban services in view of limited economic potential

7.4 Strategic plan – focus areas and time horizon

The focus of the City Corporate Plan exercise and the strategic plan is on provisioning of urban services in 8 areas including

a) Water Supply
b) Sewerage and Sanitation
c) Roads, Transportation and street lighting
d) Solid Waste Management
e) Urban services for the Poor
f) Social infrastructure and other urban amenities

The strategic plan for urban service delivery involves identification of interventions to address the gaps in service delivery between the prevailing levels and the required levels of services in the short term (covering a period of 5 years starting 2007-08 up to 2011-12) and long term (covering a period of 15 years starting 2012-13 up to 2026-27). The geographical coverage of the plan includes the area under the jurisdiction of Chidambaram municipality as of March 2007.

7.4.1 Population projections underlying the strategic plan

Exhibit 7.1 provides the population projections that form the basis of arriving at the sector wise service delivery gaps, interventions required and capital investment estimates.

Exhibit 7.1 Population projections and related estimates - Chidambaram town

	Unit	Baseline	Projected		
		2007	2012	2017	2027
Population	nos	60830	62,302	63,452	65,275
Households (Estd.)	nos	10542	12,460	12,690	13,055
Assessed Properties	nos	12220	13,083	13,960	15,013
Road length	km	75	75	85	92

The population projections have been arrived at as an average of the population projected based on Arithmetical Increase Method, Geometric Increase Method and Incremental Increase Method. A household size of 5 is assumed (in line with Census 2001), while property tax assessments are assumed to be 21% of population by 2012, gradually going up to 23 % of population by 2027. This reflects a 1.1 %annual growth in number of properties during 2008-27 against a projected population growth of 0.4 %.

7.5 Water Supply

7.5.1 Service Goals and Reform targets

Exhibit 7.2 provides the service goal/outcomes and reform targets for 2008-12.

Exhibit 7.2 Water supply - Service Goals and Reform Targets

FACTOR	Unit	Baseline	Target		
		2007	2012	2017	2027
Service Goals					
Per capita supply at doorstep	LPCD	76	135	135	135
Storage capacity / Total demand	%	44%	50%	50%	50%
Distribution network / Road length	%	76%	80%	80%	80%
Frequency of supply	hours/day	3	4	4	24X7
Reform targets					
Current collection efficiency	%	54%	75%	90%	90%
House Service Connections / Assessed Properties	%	46%	60%	65%	70%
Population per water fountain	nos.	129	200	200	200
Implementation of graded / metered tariff	Yes / No	No	Yes	Yes	Yes
User charge collection - % of O&M plus debt servicing	%	n.a	60%	100%	100%

As observed, Chi-M currently falls short of the municipal norm of 90 LPCD. However, Chi-M intends to implement a comprehensive water supply project to provide 135 LPCD by 2012.

On the reform agenda, however, at 54% the current collection efficiency requires significant improvement. Connection efficiency (as measured by connections / assessed properties) also is low at 54% and indicates scope for improvement. Chi-M appears to have a high level of public fountain access which would require some level of rationalization. While user charges are already being collected, the same need to get progressively linked to usage through implementation of metering / graded tariffs.

7.5.2 Identified interventions in the short term

Exhibit 7.3 lists out the identified set of interventions and project components in the short term over the next 3-5 years based on ongoing initiatives and proposals of Chi-M.

Exhibit 7.3 Water Supply - Baseline status and gaps (short term and long term)

ONGOING / PLANNED INTERVENTIONS	2008	2009	2010	2011	2012	TOTAL
2 OHTs at Uzhavar Sandhai and Bus stand- each 2L litres	10					10
Comprehensive water supply to provide 135 LPCD (TWAD)		200	250			450
15 km D-network, 4L storage, treatment						
TOTAL	10	200	250			460

Chi-M is currently in the process of implementing 2 OHTs at Uzhavar Sandhai and Bus stand of 2 Lakh litres each as a short term measure. In addition, as mentioned above, Chi-M intends to implement a comprehensive water supply scheme in the next 3-5 years.

7.5.3 Baseline status and requirements – short term & long term

Exhibit 7.4 provides details of the water supply infrastructure and the requirements and gaps in the short, medium and long term after taking into account the interventions mentioned above.

Exhibit 7.4 Water Supply - Baseline status and gaps (short term and long term)

INFRASTRUCTURE - Baseline and Gaps	Unit	Baseline + Ongoing	Required			Incremental addition		
			2012	2017	2027	2012	2017	2027
Gross Water Supply	MLD	8.81	8.41	8.57	8.81	-	-	-
Storage Capacity	ML	4.21	4.21	4.28	4.41	0.20		
Distribution network length	km	60	60	68	74	-	8.43	5.68
HSCs	nos	5583	7476	8249	9138	1893	773	890
Public fountains	nos	470	312	317	326	-	-	-

We presume that the DPR under preparation by TWAD would address ultimate population requirements in terms of quantum of supply and storage and hence with implementation of the project do not foresee any gaps in this regard. Other gaps in the medium to long term would therefore be only in terms of extending distribution network to newer areas and road formations in the town. Chi-M already has more public fountains than the norm and the same need to be rationalized to target more house service connections.

7.5.4 Interventions - immediate priorities

Investment / Project components needed in the short term have already been detailed in section 2.3.2. The proposed water supply (involving an preliminary estimated outlay of Rs. 15 crore) should be implemented on priority.

7.5.5 Interventions - medium-long term

We do not envisage any significant investments subsequently in major components of water supply. However, we have provided for addition of distribution network (estimated at 13 km) considering the scope for new roads/layout formation. Chi-M should strive towards 24x7 water supply in the medium to long term. Given that Chi-M is already targeting 135 LPCD within 5 years, it should aspire for 24x7 supply. This would require comprehensive metering of all HSC connections and implementing user charges based on consumption. We have provided for investments in metering during 2018-27.

7.5.6 Project components and Capital Investment

The total outlay and phasing of investments for water supply is given in Exhibit 7.5 below.

Exhibit 7.5 Water Supply - Capital Investment outlay and phasing *(Rupees in Lasks)*

CAPEX PLAN AND PHASING	2008	2009	2010	2011	2012	2008-12	2013-17	2018-27	TOTAL
ONGOING PROJECTS									
2 OHTs at Uzhavar Sandhai and Bus stand- each 2L litres	10	-	-	-	-	10			**10**
Comprehensive water supply to provide 135 LPCD (TWAD)	-	200	250	-	-	450			**450**
FUTURE NEEDS									**-**
Metering								137	**137**
Distribution							25	17	**42**
TOTAL CAPEX - Water supply	**10**	**200**	**250**	**-**	**-**	**460**	**25**	**154**	**639**

7.6 Sanitation

7.6.1 Service Goals and Reform targets

Exhibit 7.6 provides the service goal/outcomes and reform targets for 2008-12..

Exhibit 7.6 Sanitation - Service Goals and Reform Targets

	Unit	Baseline	Target		
		2007	2012	2017	2027
Service Goals					
UGD Network					
Availability	Yes/no	Partial	Yes	Yes	Yes
Treatment capacity per capita		-	120	120	120
Sewer network - % of road length	%	43%	70%	80%	80%
Storm Water Drains					
Drain length / Road length	%	127%	100%	100%	100%
Public Conveniences					
Slum population per PC seat	Nos.	46	100	100	100
Reform targets					
Sanitation coverage - % of population	%	0%	100%	100%	100%
User charges - Current collection efficiency	%	54%	70%	90%	90%
Household connections / Assessed Properties	%	38%	40%	60%	75%

A DPR for upgrading and developing a comprehensive UGD scheme has been prepared and is in technical sanction stage. The town seems to be fairly well placed to meet its service goals in sanitation in public conveniences and storm water drains.

7.6.2 Ongoing / Proposed projects

Exhibit 7.7 presents the list of ongoing and proposed projects of Chi-M in the immediate term.

Exhibit 7.7 Sanitation – Ongoing/proposed projects

ONGOING / PLANNED INTERVENTIONS	2008	2009	2010	2011	2012	Outlay
UGD renovation and upgradation		1,282	1,282	1,282		3847
Proposal for desilting water bodies	9	44	44	44	44	185
TOTAL	**-**	**1,282**	**1,282**	**1,282**	**-**	**3,847**

UGD scheme

An UGD scheme is being proposed for Chi-M at an outlay of Rs. 38.47 crore. The Detailed Project Report for the same is being prepared by TWAD and the project is currently in technical sanction stage. The project is to be taken up shortly.

Water bodies and public conveniences

A comprehensive proposal to desilt 13 water bodies involving an outlay of Rs. 185 lakh has been prepared by Chi-M. As a first step, Chi-M is taking up desilting of 3 water bodies at an outlay of Rs. 9 lakh during the current year.

Baseline status and gaps

Exhibit 7.8 provides the baseline status on sanitation and the requirements and gaps in the short, medium and long term after taking into account the above projects.

