Tamil Nadu Urban Infrastructure Financial Services Limited

City Corporate Plan cum Business Plan for Dharmapuri Municipality

Final Report

December 2008

ICRA Management Consulting Services Limited

Contents

List of exhibits

List of abbreviations

CMA	Commissioner of Municipal Administration
TWAD	Chennai Metropolitan Water Supply and Sewerage Board
CIP	Capital Investment Plan
FOP	Financial and Operating Plan
GLR	Ground Level Reservoir
IMaCS	ICRA Management Consulting Services Limited
IT / BPO	Information Technology / Business Process Outsourcing
Dharma-M	Dharmapuri Municipality
LPCD	Litres per Capita per Day
MLD	Million Litres per Day
OHT	Over Head Tank
PC	Public Conveniences
SME	Small and Medium Enterprises
SMP	Second Master Plan
SWM	Solid Waste Management
SPV	Special Purpose Vehicle
TNHB	Tamil Nadu Housing Board
TNUIFSL	Tamil Nadu Urban Infrastructure Financial Services Limited
UGD	Under Ground Drainage

Executive Summary

The Tamil Nadu Urban Infrastructure Financial Services (TNUIFSL) mandated ICRA Management Consulting Services (IMaCS) for preparation of City Corporate Plan cum Business Plan (CCP-BP) of Dharmapuri Municipality (Dharma-M). This exercise intends to enable Dharma-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 to implement a sustainable infrastructure improvement plan.

City profile and growth potential

Dharmapuri is a selection grade town which is also acting as a district headquarters for Dharmapuri District. Dharmapuri municipality covers an area of **11.58 sq.km** and had a population of **64496** in 2001 with average household size as 4 and density of 56 persons per hectare. Municipality has been constituted in 1964 and has been upgraded to first grade municipality in 1987. The entire area of Velle Goundan Palayam Revenue village was included within the jurisdiction of the Municipality. Dharmapuri Municipality is the District Head Quarters Town.

A brief **SWOT** analysis of the town is presented below:

Strengths	**Weakness**
• Industrial region with a number of large, medium and small industrial units • Proximity to Bangalore city • Horticulture potential in the region	• Town is congested and faces structural limitations for growth • Encroachments on arterial roads and traffic problems • Water availability and quality. • Major portion of the town is still under agriculture use which is not an agriculture driven economy town
Opportunities	**Threats**
• Potential for further growth in industrial development with expansion of existing units and proposed SEZ plans • Potential for IT-ITES given proximity to Bangalore and proposed IT SEZ / IT park development plans of ELCOT • Emerging as an important commercial and trade hub with improving road connectivity and new bus stand. • Availability of land for urban development purposes	• Outward migration of skilled workforce • Municipal areas not getting the benefit of growth around the city limits in terms of finances and meeting investment needs. • Listed as 3rd Most backward district in Tamilnadu • 40% of population is under BPL

The key economic development themes for Dharmapuri town are articulated below:

1. **Incentivise industrialization in the district to create greater economic and employment opportunities**

Dharmapuri district is among the most backward districts in the state and hence it is critical to seed and incentivize industrial development in the region. Given that there are large tracts of barren uncultivable land available in the district and its strategic location in the Salem-Bangalore corridor, it presents an ideal location for low-cost manufacturing industries. As in the case of the recent initiative in Krishnagiri district, GoTN should take steps to create a Special Economic Zone in Dharmapuri district as well. This would have a positive effect on the local economy and would further boost economic opportunities in Dharmapuri town.

2. **Evaluate potential for investments in terminal markets and tap opportunities in setting up cold storage infrastructure**

Given the potential for horticultural produce in the region and Dharmapuri town's position as a potential trade and commercial hub for the villages and Agri-zones in the region, there is potential for investing in terminal market infrastructure and cold chain facilities in the town. During our consultations with the municipal council, the council members expressed that the municipality was open to providing land for setting up cold storage on a BOT basis for private entrepreneurs along the bypass road. Initiatives like this could enable boosting economic activity and improve the revenues for the municipality as well.

3. **Plan investments in social infrastructure in lines with the population growth.**

Dharmapuri town should potentially become an important base for the surrounding areas as a education and healthcare hub. This would require a combination of private/Government investments to address future requirements in education and health infrastructure. A Government High School, Engineering College (at Sendiapet), Government Hospital and Marriage Hall (at Pennagaram road) figured high on the list of felt needs in our interactions with both the Council and the public stakeholders. GoTN through DTCP and CMA should immediately map land-use to identify and ring-fence public land (including a specific strategy for minimizing slum proliferation and removal of encroachments from public spaces) for this purpose.