Exhibit 7.8 Sanitation- Baseline status and gaps (short term and long term)

	Unit	Baseline + Ongoing	Required			Gap		
			2012	2017	2027	2012	2017	2027
Treatment capacity		**8**	**7**	**8**	**8**	**-**	**-**	**-**
Sewer length	km	**57**	**52**	**68**	**74**	**-**	**11**	**6**
Storm drain length		95	75	85	92	**-**	**-**	**-**
Public convenience seats	nos	370	171	171	171	-	-	-
Household connections	nos	4,595	4,984	7,614	9,791	389	2,630	2,177

The proposed UGD project is likely to address the sewerage disposal needs of the town within the next 5 years. As reflect in the exhibit, Chi-M seems to be fairly well placed to meet its service goals in sanitation in public conveniences and storm drains.

7.6.3 Interventions - Immediate priorities

There are significant gaps in sanitation in the immediate term and the following actions are required within the next 5 years.

a) Completion of proposed comprehensive Underground Drainage Scheme
b) Restoration of all identified water bodies in Chidambaram town in a phased manner over the next 5-10 years. A list of water bodies in the town is enclosed in Annexure VII.

7.6.4 Interventions – Long term

The proposed investments in UGD will take care of bulk of the sanitation requirements in the medium to long term as well. However, additional investments will required to take care of growing population and increase in road length due to new formations / layouts in extension of sewer length. We have provided for investments in these areas on a normative basis, depending on the demand gaps emerging from Exhibit 2.6 above. The restoration of water bodies will continue into the medium term.

7.6.5 Project components and Capital Investment

Exhibit 7.9 provides a summary of the project components, capital outlay and phasing for sanitation.

Exhibit 7.9 Sanitation - Capital Investment outlay and phasing

Rs. Lakh

CAPEX PLAN AND PHASING	2008	2009	2010	2011	2012	2008-12	2013-17	2018-27	TOTAL
ONGOING / PROPOSED PROJECTS									
UGD renovation and upgradation	-	1,282	1,282	1,282	-	3,847			3,847
Proposal for desilting water bodies	9	44	44	44	44	185			185
NEW									-
Sewer laying in uncoverd areas						-	67	34	101
SANITATION	9	1,326	1,326	1,326	44	4,032	67	34	4,133

7.7 Solid Waste Management

7.7.1 Service goals and reform targets

Exhibit 7.10 provides the service goal/outcomes and reform targets in SWM during 2008-27.

Exhibit 7.10 Solid Waste Management - Service Goals and Reform Targets

	Unit	Baseline	Target		
		2007	2012	2017	2027
Collection efficiency	%	90%	90%	90%	100%
Door-to-door collection	%	100%	100%	100%	100%
Source Segregation	%	30%	60%	100%	100%
Scientific disposal	%	0	50%	100%	100%
Conservancy fee	Yes / no	No	yes	yes	yes

7.7.2 Baseline status and gaps – short term & long term

Exhibit 7.11 provides the baseline status in solid waste management and the requirements and gaps in the short, medium and long term. As can be seen, Chi-M has a surplus land available for disposal vis-à-vis municipal norm of 1 acre per 10000 population (2027).

Exhibit 7.11 Solid Waste Management - Baseline status and gaps (short term and long term)

	Unit	Baseline	Required			Incremental gap		
			2012	2017	2027	2012	2017	2027
Estd. Waste Generation per capita		641	650	650	650			
Waste Generated	**MT**	**39**	**40**	**41**	**42**			
Primary collection								
Number of trips	Nos.	4	4	4	4			
Vehicle capacity (Tricycle equivalent)	MT	0.15	0.15	0.15	0.15			
Number of Tricycle equivalent	nos.	**71**	**67**	**69**	**71**			
Replacement - Tricycle equivalents	nos.			**71**	**67**		71	67
Secondary collection / Transfer								
Number of trips	nos.	2.00	2.00	2.00	2.00			
Vehicle capacity	MT	15.00	20.25	20.62	21.21	5.25	0.37	0.59
Equipment - tonnage equivalent	MT		4.00	20.25	20.62	4.00	20.25	20.62
Disposal								
Land	acres	13.20			6.53			
Compost yard	acres	5.28			2.61			
Processing yard	acres	7.92			3.92			

The gaps in primary collection and secondary collection have been arrived at on a normative basis in terms of tricycle equivalents for primary collection and tonnage requirement for secondary collection, based on assumptions relating to waste generation per capita and the no. of trips.

7.7.3 Ongoing / Proposed projects

Chi-M is in the process of implementing its solid waste management action plan. Some of the ongoing / recently completed projects are detailed below:

a) A Rs. 14 lakh development plan has been outlined for development of Compost yard
b) Most of the equipment available with Chi-M are in good condition. Chi-M has recently procured 10 dumper bins and 33 pushcarts at an outlay of Rs. 10 lakh

7.7.4 Interventions required

a) Completion of ongoing project investments in compost yard and equipment. Chi-M seems reasonably well placed in terms of managing its solid waste activities in the next 5 years.
b) Development of scientific landfill site at an estimated outlay of Rs. 80 lakh.

7.7.5 Project components and Capital Investment

Exhibit 7.12 provides a summary of the project components, capital outlay and phasing for Solid Waste Management in Chidambaram town.

Exhibit 7.12 Solid Waste Management - Capital Investment outlay and phasing

CAPEX PLAN AND PHASING	2008	2009	2010	2011	2012	2008-12	2013-17	2018-27	TOTAL
ONGOING / PROPOSED PROJECTS									
Compost yard development	14					**14**			**14**
10 dumper bins and 33 push carts	10					**10**			**10**
NEW PROJECT COMPONENTS									**-**
Primary collection	-					**-**	18	17	**35**
Secondary collection			37			**37**	82	85	**204**
Development cost - Compost Yard			-			**-**			**-**
Development cost - Landfill site			-	-		**-**	79		**79**
SOLID WASTE MANAGEMENT	24	-	37	-	-	61	179	102	342

7.8 Roads, Transportation and Streetlights

7.8.1 Service goals and reform targets

Exhibit 7.13 provides the service goal/outcomes and reform targets for the horizon period.

Exhibit 7.13 Transportation and street lighting - Service Goals and Reform Targets

SERVICE LEVEL GOALS AND OUTCOMES	Unit	Baseline	Target		
		2007	2012	2017	2027
Municipal roads as % of Total Area	%	11%	11%	12%	13%
Surfaced roads to Total roads	%	87%	100%	100%	100%
Street Lights - Distance between streetlights	m	40	30	30	30
Street Lights - Proportion of high power lamps	%	19%	25%	30%	30%
Street Lights - Proportion of lights with energy saving devices	%		25%	30%	30%

7.8.2 Baseline status and gaps

Exhibit 7.14 provides the baseline status and interventions in transportation and street lighting in the short term and long term.

Exhibit 7.14 Transportation- Interventions - Physical

	Unit	Total	Phasing (outcome)		
			upto 2012	2013-17	2018-27
Municipal road network					
Upgrading non-surfaced roads to BT roads	km	1	1		
Restoring roads after UGD completion	km	57	57		
New road formation / Surfacing	km	18	-	11	7
Re-laying all roads once between 2018-27	km	92			92
Road facilities					
Bus shelters upgradation	nos	15	15		
Bus terminus upgradation	nos	1			
New Bus stand	Nos	1			

87 % of the total road network is surfaced. However, there is a need for substantial investment in the road network even in the short term given the proposed underground sewerage projects in the town.

7.8.3 Interventions required – immediate term

The key investment components in roads and transportation in Chi-M are listed below:

a) **Road upgradation, surfacing and restoration** – Chi-M has nearly 64 km of roads and nearly 99% are surfaced roads. About 57 km of roads would need to be restored and upgraded with new BT surface at an outlay of Rs. 684 lakh. Records provided by Chi-M indicate that there is only 1 km of non-BT roads that need to be upgraded to BT surface at an estimated outlay of Rs. 15 lakh.

b) **Road facilities –** The gaps in Chi-M with respect to specific road facilities are highlighted in Exhibit 2.12 above and need to be addressed to meet the service level targets outlined in exhibit 2.11. Overall outlay for road facilities is estimated at Rs. 125 lakh.

c) Bus stand - Chi-M is contemplating to acquire 10 acres of land at an outlay of Rs. 100 lakh on the periphery for this purpose. The new bus stand complex is estimated to cost Rs. 500 lakh.

7.8.4 Capital outlay and phasing

Exhibit 7.15 provides the details of the capital outlay for transportation and street lighting.

Exhibit 7.15 Transportation and Street lighting - Capital Investment outlay and phasing

	Cost per	Phasing (Outlay)			Total
	unit	upto 2012	2013-17	2018-27	
Muncipal road network					
Upgrading non-surfaced roads to BT roads	15.00	15	-	-	15
Re-surfacing of roads after UGD implementation	12.00	684	-	-	684
New road formation / Surfacing	20.00	-	211	142	353
Re-laying all roads once between 2018-27	15.00	-	-	1,384	1,384
Road facilities					-
Bus shelters upgradation	5.00	75			75
Bus terminus upgradation	50.00	50			50
New bus stand	600.00	600			600
Radial roads / Improvements - State Highways					-
Road widening and strengthening					-
Flyovers / Grade separators					-
Bypass road/Ring road					-
Truck Terminal					-
TOTAL		**1,424**	**211**	**1,526**	**3,160**
Street lights	**Cost per unit**	**Phasing (Outlay) upto 2012**	**2013-17**	**2018-27**	**TOTAL**
Street lights					
High power lamps	Rs.0.12 lakh	31	28	9	67
Tube lights	Rs.0.08 lakh	27	9	12	49
Lights with Energy savers	Rs.0.05 lakh	13	11	4	28
TOTAL		**71**	**48**	**24**	**143**

7.9 Urban services for the poor

In Chidambaram Municipality there are 40 notified slums. As per a presentation made by Chi-M for funds access under IHSDP, the population of the slums is 40609 with 8223 households.

7.9.1 Service levels goals and outcomes

Exhibit 7.16 gives a snapshot of the service level goals and outcomes of Chi-M with respect to provision of urban services for the poor

Exhibit 7.16 Urban Services for poor – Service level goals and outcomes

	Unit	Target		
		2012	2017	2027
Road Coverage for slum household	%	100%	100%	100%
Sanitation coverage for slum households	%	100%	100%	100%
Streetlights	%	100%	100%	100%
Pucca houses for all slum households	%	100%	100%	100%

7.9.2 Proposed projects

Chi-M has taken up a comprehensive proposal for upgradation of 9 slums at an outlay of Rs.417 lakh.

7.9.3 Capital outlay and phasing

Exhibit 7.17 provides the summary of capital outlay and phasing of investments for provision of urban services for the poor.

Exhibit 7.17 Urban Services for the poor - Capital outlay and phasing

CAPEX PLAN AND PHASING	2008	2009	2010	2011	2012	2008-12	2013-17	2018-27	TOTAL
Ongoing	417	-	-	-	-	417			417
Comprehensive slum rehabilitation and development	-	-	-	-	861	861	4,304	-	5,165
TOTAL	**417**	**-**	**-**	**-**	**861**	**1,278**	**4,304**	**-**	**5,582**

7.10 Social infrastructure and other urban amenities

Exhibit 7.18 provides the summary of interventions, capital outlay and phasing of investments for provision of other urban service amenities in Chi-M.

Exhibit 7.18 Social infrastructure and other urban amenities – Capital outlay and phasing

Segment	Proposals	Phasing								Outlay
		2008	2009	2010	2011	2012	2008-12	2013-17	2018-27	
Healthcare	Existing project - Mat. Centre renovation @ Rs. 12 lakh. Rs. 10 lakh every 5 years subsequently	12					12	10	20	**42**
Schools	Existing project - 3 schools @ Rs. 14 lakh. Rs. 2 lakh per school every 5 years	14		5			19	10	20	**49**
Other assets										
Slaugher House	Ongoing project - Rs. 20 lakh		20				20			**20**
Parks	Rs. 5 lakh per park every 10 years	6	6	6	6	6	30	30	60	120
Remunerative	Re-development of yatri nivas					50	50			**50**
Tourism										
TOTAL		**32**	**26**	**11**	**6**	**56**	**131**	**50**	**100**	**281**

Chi-M is in the process of implementing a tourism proposal at an outlay of Rs. **770** lakhs. Details of the tourism proposal is enclosed below.

Sl.No	Description of Work	Estimated amount
		Rs. In Lakh
1	Construction of Welcome Arch at 1) North Main road Entrance 2) Sabanayagar st Entrance	10.00
2	Providing Landscapping at North main road Near Anna Kulam	10.00
3	Providing Hard Shoulder to the following roads. 1) North Main road 2) South car street 3) west car street d) venugopal street e) s.p.koil street	75.00
4	Providing Ornamental light (160 Nos.) in the following streets. a) North main road b) Four car street.c) four sannathi street, d) sabanayagar st,e) venugopal street, f) railway feeder road	100.00
5	Providing Platform and construction of strom water drain in the following streets a) venugopal street, b) sabanayagar street, C) Railway feeder road	120.00
6	Construction of Public Toilet at South Sannathi st	5.00
7	Improvement to existing 5 Nos.Parks in the town street	15.00
8	Providng High mast light for the following places, a) north sannathi street junction b) west sannathi street junction c) bus stand east side	15.00
9	Providing dancing sculpture at east sannathi street	5.00
10	Providing to the existing Bus stand building a) provding CC road at bus stand, b) construction of modernized toilet at bus stand ,c) Construction of strom water drain at bus stand, d) providing vehicles parking at bus stand. , e) providing landscaping at bus stand east side , f) Renovation of existing bus stand building , g) providing 'KIOSK" (touch screen) at bus stand. h) improvement existing tourist bunglow	280.00
11	Improvements to marriage hall and construction of compound wall, kitchen arrangements, toilet facilities, drinking water provisions etc. near tillai kali koil	35.00
12	Improvements to the water bodies by providing retaining wall and desilting of around the tank etc. roade side park. 1) Thillai kali koil kulam,2)Anna kulam 3) nagacherry kulam 4)omakulam 5) thatchan kulam 6) gnanprakasam kulam	100.00
	Total	**770.00**

Improvements to building assets of healthcare centres and government schools account for an estimated Rs. 42 lakh, while development of schools is estimated to cost another Rs. 49 lakh. Chi-M is currently developing a slaughter house that is expected to be complete during this financial year. There is also a proposal to re-develop the yatri nivas that is currently lying unused.

7.11 Capital Investment Plan – summary

7.11.1 Priority projects

The critical priority projects to be implemented by Chi-M in the short term (2008-12) are summarized below in Exhibit 7.19.

Exhibit 7.19 Priority projects - FY 2008-12

Sl. No	Sector	Project	Cost *Rs. Lakh*	Status	DPR needed
1	Water Supply	Comprehensive Water supply scheme to deliver 135 LPCD	450	DPR under preparation	Yes
2	Water Supply	2 OHTs at Uzhavar Sandhai and Bus stand (2 lakh litres each)	20	Proposed	-
3	Sanitation	UGD scheme	3847	DPR ready. Under TS	-
4	Sanitation	De-silting of 10 water bodies	185	Proposal ready.	Yes
5	Transportation	Restoration of roads post UGD	800	Concept stage	Yes
6	Transportation	Development of new bus stand	600	Concept stage	Yes
7	SWM	1.Completion of compost yard development at Thandeswaranallur 2. Procurement of dumper place bins, Push carts and other equipment	61	Under implementation	Yes
8	Remunerative enterprises	Re-development of fish market and vegetable market	150	Proposal stage	Yes
9	Remunerative enterprises	Slaughter House	20	Ongoing project	-
10	Tourism	Ongoing implementation under Tourism development	600		
11	Schools	Amenities in Schools	14		-
12	Health	Maternity centre improvements	12	Proposed	-
13	Urban services for poor	Ongoing project under IHSDP	417	Approved. Ongoing	-

7.11.2 CIP summary

Exhibit 7.20 provides a summary of sector wise phasing of investment needs of Chi-M.

Exhibit 7.20 Capital Investment Plan summary

Segment	2008	2009	2010	2011	2012	2008-12	2013-17	2018-27	TOTAL
Water Supply	10	200	250	-	-	460	25	154	639
Sanitation	9	1,326	1,326	1,326	44	4,032	67	34	4,133
Solid Waste Management	24	-	37	-	-	61	179	102	342
Transportation and street lights	14	14	489	489	489	1,495	259	1,550	3,304
Urban Services for the poor	417	-	-	-	861	1,278	4,304	-	5,582
Others	132	526	11	6	56	731	50	100	881
TOTAL	**606**	**2,066**	**2,113**	**1,821**	**1,450**	**8,056**	**4,885**	**1,940**	**14,881**

7.11.3 Technical assistance requirements

A list of project / sector specific technical assistance requirements needed from CMA/TNUISFL is given below:

1. Development of a comprehensive GIS for the town with updated information on all urban assets including roads, water supply, sanitation etc.
2. DPR on comprehensive water supply for achieving 135 LPCD water and implementation road map for 24x7 supply.
3. DPR for solid waste management with focus on scientific disposal and mechanised handling.
4. DPR and assistance in project structuring on PPP of remunerative projects identified in Exhibit 4 above (projects 8,9 and 10 above).

7.11.4 Interventions required from other agencies/departments of GoTN

Specific initiatives required departments and agencies of GoTN (other than Chi-M) are detailed below:

1. **State Highways/National highways** – a) Feasibility study and implementation of Bypass / ring road around Chidambaram, b) traffic and junction improvements on the 10.5 km of roads maintained by State Highways and National Highway departments.
2. **DTCP** – Review of master plan for the town and adjoining areas
3. **Department of Agriculture / Tamil Nadu State Agriculture Marketing Board** – Feasibility study for setting agri-extension facilities and terminal markets in Chidambaram/adjoining areas.
4. **TWAD –** Feasibility study for comprehensive water supply and roadmap for 24x7 water supply.
5. **Tourism development –** Development of tourism amenities in and around Pichavaram lake.

7.11.5 Reform targets

Exhibits 7.21 and 7.24 summarize reform targets and asset management plan for Chi-M respectively.