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
Water Supply: TWAD board currently preparing Hogenakkal water supply scheme to supply water in all wards in Dharmapuri town.			
1	Daily Per Capita Supply (LPCD)	93	Current supply on a per capita basis just meets municipal norms of 90 LPCD.
2	Storage Capacity / Daily Supply (%)	58%	

Sl. No	Name of the Indicator	Value	Issues and Gaps
3	Distribution Network / Road Length (%)- (only municipal roads)	61%	Need for significant augmentation of water supply source and distribution. Penetration of HSC connections also needs improvement.
4	Water connections / Assessed properties (%)	38%	
Sanitation: The tender for the proposed UGD system covering 18 wards fully and one ward partially out of the total 33 wards had been called. The proposal for funding from CMA has been submitted for the excess amount quoted by the contractor.			
6	Presence of UGD network (Yes / No)	No	No UGD network currently Storm water drains coverage seems adequate, though there are a few uncovered areas. But they are in poor condition and need to be rehabilitated.
7	UG connections / assessed properties	N.A	
8	Household per Public convenience	90	
9	Storm Drain Length / road network (%)	126%	
Roads and Street Lights: Proposal Rs. 183.2 lakh for road and storm water drainage network improvements under UIDSSMT will be executed after the implementation of water supply and UGD schemes.			
10	BT roads / Total (%)	63%	Municipal roads would require comprehensive upgradation following water supply and UGD implementation.
11	Road length per Street Light (m)	29 m	
Solid Waste Management: The solid waste management action plan involved an outlay of Rs. 100 lakh is under implementation.			
11	Waste generation per capita (gms)	459	Composing, Source segregation and Door-to-door collection needs implementation in a phased manner. Land availability for disposal is a concern.
12	Collection efficiency (% of waste gen.)	100%	
14	Compost yard area (Acres per 10,000 population)	59%	
15	Average vehicle trips	4	
16	Source Segregation and Composting (Yes/No)	partial	

Analysis of financial performance

Exhibit 2 provides a summary of the income and expenditure of Dharmapuri Municipality.

Exhibit 2 Income and Expenditure summary

Rupees in Lakhs

INCOME	2002-03	2003-04	2004-05	2005-06	CAGR %
OWN INCOME	***322***	***388***	***434***	***451***	12%
Property tax	135	151	154	154	5%
Profession tax	17	17	24	22	9%
Water & Sewerage Charges	48	54	72	69	13%
Other Service Charges & Fees	22	23	25	43	25%
Other Income	101	144	160	162	17%
ASSIGNED REVENUE	*92*	*147*	*48*	*50*	-19%
DEVOLUTION FUND	*108*	*171*	*93*	*121*	4%
GRANTS & CONTRIBUTIONS	*0*	*0*	*0*	*0*	-42%
PRIOR PERIOD INCOME	*15*	*7*	*9*	*1*	-62%
TOTAL	**537**	**713**	**583**	**622**	**5%**
EXPENDITURE	**2002-03**	**2003-04**	**2004-05**	**2005-06**	**CAGR %**
Salaries	214	231	226	257	6%
Operating Expenses	70	80	71	83	6%
Programme Expenses	0	0	0	0	38%

Administrative Expenses	47	86	123	26	-18%
Finance Expenses	22	64	48	17	-9%
Depreciation	81	97	115	103	8%
Prior Period Expenses	6	2	53	0	-65%
TOTAL	**440**	**561**	**636**	**487**	**3%**
DEFICIT/SURPLUS (Excl.Depr)	**97**	**152**	**-52**	**135**	**12%**
Operational Ratio (Total Exp/Total Income) (All figures in Percentage)					
Incl Depreciation	83%	79%	100%	62%	**69%**
Excl. Depreciation	68%	65%	82%	78%	**85%**
Debt servicing (Rs in lakhs)					
Loan repayments - Interest	12.76	53.66	31.44	15.12	**112.97**
Loan repayments - Principal	18.67	105.32	15.42	15.51	**154.92**
Debt servicing Vs Income	**6%**	**22%**	**8%**	**5%**	**-6%**

Source: Dharma-Mply, IMaCS analysis

Exhibit 2 provides a summary of the income and expenditure of Dharmapuri Municipality. This summary has been prepared based on information provided by Dharmapuri Municipality covering audited accounts for FY 2003 to 2005 and unaudited accounts for FY 06. Income has grown faster (CAGR of 5%) than expenditure (CAGR of 3%). The municipality has observed a positive cash balance and overall surplus over past four years except in FY 05.