Exhibit 7.21 Service level and reform targets – a summary

FACTOR	Unit	Baseline	Target		
		2007	2012	2017	2027
WATER SUPPLY					
Service Goals					
Per capita supply at doorstep	LPCD	76	135	135	135
Storage capacity / Total demand	%	44%	50%	50%	50%
Distribution network / Road length	%	76%	80%	80%	80%
Frequency of supply	hours/day	3	4	4	24X7
Reform targets					
Current collection efficiency	%	54%	75%	90%	90%
House Service Connections / Assessed Properties	%	46%	60%	65%	70%
Population per water fountain	nos.	129	200	200	200
Implementation of graded / metered tariff	Yes / No	No	Yes	Yes	Yes
User charge collection - % of O&M plus debt servicing	%	n.a	60%	100%	100%

FACTOR	Unit	Baseline	Target		
		2007	2012	2017	2027
SANITATION					
Service Goals					
UGD Network					
Availability	Yes/no	Partial	Yes	Yes	Yes
Design treatment capacity per capita	lpcd	-	120	120	120
Sewer network - % of road length	%	43%	70%	80%	80%
Storm Water Drains					
Drain length / Road length	%	127%	100%	100%	100%
Public Conveniences					
Slum population per PC seat	Nos.	46	100	100	100
Reform targets					
Sanitation coverage - % of population	%	0%	100%	100%	100%
User charges - Current collection efficiency	%	54%	70%	90%	90%
Household connections / Assessed Properties	%	38%	40%	60%	75%
SOLID WASTE MANAGEMENT					
Collection efficiency	%	90%	90%	90%	100%
Door-to-door collection	%	100%	100%	100%	100%
Source Segregation	%	30%	60%	100%	100%
Mode of disposal	%	0	50%	100%	100%
Conservancy fee	Yes / no	No	yes	yes	yes
TRANSPORTATION AND STREET LIGHTS					
Municipal roads as % of Total Area	**%**	11%	11%	12%	13%
Surfaced roads to Total roads	**%**	87%	100%	100%	100%
Street Lights - Distance between streetlights	M	40	30	30	30
Street Lights - Proportion of high power lamps	**%**	19%	25%	30%	30%
Street Lights - Proportion of lights with energy savers	**%**		25%	30%	30%
URBAN SERVICES FOR POOR					
Road Coverage for slum household	%	100%	100%	100%	100%
Sanitation coverage for slum households	%	100%	100%	100%	100%
Streetlights	%	100%	100%	100%	100%
Pucca houses for all slum households	%	100%	100%	100%	100%

7.12 Asset Management

This section details the asset management plan for various urban service areas and assets owned by Chi-M and follows from a review of the asset register of the municipality particularly relating to its land and buildings and open space areas (such as parks and water bodies).

In the following paragraphs we analyse the information provided to us on land and building assets available with Chi-M and outline specific observations and suggestions on maintaining and updating these assets. The Asset Management Plan for core services areas namely Water Supply, Sanitation, Solid Waste Management and Transportation follows largely from the Capital Investment Plan outlined in the earlier paragraphs and is outlined below under sections 7.16.2 to 7.16.5 below. Specific actions relating to asset management and reform steps in these areas are also summarized in Exhibit 7.24.

7.12.1 Land and building assets of Chi-M

Details of information on assets of Chi-M have been compiled and enclosed as Annexures as shown below:

- Annexure VIII – Land details as per Schedule I of asset register
- Annexure IX – Building details as per Schedule II of asset register

Exhibit 7.22 and 7.23 summarises the details of land and building assets in Chi-M as shown in schedule I and II of the asset register of the municipality.

Exhibit 7.22 Summary of Vacant land Assets

Sl.No	Particulars	No of sites	Area in SM
	Basic Amenities	**30**	**20,502**
1	Water Bodies	17	17,974
2	Toilets	13	2,528
	Social	**9**	**8,830**
1	Buiral Ground	3	1,860
2	Maternity centre / Hospital	2	1,038
3	Bus stand	1	1,972
4	Composite Yard		-
5	Market	3	3,960
6	Noon Meal centre	1	0.02
7	Parks & Playground	6	692
8	Schools	10	8,160
9	Office Building	4	4,952
10	Vacant Place	4	3,620
11	Others	13	13,052
	Total	**77**	**59,807**

Exhibit 7.23 Summary of Building Assets

Particulars	No of Buildings	Total area	Flinth area of Building
Office Building	9	10952	8048
Noon Meal centre	19	1051	1051
Schools	10	10874	3674.77
Basic amenities	22	1683.23	1555.73
Water supply			
Public convenience	22	1683.23	1555.73
Social	3	3214	1036
Health	3	3214	1036
Remunerative	7	6121	4428
Markets	3	3755	2532
Meeting hall	1	250	250
Shops	3	2116	1646
Others	6	494.34	494.34
Total	**76**	**34389.57**	**20287.84**

We observe that the asset register of Chi-M has not been updated. Several items in the asset register reflect status as of year 2000, when the asset register was initially created. We recommend the following actions in terms of managing the land and building assets of Chi-M

1. There are several discrepancies between the land details shown in land schedule and in the buildings schedule. We therefore strongly suggest a zero base validation and updation exercise covering the asset register be taken up on priority.
2. Chi-M should prepare and implement an annual maintenance plan (along with an assessment of cost implications) for all land and building assets. This maintenance plan should precede budget preparation process and should feed into the budget, so that the plan is adequately funded.
3. Chi-M should progressively move towards achieving revenue realisations in line with market trends from all its remunerative assets including shops, markets etc. This is achievable through a combination of a) periodic increases in rates charged and b) improvement and better maintenance of the assets through periodic and planned maintenance.

Specific actions relating to management of assets in water supply, sanitation, solid waste management and roads are outlined below and are summarized in Exhibit 7.24

7.12.2 Water supply

Short term

a) Review and update asset register to reflect the latest status and establish process along with accountability for updating asset register on a periodic basis.
b) Provide a ward wise report on capital works undertaken online on a quarterly basis.
c) Undertake an independent study to assess loss levels in transmission, storage points and distribution and develop a roadmap for providing 24x7 water supply.
d) Conduct periodic IEC campaigns on water conservation and rainwater harvesting practices.
e) Review losses and illegal connections and widen the base of house service connections.

Long term

a) Critical asset management and development activities in the medium to long term are listed below:
b) Implement metering and metering-based-tariff /graded water tariff at household level
c) Implement 24x7 water supply on a pilot basis in select zones / wards and replicate the same in a phased manner within a ten-year timeframe.
d) Undertake a comprehensive GIS mapping of the water supply network of the town.

7.12.3 Sanitation

a) Create baseline information database on sanitation assets and performance of the municipality. Establish processes and accountability for periodic updation and dissemination.
b) Conduct IEC campaigns and public consultations to educate citizens on the benefits of Underground drainage scheme.
c) Ensure adequate upkeep of sanitation assets including public conveniences and storm water drains through encouraging community level participation and feedback

d) Disseminate information on tariffs a transparent manner and undertake a focused program to mobilise connection deposits
e) Use a combination of incentives and penalties to encourage timely payment of user charges.

Chi-M should incorporate the sanitation asset details as part of a wider GIS implementation program. Further, tariffs can be structured on a slab rate structure with property tax assessments as the basis.

7.12.4 Solid waste management

a) Chi-M should prepare a detailed project report for its solid waste management requirements along the entire value chain from generation to disposal to ascertain. This should also include an evaluation of disposal options and recommend a roadmap for safe disposal of waste including additional investments needed for composting if any and implementing other options for non-biodegradable waste such as engineered landfills
b) Conduct IEC activities to back other initiatives like door-to-door collection to facilitate effective segregation of waste at source.
c) Review and updated the Solid Waste Management Action Plan and prepare a detailed feasibility report for comprehensive Solid Waste Management in the town
d) Implement door-to-door collection and source segregation in all wards.
e) Identify transfer points / collection points for every ward and streamline primary and secondary collection trips.

Long term

a) Progressively enable greater mechanisation of waste handling.
b) Implement a nominal conservancy fee for primary collection.
c) Focus on commercial exploitation opportunities for revenue enhancement by exploring scope for privatising compost yard management and other options including bio-gas and formal sale of scrap/recyclable material
d) Shift from indiscriminate dumping of non-biodegradable waste to explore potential for development of a shared landfill site for safe disposal of non-biodegradable waste.

7.12.5 Roads and transportation

a) Create a baseline database on road assets at a ward level covering street wise details of length of road, road assets (storm drains, culverts etc), surface and condition
b) Establish process and accountability for periodically updating this database with details of works done on these roads and disseminating information on the same on Chi-M's website.
c) Clarify policy on road digging and repair and communicate the same to all agencies. Take stern action on agencies digging without prior permission from the ULB.
d) Create a coordination committee comprising 'right of way' users including telecom companies, Tamil Nadu Electricity Board, TV cable operators, Traffic police and ULB officials to plan development and maintenance of road assets in a synchronised manner.
e) Provide ducts for cables and other utilities along all arterial and major roads to minimise digging.
f) Adopt energy saving measures including energy savers in high power lights.

Exhibit 7.24 Asset Management Plan and timeline

Sl.No	ASSET MANAGEMENT / DEVELOPMENTAL ACTIVITIES	Responsibility	Short Term	Medium term	Long Term
			2007-12	2013-17	2018-27
	WATER SUPPLY				
1	Create Baseline information on water supply assets / performance	**Chi-M**			
2	Accountability and process for periodic updation / dissemination	**Chi-M**			
3	IEC campaigns for water conservation and rainwater harvesting	**Chi-M**			
4	**Leak detection plan / Losses assessment**	**Chi-M**			
5	Implementation of usage based / graded tariffs	**Chi-M**			
6	Incentives / penalties to encourage timely payment of water charges	**Chi-M/CMA**			
7	**GIS mapping of water supply assets/connections**	**Chi-M/CMA/TWAD**			
8	**Roadmap for 24x7 water supply**	**TWAD / Chi-M**			
9	Metering at household level and usage based tariffs	**TWAD / Chi-M**			
10	Piloting 24x7 water supply	**TWAD / Chi-M**			
11	Implementation of 24x7 water supply	**TWAD / Chi-M**			
	SANITATION				
1	Create Baseline information on sanitation assets / performance	**Chi-M**			
2	Accountability and process for periodic updation / dissemination	**Chi-M**			
3	IEC campaigns and public consultations on UGD benefits	**Chi-M**			
4	Mobilisation of public deposits	**Chi-M**			
5	Initiate and encourage Community participation for upkeep of sanitation assets	**Chi-M**			
6	Incentives / penalties to encourage timely payment of water charges	**Chi-M/CMA**			
7	Implementation of graded tariffs	**Chi-M**			
8	**GIS mapping of sanitation assets/connections**	**Chi-M/CMA/TWAD**			
	SOLID WASTE MANAGEMENT				
1	IEC activities	**Chi-M**			
2	**Review and updation of SWM action plan / Preparation of DPR**	**Chi-M/CMA**			
3	Door to Door Collection	**Chi-M**			
4	Source Segregation	**Chi-M**			
5	Identified transfer / collection points	**Chi-M**			
6	Sychronisation of primary/secondary collection	**Chi-M**			
7	Conservancy fee for primary collection	**Chi-M**			

Sl.No	ASSET MANAGEMENT / DEVELOPMENTAL ACTIVITIES	Responsibility	Short Term	Medium term	Long Term
			2007-12	2013-17	2018-27
8	Commercial exploitation of waste	**Chi-M**			
9	Increased mechanisation of handling waste	**Chi-M**			
10	**Development of scientific landfill site**	**Chi-M/CMA**			
TRANSPORTATION					
1	Baseline data on road assets	**Chi-M**			
2	Accountability and process for periodic updation / dissemination	**Chi-M**			
3	Policy on road digging and right of way	**Chi-M/CMA**			
4	Stakeholder coordination mechanism for synchronised road development	**Chi-M**			
5	Energy saving in street lights	**Chi-M**			
6	**Feasibility study for traffic improvements and bypass for Chidambaram**	**Chi-M/CMA/NH/SH**			

Interventions requiring technical assistance/support in DPR preparation are shaded in the table above

8. Project profiles including analysis of risks and ESA considerations

This section follows from the Capital Investment Needs identified in the previous section and provides brief profiles of priority projects that need to be executed by Chi-M in the short term. These project profiles provide a) Need for the project b) Project cost and phasing c) current status and technical assistance requirements d) possible financial mix and risk factors and e) illustrative classification based on environmental and social framework adopted by TNUDF.

8.1 Project profiles of select projects

8.1.1 Water supply

Sector	Water Supply
Project Description	Comprehensive water supply scheme for provision of 135 LPCD supply
Project Status	**Concept stage**
Need for the project	Though the TWAD project commissioned recently in 2001 is in operation, the water supply to the town is only about 76 LPCD. Further, quality of water from the bore wells is not good. There are no treatment facilities available and water is directly transmitted currently. In order to address all the gaps in water supply, there is a need for a comprehensive project covering source augmentation, transmission line and revamping distribution lines in the town.
Technical assistance	**Required for DPR preparation**
Project Cost	~ Rs. 450 lakh. To be confirmed through a detailed feasibility study
Revenue impact	Direct incremental revenue impact unlikely as Chi-M already levies user charges. However, it could enable Chi-M to improve service levels and hence could have an indirect effect by increase in penetration of connections.
Financing mix	Loan – 50%, Grant -30% and own funds – 20%
Remarks	The TWAD CWSS scheme is already functional. Hence the extent of supply and reliability of the same may need to be evaluated before making this investment decision. Chi-M's revenue realisation from water supply is poor given the low connection efficiency and collection efficiencies. Implementation of the project could be against some commitment from the municipality to improve performance on the same.
ESA analysis and tentative rating	E2 -Expected to have only moderate environmental issues. Mostly generic impacts in nature S3 - No social issues expected. Hence socially benign no social mitigation measures required, need to submit SSR

8.1.2 Sanitation

Sector	Sanitation
Project Description	Implementation of Underground Drainage (UGD) Scheme
Project Status	**Sanctioning and appraisal**
Need for the project	Chi-M has a old UGD scheme covering only parts of the town. In view of the poor sanitation conditions and to address uncovered areas in the town, a new comprehensive UGD scheme is being developed.
Technical assistance	The DPR for the project has already been prepared.
Project Cost	Rs. 3847 lakh
Revenue impact	Chi-M intends to levy user charges for connections and mobilise public deposits to part finance the project

Financing mix	Loans, own funds, Grant and public deposits.
Remarks	UGD schemes require significant pre-construction development work including acquisition of land for pumping stations and STP. Further design considerations are critical. Several UGD schemes faces delay risk. Further given the low connection and collection efficiency of Chi-M in water supply, Chi-M could face resistance to public deposits and user charges for the proposed UGD scheme.
ESA analysis and tentative rating	E1 – Project could have major environmental impacts thus necessitating Environmental Assessment Reports (EAR), S1 or S2 – is likely to have PAPs and hence need fairly detailed assessment.

Sector	Sanitation
Project Description	Desilting and restoration of water bodies
Project Status	**Sanctioning and appraisal**
Need for the project	Chi-M has identified 10 water bodies in the town that need to be desilted and rehabilitated.
Project Cost	Rs. 185 lakh
Revenue impact	Non-remunerative project
Financing mix	Given the size of the project and the non-remunerative of the project proposals, implementation of the project would require significant grant support.
Remarks	There is a need for a clear O&M strategy involving local community participation at the project implementation stage itself.
ESA analysis and tentative rating	E1 – Project could have major environmental impacts thus necessitating Environmental Assessment Reports (EAR), S1 or S2 – is likely to have PAPs and hence need fairly detailed assessment.

8.1.3 Land development and recreation amenities

Sector	Land development/remunerative projects
Project Description	Redevelopment of fish market and vegetable market
Project Status	**Concept stage**
Need for the project	The markets need development and are in a very poor state. Renovation of the markets would also enable better revenue realisation from the development.
Project Cost	Rs 150 lakh
Revenue impact	Re-development could potentially lead to doubling of revenues from the market
Financing mix	Can be potentially structured on a PPP mode on a revenue share basis.
Remarks	Since these are existing markets, development needs to be planned in a phased manner so that there is minimum re-location during construction. There is need for consultations with the existing shop owners /lessees in the development stage to ensure smooth implementation. There is a significant pre-project development and structuring aspects involved and Chi-M would require technical assistance in these areas
ESA analysis and tentative rating	E1 – Project could have major environmental impacts thus necessitating Environmental Assessment Reports (EAR), S1 or S2 – is likely to have PAPs and hence need fairly detailed assessment.

Sector	Land development/remunerative projects
Project Description	Development of Slaughter house
Project Status	**Implementation**

Need for the project	Being implemented under assistance from Part-II scheme of the GoTN announced last year for financing slaughter house project in the town.
Project Cost	Rs. 100 lakh
Revenue impact	Lease rentals / revenue share from development partner
Financing mix	Can be potentially structured on a PPP mode on a revenue share basis.
Remarks	Since these are existing land assets owned by the ULB, it can be leveraged to realise revenues. However, there is a significant pre-project development and structuring aspects involved and Chi-M would require technical assistance in these areas
ESA analysis and tentative rating	E1 – Project could have major environmental impacts thus necessitating Environmental Assessment Reports (EAR), S1 or S2 – is likely to have PAPs and hence need fairly detailed assessment.