Capital Investment Plan, priority projects and technical assistance requirements

Exhibit 3 provides a summary of the CIP for Dharma-M. The CIP has been prepared based on

- Normative gaps in infrastructure services given existing status and norms for service delivery.
- 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 Dharma-M officials and review with TNUIFSL and CMA

Exhibit 3 Capital Investment Plan summary

Rs.in Lakhs

Segment	2008	2009	2010	2011	2012	2008-12
Water Supply	42	2,291	2,316	2,291	2,291	9,230
Sanitation	-	805	851	1,334	1,334	4,324
Solid Waste Management	371	341	91	-	-	802
Transportation and street lights	-	-	300	317	317	935
Others	95	160	50	25	-	330
Urban Services for the poor	89	979	979	890	890	3,826
TOTAL	**597**	**4575**	**4586**	**4857**	**4832**	**19447**

List of projects

List of projects identified for implementation by Dharma -M are listed in Exhibit 4 below.

Exhibit 4 Priority projects: FY 2008-12

Sl. No	Sector	Project	Cost *Rs. Lakh*	Status
1	Water Supply	Hogenakkal water supply project-Dharmapuri component	9163	Proposed. DPR being prepared by TWAD
		Storage capacity (Expecting Hogenakkal project) @20LL	50	Additional outlay phasing
		New borewell 6"	10	Work done
		Wall in infiltration gallery	7	Work done
	Total		**9230**	
2	Sanitation	Proposed UGD Scheme	3219	Tenders finalised. Work also commenced from 29.11.2007 and will be completed with in 18 months.Work is going on
		Storm water drains	967	Proposed
		Public Conveniences	138	Proposed
	Total		**4324**	
3	Transportation	Street lights	34	Under implementation
		Roads	901	Would be taken after completion of UGD phase-I
	Total		**935**	
4	SWM	Land acquisition for disposal yard	550	Dharma-M in the process of identifying land
		Provision of facilities in compost yard	7	Dharma-M in the process of finalising cost
		Purchase equipments for Secondary Collection	30	Proposed
		Development of Compost Yard	121	Proposed
		Primary collection	4	Additional outlay phasing
		Development cost - Landfill site	91	Additional outlay phasing
	Total		**803**	
5	Others	Slaughter house	25	Under implementation
		Gasifier crematorium	45	Under implementation
		Markets	100	Proposed
		Burial Ground Development	50	Proposed
		Parks	20	Proposed
		Municipal Office	60	Additional outlay phasing
		Schools	30	Additional outlay phasing
	Total		**330**	
6	UIDSSMT	Ongoing/Planned Interventions-IHSDP	267	267.75 lacks 7 slums are covered 433 houses complete the work 2008 end
		Additional Outlay required for service level goals	3560	Additional outlay phasing
	Total		**3827**	
Overall			**19447**	

Technical assistance needs

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

1. Roadmap for 135 LPCD water and 24x7 supply

2. Digitization of layout records and town planning information
3. Comprehensive GIS for the town with updated information on all urban assets including roads, water supply, sanitation etc.
4. DPR for solid waste management with focus on scientific disposal and mechanised handling of waste with private sector participation
5. Identification of land for municipal waste disposal
6. Sewage treatment plant for capacity enhancement

Projects by other departments / agencies

Projects to be taken up for implementation by other Government departments include the following:

1. **GoTN** – Review of master plan and land-use and roadmap for extension of city limits. The authorities may also evaluate the need and scope of a master ring road around Hosur town / adjoining areas to facilitate future developments in an orderly manner
2. **Department of Highways** – Evaluate the scope for providing truck terminals at the entry and exit of Dharmapuri town
3. **Commercial taxes / RTO** – Streamline, integrate and computerise check post documentation and processing to minimise pile up of trucks on the National Highway connecting the town.
4. **Tamil Nadu Pollution Control Board (TNPCB)** – Develop and implement necessary pollution control measures to prevent water, land and air pollution that may otherwise arise otherwise due to the expected growth of industrialisation of the region.