8.1.4 Transportation and roads

Sector	Roads
Project Description	Upgradation of road network post UGD implementation
Project Status	**Concept stage**
Need for the project	Since UGD scheme is expected to be implemented over the next few years, there is a need to restore the entire road network post implementation
Project Cost	Rs. 800 lakh
Revenue impact	Non-remunerative project
Financing mix	Combination of loans (30%), grant (50%) and own funds
Remarks	The road network upgradation should comprehensively take into account storm water drain design and other road assets including pedestrian foot paths, signages and road medians as appropriate.
ESA analysis and tentative rating	E2 -Expected to have only moderate environmental issues. Mostly generic impacts in nature S3 - No social issues expected. Hence socially benign no social mitigation measures required, need to submit SSR

Sector	Transportation
Project Description	Development of new bus stand complex
Project Status	**Concept stage**
Need for the project	Existing bus stand is in the town area which is very congested and leads to lot of traffic problems. The proposal is to develop a new bus stand in the periphery of the town and convert the existing bus stand into a town bus stand.
Project Cost	Rs. 600 lakh
Revenue impact	Remunerative project. Can be implemented on PPP mode with upfront deposits from potential commercial establishments and revenue share from private developer.
Financing mix	Combination of loans (30%), grant (50%) and private capital
Remarks	Considering that a ring road / bypass is also being planned for the town, the bus stand could be planned along with this to facilitate orderly development.
ESA analysis and tentative rating	E2 -Expected to have only moderate environmental issues. Mostly generic impacts in nature S3 - No social issues expected. Hence socially benign no social mitigation measures required, need to submit SSR

9. Reform agenda and Technical assistance

This section outlines the reform agenda for Chi-M in the areas of a) capacity building and systems b) measures for improving financial performance and c) summary of targets on select operational and financial indicators

9.1 Urban sector reform in Tamil Nadu – an overview

Tamil Nadu is considered a pioneer in the area of urban reforms. Tamil Nadu has constituted three successive State Finance Commissions for improving resources of local bodies and devolution of funds from the State to Urban Local Bodies and has conducted three successive elections to Urban Local Bodies on due dates. Apart from this, other key reform initiatives undertaken by Tamil Nadu in the urban sector are given below

1. Reduction in stamp duty on transfer of property from 15 to 8 percent.
2. Implementation of accrual accounting system in all Urban local bodies
3. Introduction of modified area based property tax system
4. Computerization of sub-registrar's offices
5. Repeal of the Land Ceiling Act, while a reformed Rent Control Act is being considered
6. Commitment to levy user charges and improvement in collections for water and sanitation services.
7. Creation of TNUDF to provide access to capital markets in a non-guarantee mode.

Apart from setting in motion a process for financial devolution through creation of SFC, Tamil Nadu has also moved a fair bit towards delegating a number of functions to the ULBs. The 12th Schedule of the Constitution provides for 18 functions to be undertaken by ULBs.

1. Urban planning, including town planning;
2. Regulation of land-use and construction of buildings;
3. Planning for economic and social development;
4. Provision of roads and bridges;
5. Provision of water supply for domestic, industrial, and commercial purposes;
6. Provision of public health, sanitation conservancy, and solid waste management;
7. Provision of fire services;
8. Promotion of urban forestry, protection of the environment, and promotion of ecology;
9. Safeguarding of the interests of weaker sections of society, including the handicapped and mentally retarded;
10. Slum improvement and upgrading;
11. Urban poverty reduction;
12. Provision of urban amenities and facilities such as parks, gardens, and playgrounds
13. Provision of cultural, educational and aesthetic aspects
14. Provision of burials and burial grounds, and cremations, cremation grounds, and electric crematoriums;
15. Provision of cattle pounds, and prevention of cruelty to animals
16. Recording of vital statistics including registration of births and deaths

17. Provision of public amenities including street lighting, parking lots,bus stops and public conveniences
18. Regulation of slaughterhouses and tanneries.

While not mandatory, the provisions direct state governments to decide the powers and functions to be devolved to local bodies. Tamil Nadu has delegated functions 2 to 6 and 8 to 18 to ULBs[4]. Though Urban Planning as a function is vested with the Department of Town and county planning, both the political and administrative heads namely the Chairman and the commissioner are typically involved in the process of preparing master plans.

9.2 Reform agenda – interventions required at the state level

As observed above, GoTN has ushered in a number of reforms in the urban sector. However, there is a need to persist with this direction. The stage is set for the state to usher in a set of second generation reform that furthers the vision of the 74th Constitutional amendment in empowering and strengthening local governance. In this regard, we have outlined below a set of possible reform areas and interventions below:

1. **Implement recommendations of the Third State Finance Commission –** The recommendations relating to the revenue buoyancy of the ULBs including property tax reform and devolution income and transfer are particularly critical for the financial stability of the ULBs and need to implemented on priority.
2. **Maintain reasonable stability of tenure of key officials –** We recommend that except for extraordinary circumstances, there should be a minimum tenure of at least 2 years for all the key positions including Commissioner, Municipal Engineer, Manager, Town Planning Inspector, Sanitary and public health head and Accountant. Further, guidelines need to be clarified and enforced for formal charge handover whenever there is a transfer of officials to ensure continuity of city level vision, projects and streamlined service delivery.
3. **Carry out an Independent assessment of skill gaps and manpower needs of Chi-M -** There is a need for an independent review of the skill requirements in various grades of municipal bodies to ascertain the appropriate manpower plan in terms of skill sets and experience/seniority. This is particularly relevant given the recent developments and the growing service delivery expectations in the urban sector specifically in urban planning, municipal accounting and systems, e-governance and modern practices in infrastructure service delivery including potential for public-private partnerships.
4. **Address critical operational areas through focused training and capacity building interventions** - Three areas stand out in terms of criticality and the need for significant training interventions. These include:

[4] *Source: Local Governments Finances and Bond Markets. ADB. 2003*

- **Engineering and project development –** A number of new grant and loan schemes (both central and state) including the UIDSSMT are available for ULBs to tap into for meeting their asset creation requirements. However, there seems to be very little understanding of the scope and potential of using these schemes for implementing local level projects. GoTN and CMA should conduct periodic training and awareness programs for senior management personnel including Commissioners, Managers and Engineering staff. This would enable them work towards developing projects that can leverage such schemes. Agencies like TNUIFSL and TUFIDCO should also take the lead in organising such awareness programs.
- **Accounting and Finance –** Though accrual accounting has been implemented in Chi-M and is under operation for more than 5 years. Computerised Financial and Administrative systems are in place or are in various stage of implementation/upgradation. There is a therefore a need for continued emphasis on training to bring the accounting and finance staff upto speed on these developments.
- **Use of CAD/GIS applications in Town Planning/Engineering –** Town planning and engineering officials in Chi-M were provided training in CAD and GIS as part of the USAID-ICMA organised City Links initiative in Chidambaram town. As part of the USAID program, a GIS map for the town was developed. CMA and GoTN should initiate a state-wide program to train Town planning and engineering staff on CAD and GIS applications.

5. **Build on GoTN's pioneering position in implementing accrual accounting by launching a drive improve the timeliness and quality of information dissemination -** While all ULBs in Tamil Nadu have implemented a double entry accounting system, there is scope for improvement in the quality of accounting in the areas of classification and recording, consolidation and dissemination of information. Several ULBs have redundant systems involving manual and computerised book keeping and errors often creep into MIS. Often, the DCB statements and accounting statements are not reconciled. The recent initiative of the setting up of the Debt Monitoring Cell at the CMA level is a positive step in getting the loan records at the ULB right. It still takes significantly long time for accounts to be closed and this need to be remedied. GoTN and CMA should continue its thrust in this area to ensure that the real advantages of accrual accounting is realised. In this regard, we recommend that

    - CMA, GoTN should continue its focus **on technical assistance to ULBs to improve their accounting systems and practices**. Proper training should be given to the staff on the concepts of double entry book keeping. Apart from the municipal staff, the LFA should also be given training in auditing the new computerised systems being implemented. Currently there is a dual system in operation and this seems to be creating significant reconciliation issues.
    - CMA, 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.
    - TNUDF could consider a **grading system to categorise ULBs** on the basis of quality of accounting and reporting practices.

6. **Create technical standards with specific applicability to municipal projects construction and execution. These are particularly required in 2 areas:**

- **Integrated road asset creation and management –** The quality of road construction particularly in urban areas is inconsistent ranging from well-laid roads in select areas to poorly designed roads that does not last even a single monsoon season. In this regard **CMA along with the State Highways department** should
  - ***Standards*** **-** Define standards for urban roads construction covering technical specifications (construction material, equipment use, process for road construction)
  - ***Procurement guidelines*** - Review procurement guidelines for empanelment / selection of contractors including incentives and penalties to ensure adequate accountability
  - ***Showcase projects*** **-** Identify one major arterial high-density road corridor (typically maintained by the State Highways department) in all towns for development in an integrated manner covering strengthening/widening, encroachment removal, de-bottlenecking through junction improvements and grade separators, streamlining parking, guidelines for right of way for road users (such as TNEB, BSNL etc) and aesthetics/signages. Implementation of such projects could potentially have a demonstration effect and could contribute to widespread replication and adoption.
- **Flood management –** Maintenance and upkeep of storm water drains is often accorded low priority, inspite of significant investments that go into creating these assets. Further there is inadequate planning and sub-optimal drain construction in an isolated manner without a detailed review of interlinking needs with arterial canals and water bodies. In this regard, we recommend that
  - TNUIFSL and CMA should considering initiating a technical assistance study at a city level in a phased manner to develop a blueprint for an integrated water and flood management plan covering a) identification of potential water catchment points (including restoration of water bodies), b) Identify arterial canal networks that need to be developed/strengthened based on a review of flooding and water flow patterns and c) specify ward level guidelines for storm water drain construction in terms of linkages and gradient of local storm water drain construction initiatives.

7. **PPPs -** It is necessary to encourage a deeper involvement of private sector (beyond financing) in the areas of design, development and operation of infrastructure. 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,

   - CMA, GoTN should develop a framework for PPP including specific policies and guidelines in urban infrastructure and in land development / remunerative projects.
   - TNUIFSL should provide comprehensive assistance covering necessary capacity building (in terms of evaluating mechanisms - BOT, SPV etc) and financing for developing projects through private sector participation.
   - CMA, GoTN along with TNUIFSL should develop model concessions involving Private sector in various areas including Solid waste, STP O&M, Maintenance of head works for water supply, Street light maintenance and remunerative projects

8. **Initiate formal and independent Information Systems and Security Audits, given the implemented and ongoing e-governance initiatives of ULBs in Tamil Nadu –**
    - ULBs should be required to establish the practices of an independent system audit to be conducted annually. This would enable ULBs to establish greater accountability and build in robust processes for disaster recovery and security of the IT architecture of the ULB
9. **Facilitate creation of a formal institutional mechanism to manage functional overlaps among nodal agencies/state level agencies and the ULB –** As described earlier in section 5.4 – role of other agencies, ULBs shares responsibility for a number of service delivery areas with other agencies/departments of the state including Department of Town Planning, Department of Highway, Tamil Nadu Electricity Board, Tamil Nadu Water and Drainage Board, Road Transport Corporations etc.
    - In order to overcome the limitations of these overlaps and to enable operation of these various organs of the state in a coordinated manner, each ULB should be mandated to facilitate creation of a formal steering committee at the city level comprising of 8-10 officials from all government departments/agencies. This committee could meet regularly (once every 2-3 months) to discuss and share information on respective projects/areas and could pave the way for better communication and effective service delivery.

9.3 Measures for improving financial performance

Overall, revenue declined by 6% while expenditure declined by about 10% during FY 03-06. The revenue decline appears to be on account of decrease in devolution fund and assigned revenue, even though own income of the municipality has shown an increase of 5%. Most of the expenditure heads have shown a decline particularly, Salaries and finance charges. Current collection efficiencies in property tax and water user charges are abysmally low at 50% and 54 % respectively.

Chi-M's ability to improve on its financial performance hinges primarily on its ability to sustain and improve on the revenue growth noticeable in recent years. While there is potential for expenditure control in certain areas (as in the case of energy costs), the focus of cost management should be to shift expenditure from administration to better asset management and O&M. The following paragraphs outline select interventions for improvement of financial and operating performance.

9.3.1 Revenue enhancement

Property tax

Specific recommendations for improving property tax revenue and collections are detailed below. Recommendations in bold are actions that can be implemented immediately by the municipality without any significant investment and can enable the municipality to show immediate results

Issues	Recommended Interventions
Rate of taxation and monitoring	1. Implementation of quinquennial ARV revision as recommend by SFC and removal of distortions in rates wherever existent. **2. Apart from collection efficiency, the ratio of assessments to population and growth of assessments should also be tracked and monitored at the highest level.** 3. There should be changes instituted to the policy of Vacant Land tax to introduce steep step up in taxes for vacant land particularly in peri-urban areas to incentivise development. Vacant land are often prone to abuse in the form of encroachments, poor maintenance and dumping of garbage. Therefore an increase in Vacant land tax can be ploughed back for supporting the costs municipalities often incur in managing and preventing such abuses. 4. Property tax information of various residential units should be published online in the same manner as the guideline values that are published
Increasing assessments	5. Move to **GIS-based database** to track, update and retrieve property tax information 6. **It should be made compulsory for all new building constructions to display the building permission details obtained from the municipality for construction.** The municipality should actively encourage its citizens to report unauthorised buildings construction and should disseminate online information on action taken on such constructions to dissuade such activity. Capturing information on unauthorised construction at the initial stages through such efforts would go a long way in preventing the rampant growth of unauthorised and unassessed constructions in our towns and cities. **7.** Conduct a one-time survey to compile database of properties and initiate sample checks in all wards on an ongoing basis. **The Commissioner should undertake 'surprise checks' on a regular basis in various wards to provide a sense of enforcement both to the municipal officials and to citizens for encouraging compliance.** **8. Reconcile and link assessment information with building permissions issued and initiate a drive to bring unassessed properties under the tax net.** **9. Reconcile manual and computerised registers to identify and bring in left-out assessments into the tax net.** 10. Blanket exemptions should be reviewed. Revenue loss due to exemptions should be compensated by GoTN. 11. **A strong coordination between departments within the municipality by itself bring significant increase in assessment base and collection efficiency.** The Revenue department should reconcile its information across various databases on households and other commercial properties available within the municipality. Specific suggestions in this regard are listed below: o The Property tax database should be regularly updated based on the status of Building permissions issued by **Town Planning department** o Whenever the **Engineering department** provides water and sewage

Issues	Recommended Interventions
	connections, it should check with the Revenue department for compliance of those assesses with respect to property tax dues. The **water and sewage assesses databases** should be regularly updated and reconciled with the property tax database. o Whenever, the **Health Department** issues D&O and Trade licenses, they should check on the status of property tax assessment and professional tax assessment status for these license. o The D&O licenses and Trade licenses should only be provided for applicants with a clear property tax assessment status and compliance. 12. E-governance efforts should be undertaken towards creation of an integrated database that provides for access of information across various departments would enable effective reconciliation of information. 13. Along with the above internal coordination, Chi-M should also coordinate with other GoTN departments including TNEB and Commercial taxes department for improving assessment information. This can be done by obtaining and reconcile addresses and properties data of such departments with that of the municipality to identify and update missing data in the property tax database. Apart from improving property tax assessment, such cross-department interaction would facilitate mutual benefits and aid effective working relationships among them. **14. There is a need for greater recognition of effort and contributions to improvement in assessment increase and collection efficiency. Municipal officials should be given targets and appreciated with monetary and non-monetary recognition for contribution.** 15. **Similarly, the municipal council should be encouraged to contribute to improvement in collection efficiency. Top 20 default cases in each ward should be brought to notice of individual council members and Council members contributing to improvement in collection efficiency could be recognised through resolutions praising their efforts.**
Improving collection efficiency	**16. Draw a systematic plan for sending demand notices and ensure despatch of demand notices on time.** **17. Conducts ward wise analysis of collection efficiency to focus more on troublesome wards/ areas.** **18. Involve council members and resident welfare associations / NGOs as pressure groups to act against wilful defaulters.** 19. Simplify payment of property tax dues by providing multiple options; a) payment through banks b) additional facilitation / e-governance counters, c) mobile vans and door-to-door collection drives, d) online payment option and e) payment through credit cards etc. **20. Make it compulsory for clearing property tax dues for provision of water and sewerage connections.** **21. Initiate a One-time drive and settlement scheme for arrears.** **22. Prepare a list of top100 defaulters and disseminate the information online and through other media to put pressure on such defaulters.**

Issues	Recommended Interventions
	23. Municipalities should be made to report details of Litigation cases on a quarterly basis to CMA and the actions taken on them. Municipal officials should be given targets for settlement of litigation cases in a time-bound manner. 24. Moot creation of a special tribunal for speedy completion of litigation cases. **25. Wherever possible initiate steps for out-of-court settlement to facilitate speedy clearance of such cases.** 26. Make provisions and take steps for writing off bad debts to clear up arrears history and database **27. Encourage greater accountability among bill collection staff by introducing targets and incentivise the same by recognition of top performers.** 28. The linking of grants to improvement in collection efficiency as in the case of JNNURM and UIDSSMT should be institutionalised for receipt of state government grants too.
Incentivise on-time payment	29. Implement Payment Due Date and penalties to incentivise on-time payment 30. Encourage self-disclosure and payment.

Professional Tax

Professional tax has grown at 6% over the last four years and is becoming an important revenue stream. It is also a visible revenue stream and hence collection efficiency (especially on current demand) should be higher than the 78% that was achieved in FY 2007. In this regard,

31. Chi-M should focus on widening its professional tax base by bringing more traders and independent professionals within the ambit of professional tax. Specifically, Chi-M 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 Chi-M.

32. A **Targeted approach should be followed to widen the tax base** for professional tax. In particular, the municipality should focus on gathering information on the following groups that could potentially add to the professional tax assessment base including the following:

• Banks (Commercial and Cooperative) • Government Staff • Doctors • Engineers • Surveyors • Contractors • Advocates • Architects • Chartered Accountants (Firms) • Income Tax Practitioners	• Computer Hardware Shops • Computer Education Institutes • Medical Shops • Private Companies • Business Entities (other than companies) • Stock Broking concerns • Hospitals • Schools and other educational institutions • Cinema Theatres • Clubs

User charges

With the commissioning of the new UGD system and recent implementation of the Combined Water supply scheme, user charges would need increased monitoring and follow-up given their potential to contribute to Chi-M's revenue. Specifically Chi-M should

33. Increase penetration of connections for water supply. As of FY 2006, Chi-M has about 5400 connections, which accounts for only 46% of the properties assessed. Chi-M should target to increase this to at least 60 % in the next 5 years progressively going up to 70% in the next decade.
34. Providing water fountains only in areas with a predominantly low income population to minimise revenue loss.
35. 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. Chi-M could also consider implementation of meter based tariffs through involvement of Self Help Groups as meter readers.
36. Adopt measures to improve collection efficiency. Overall collection efficiency at 54% needs to be improved. CHI-M should consider stiff penalties for non-payment of user charges. Specifically CHI-M should consider implementation of late payment fines and in case of extreme overdue situations, disconnecting supply.