Reform Agenda

Dharma-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 - 10 point agenda

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. 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 to ensure continuity, when there is a transfer of officials.
3. Conduct a zero-base 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 with its ongoing technical assistance to ULBs to improve their accounting systems and computerisation. Setting up of the Debt Monitoring Cell to reconcile and disseminate information on debt status of the ULBs is also a positive step in this direction.
6. CMA, GoTN should insist and make ULBs complete accounts closing and audit within 3 months of completion of financial year. TNUDF could consider a grading system to categorise ULBs on the basis of quality of accounting and reporting practices.
7. Develop / 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) Flood management and guidelines for storm water drain construction and c) Building on ongoing initiatives in Solid Waste Management with greater focus on 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 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

Dharma-M could potentially double its own income to **Rs.1065 lakh** by FY ending 2012 through focused interventions in the following areas. Specific actions for revenue enhancement and improvement in collection efficiency are outlined in the report.

1. **Property tax**: – through revision in ARV, widening assessee base and closer scrutiny.
2. **Professional tax** – sustaining 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** - Dharma-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 15-20% reduction in energy costs appears imminently achievable and could translate to annual savings of nearly Rs.10-15 lakh
6. **Collection Efficiencies** in both taxes and user charges indicate 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

The borrowing capacity of Dharmapuri works out to Rs**. 4955** lakh. At an aggregate level, assuming loans to be equivalent to **50%** of investment, sustainable investment capacity works out to Rs. **9910** lakh, which translates to about **41**% of the total investment requirement (including slum rehabilitation). If we exclude slum rehabilitation and urban services for poor projects which are largely grant funded, the borrowing capacity translates to **54** % of the total investment requirement. Exhibit 5 provides a summary of the results of the FOP, prepared for a 20-year horizon

Exhibit 5 Financial and Operating Plan – summary

Estd. Revenues – FY 2008 (Rs. Lakh)	938
Estd. Revenues – FY 2016 (Rs. Lakh)	2,390
Estd. Revenues - FY 2027 (Rs. Lakh)	4,718
Revenue CAGR % - FY 2008-17	10.8%
Revenue CAGR % - FY 2008-27	8.9%
Average TE (excluding depreciation)/TR (%)	16%
Average DS/TR (%)	31%
Average DSCR	1.09
Borrowing Capacity	4955
Investment Requirement	23,928
Investment Capacity (at 50% loan)	9,910
IC/IR (including Urban Service for Poor)	41%
IC/IR (without USP investment)	54%

As can be seen, Dharma-M's revenues could potentially go up to by 2016 and by 2027. If we exclude slum rehabilitation and urban services for poor projects which are largely grant funded, the borrowing capacity translates to **54** % of the total investment requirement. Dharmapuri municipality thus faces significant financial constraints even with measures for improvement in revenues would require significant grant funding to in meeting its CIP in full.

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1. Introduction

1.1 Background to the study

The Tamil Nadu Urban Infrastructure Financial Services Limited (TNUIFSL) intends to assist Dharmapuri Municipality (also referred to as Dharma-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 Dharma-M.

This exercise intends to build on internal efforts of Dharma-M and the Vision Plan prepared by Dharma-M in FY 2005 that identified projects and development priorities in various areas of municipal functioning and also enable Dharma-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] *Compiled from the Terms of Reference document prepared by TNUIFSL*

1.2.2 Scope of work

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

a) Assessment of demand for projects identified by ULB.
b) Assessment of the financial and operating aspects of Dharmapuri
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.

The detailed Terms of reference provided by TNUIFSL is enclosed in Annexure I.