Public private partnerships (PPP)

Well-structured PPPs apart from relieving ULBs of some investment burden could also be a potential revenue enhancement option, particularly in structuring remunerative projects. In particular, Chi-M could

37. Develop its proposed remunerative projects namely, a) re-development of markets through private participation.
38. Actively encourage corporate / NGO partnerships for city beautification projects including bus stops, street lighting, parks

9.3.2 Measures for cost management

Chi-M needs to take steps to address its power costs which have shown a steep increase over the last three years. The following steps are needed in this direction:

39. Chi-M should conduct a comprehensive energy audit to identify areas for reducing power consumption and related costs.
40. Chi-M should implement automatic time based dimmers on street light network and ensure that all pumps / motors are energy efficient.
41. Chi-M indicated that leakages in its water supply network are in the region of 25-30%, which adds to overall cost of service delivery. A focused study is needed to assess the level of leakages and to recommend measures to minimise the same.

10. Sustainable financial and operating plan

10.1 Financial and Operating Plan (FoP)– time horizon, basis and assumptions

10.1.1 Time-horizon

The FOP has been prepared for a 20-year period i.e., FY 2008-2027.

10.1.2 Demographic projections

Exhibit 10.1 provides the population projections that form the basis of developing the Capital Investments and other revenue and cost projections for the municipality.

Exhibit 10.1 Population projections and related estimates - Chidambaram town

	Unit	Baseline	Projected		
		2007	2012	2017	2027
Population	nos	60830	62302	63452	65275
Households	nos	10542	12460	12690	13055
Slum population	nos	17102	17102	17102	17102
Slum households	nos	3954	3954	3954	3954
Assessed Properties	nos	12220	13083	13960	15013
Road length	km	75	75	85	92

10.1.3 Revenues

Exhibit 10.2 provides details of the assumptions for projecting revenues for Chidambaram

Exhibit 10.2 Revenue related assumptions

Segment	Revenue driver	Basis / Assumptions
Property Tax	Baseline property tax / property (2006)	Rs. 1021 per year
	Growth in tax rate	30% once in 5 years 2008 onwards
	Assessments growth	Population growth. As per trend captured in Exhibit 10.1
Professional Tax	Baseline tax / assessee (2006)	Rs. 800 per year
	Growth in tax rate -	30% every 5 years from 2008
	Growth in assessments -	As a % of Population.
Water charges	Penetration (Connections / properties)	Baseline – 46%. Connections growth assumed to reach 60% by 2012 and 70% by 2027.
	Annual Rate growth	Baseline - Rs. 600 / year. Assuming escalation at 5% annual (applicable in increments of Rs. 50)
Sewerage charges	Penetration (Connections / properties)	Connections growth assumed to reach 40% by 2012 and 75% by 2027.
	Annual Rate	Baseline - Rs. 600 / year. Assuming escalation at 5% annual (applicable in

		increments of Rs. 50)
Devolution Income	State sales tax	States' sales tax projections assumed to grow at 5%. 10% of sales tax receipts assumed to devolve to ULBs and to the municipality based on 2001 population base.
Assigned revenue and other income	Growth over baseline income (2006)	5% growth during projection period

10.1.4 Expenditure

Exhibit 10.3 provides details of the assumptions for projecting expenditures for Chidambaram

Exhibit 10.3 Expenditure related assumptions

Segment	Revenue driver	Basis / Assumptions
Staff Costs	Growth over base salary	8% annually
Operating Expenditure	**Existing asset base** – Growth on base O&M expenditure of 2006	Assumed to grow at 6% annually
	For new capital investments as per section 10.1.5 below	
	Water Supply	2.00%
	Sewerage and Sanitation	2.00%
	Solid Waste Management	8.00%
	Transportation & Street lighting	20.00%
	Urban services for poor	2.00%
	Others	2.00%
Administrative expenditure	Growth over base expenditure	5%
Interest expenditure	Refer section 10.1.6 below.	

10.1.5 Assets

The addition to assets is as per the Capital Investment Plan given below

Exhibit 10.4 Capital Investment Plan

Segment	2008	2009	2010	2011	2012	2008-12	2013-17	2018-27	TOTAL
Water Supply	10	200	250	-	-	460	25	154	639
Sanitation	9	1,326	1,326	1,326	44	4,032	67	34	4,133
Solid Waste Management	24	-	37	-	-	61	179	102	342
Transportation and street lights	14	14	489	489	489	1,495	259	1,550	3,304
Urban Services for the poor	417	-	-	-	861	1,278	4,304	-	5,582
Others	132	526	11	6	56	731	50	100	881
TOTAL	**606**	**2,066**	**2,113**	**1,821**	**1,450**	**8,056**	**4,885**	**1,940**	**14,881**

10.1.6 Liabilities

The Financial and Operating Plan allows for 3 types of loan – short, medium and long term. The assumptions relating to loans are given below:

Exhibit 10.5 Loan related assumptions

Segment	Type of loan
Water Supply	Long term
Sewerage and Sanitation	Long term
SWM	Medium term
Transport and Lighting	Short term
Others	Medium term

Type of loan	Tenure years	Moratorium years	Interest rate %
Long	20	5	9
Medium	10	3	10.5
Short	7	2	10.5

10.2 Estimation of borrowing capacity and investment capacity

We have arrived at the borrowing capacity based on the Income and expenditure projections including debt servicing of existing loans as of FY ending 2005. We have arrived at the borrowing capacity of Chidambaram as the minimum of

- NPV of 30% of revenue projections and
- NPV of 50% of operating Surplus projections.

10.3 Possible financing mix for achieving full investments

Based on these criteria, the borrowing capacity of Chidambaram works out to Rs. **3891** lakh. At an aggregate level, assuming loans to be equivalent to **50%** of investment, sustainable investment capacity works out to Rs.**7782 lakh**, which translates to only **52** % of the total investment requirement (including slum rehabilitation). Even with financial improvements, Chidambaram would require significant grant financing to meet its investment requirements in full.

10.4 Financial and Operating Plan

10.4.1 Projections

Exhibit 10.6 below provides a summary of the financial projections for 10 years. As can be seen, Chi-M's revenues could potentially go up to **Rs. 1323 lakh** by 2012 and **Rs. 1780 lakh** by 2017.

Exhibit 10.6 Sustainable Financial and Operating Plan

	Actual		Projections									
Income	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2012**	**2014**	**2015**	**2016**	**2017**
Own income	289	305	357	366	376	669	850	916	972	1,034	1,155	1,064
Property Tax	120	137	178	179	180	181	182	248	249	250	251	252
Profession Tax	13	5	6	6	6	6	6	8	8	9	9	9
Water Charges	-	-	-	-	-	153	217	181	218	238	315	237
Sewerage Charges	-	-	-	-	-	129	236	259	266	295	327	299
Service Charges & Fees	63	66	69	72	76	80	84	88	92	97	102	107
Other Income	94	98	103	108	114	119	125	132	138	145	152	160
Assigned Revenue	81	86	91	96	102	108	114	121	129	136	145	153
Devolution Fund	209	229	251	276	301	328	358	392	429	470	514	563
Total Income	**578**	**620**	**699**	**739**	**779**	**1,105**	**1,323**	**1,430**	**1,530**	**1,640**	**1,813**	**1,780**
Expenditure												
Salaries	170	187	206	227	249	274	302	332	365	402	442	486
Operating Expenses	80	84	107	111	210	344	378	303	321	341	362	387
Administrative Expenses	279	1	1	1	1	2	2	2	2	2	2	2
Finance charges	1	26	37	106	180	257	299	333	368	391	404	408
Total Expenditure	531	299	351	445	640	876	980	970	1,056	1,135	1,210	1,282
Surplus	**47**	**320**	**348**	**294**	**139**	**229**	**342**	**459**	**474**	**505**	**603**	**497**

10.4.2 Summary

Exhibit 10.7 below provides a summary of the results of the Financial and Operating Plan.

Exhibit 10.7 Sustainable Financial and Operating Plan

Estd. Revenues – FY 2008 (Rs. Lakh)	702
Estd. Revenues – FY 2016 (Rs. Lakh)	1,817
Estd. Revenues - FY 2027 (Rs. Lakh)	3,429
Revenue CAGR % - FY 2008-17	10.9%
Revenue CAGR % - FY 2008-27	8.7%
Average TE (excluding depreciation)/TR (%)	69%
Average DS/TR (%)	30%
Average DSCR	1.01
Borrowing Capacity	3891
Investment Requirement	14,911
Investment Capacity (at 50% loan)	7,782
IC/IR (including Urban Service for Poor)	52%

Disclaimer: ***The report is based on information collected by IMaCS from sources believed to be reliable. While all reasonable care has been taken to ensure that the information contained herein is not untrue or misleading, IMaCS is not responsible for any losses that the client may incur from the use of this report or its contents. The assessment is based on information that is currently available and is liable to change. The analysis that follows should not be construed to be a credit rating assigned by ICRA's Rating Division for any of the company's debt instruments. IMaCS is not a legal firm and our advice/recommendations should not be construed as legal advice on any issue.***

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