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

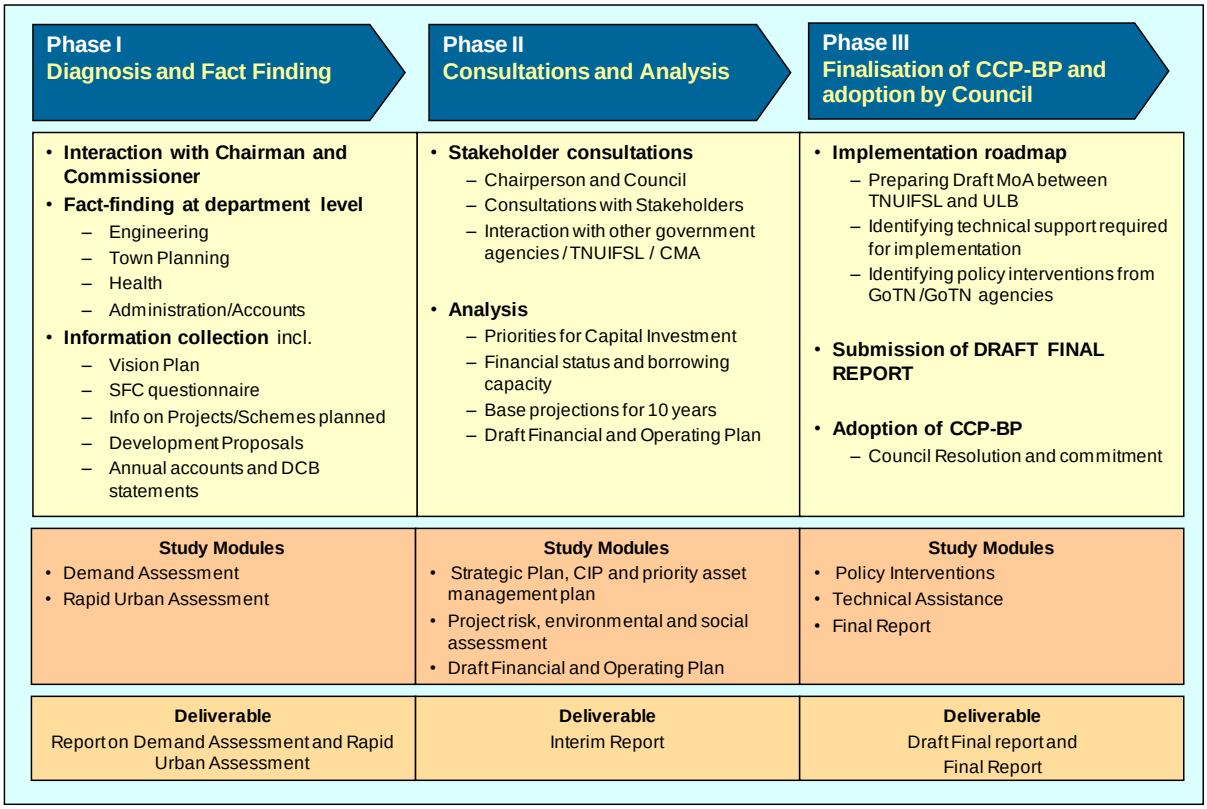
We envisage conducting this study in three phases. Exhibit 1.1 provides a snapshot of the approach and methodology along the study modules and the deliverable(s) covered in each phase.

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 Dharmapuri 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 Dharma-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 Dharmapuri 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 Dharma-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 deliberated 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 had public consultations with key stakeholders in the city which was organised with the support of the Federation of residents' welfare association of Dharmapuri. The objective of this session was 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.

1.3.3 Phase III – Finalization of report

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

a) Reform agenda to be adopted by Dharma-M including revenue enhancement options.
b) Policy interventions and technical assistance required for Dharma -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 Dharma-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 **27.08.2008**

- 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

[2] Copy enclosed with Executive Summary of report

- 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 City profile accretion

2.1.1 Overview & Historical Significance

Dharmapuri is located in the northwestern region Tamil Nadu. It is bounded by Tiruvannamalai and Villupuram districts on the east, Salem district on the south, Krishnagiri district on the north and Kaveri River on the west. It is situated at an altitude of 457.50 m above mean sea level. It lies at latitude of 12°8'n longitude of 78°10'E. The contour ranges from +468m to 447m.

The city is the district headquarters of Dharmapuri district and even though the town is industrially backward, it is well known for its tourist places. In the vicinity there is Hogenakkal falls (which is very famous tourist spot), which can be visited throughout the year. There are enough transport facilities available from Dharmapuri and Krishnagiri to visit these falls.

Another famous tourist spot is Krishnagiri dam, which is flooded with tourists during the weekends. Thally is another important tourist place, which is also known as "Little England". The area is covered with hills. Car festival is organised here during the month of May when thousands of devotees visit this place. Besides this, the other religious places to visit here are Hanumanthathirtham and Theerthamalai.

2.1.2 Location and Connectivity

Dharmapuri is situated on NH7 connecting Salem (68-km north of Salem) and Bangalore (138-km southeast of Bangalore). The arterial roads namely Morappur road, Krishnagiri road, Tiruppattur road, Pochampalli and Pennagaram road traverse through the town. (Please refer Exhibit 2.2 for location and connectivity map of Dharmapuri)

2.2 Dharmapuri municipality - administrative status

Dharmapuri is a town with historical significance. During the British rule, the present Dharmapuri District was then a part of the Salem District. Till 1947 there was no separate district except Dharmapuri as one of the taluks of Salem District. This was formed as a separate district in 1965 with it headquarters at Dharmapuri.

Dharmapuri Municipality was constituted during year 1964 and it was upgraded as Grade-I Municipality from 01.10.1987. The entire area of Velle Goundan Palayam Revenue village was included within the jurisdiction of the Municipality. Dharmapuri Municipality is the District Head Quarters Town.

The Municipal Council, comprising of 33 ward members, is headed by Chairperson. The executive wing is headed by Commissioner, who is assisted by a team of officials including Municipal engineer, Sanitary Officer and Manager.

2.3 Population

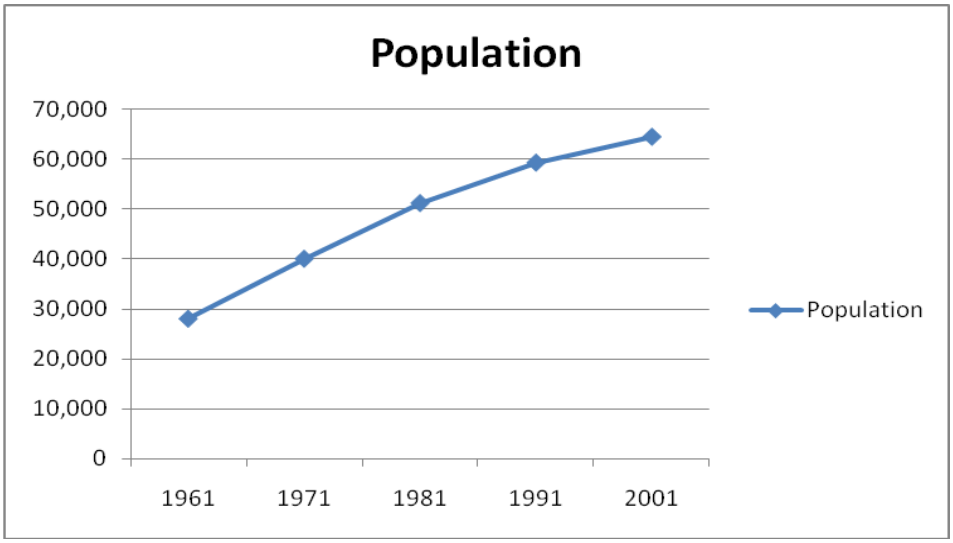
2.3.1 Decadal trends

Exhibit 2.1 provides a snapshot of the population growth over the last few decades.

Exhibit 2.1 Population growth trend

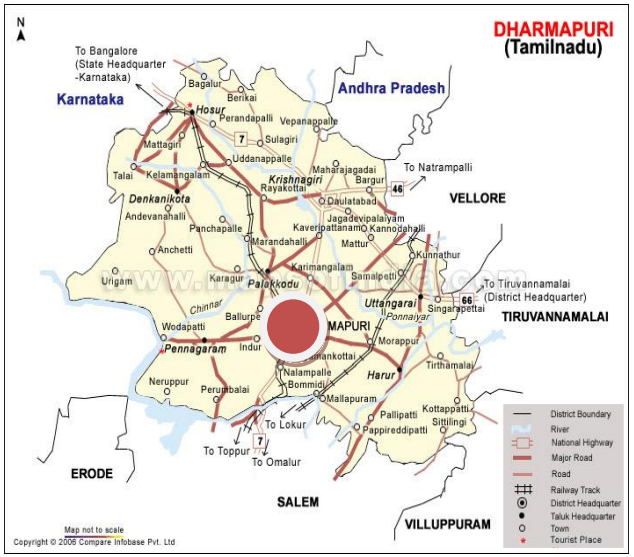
Year	Population	Growth Rate (%)	
		Annual	Decadal
1961	28,094		
1971	40,086	42.7%	3.6%
1981	51,223	27.8%	2.5%
1991	59,318	15.8%	1.5%
2001	64,496	8.7%	0.8%

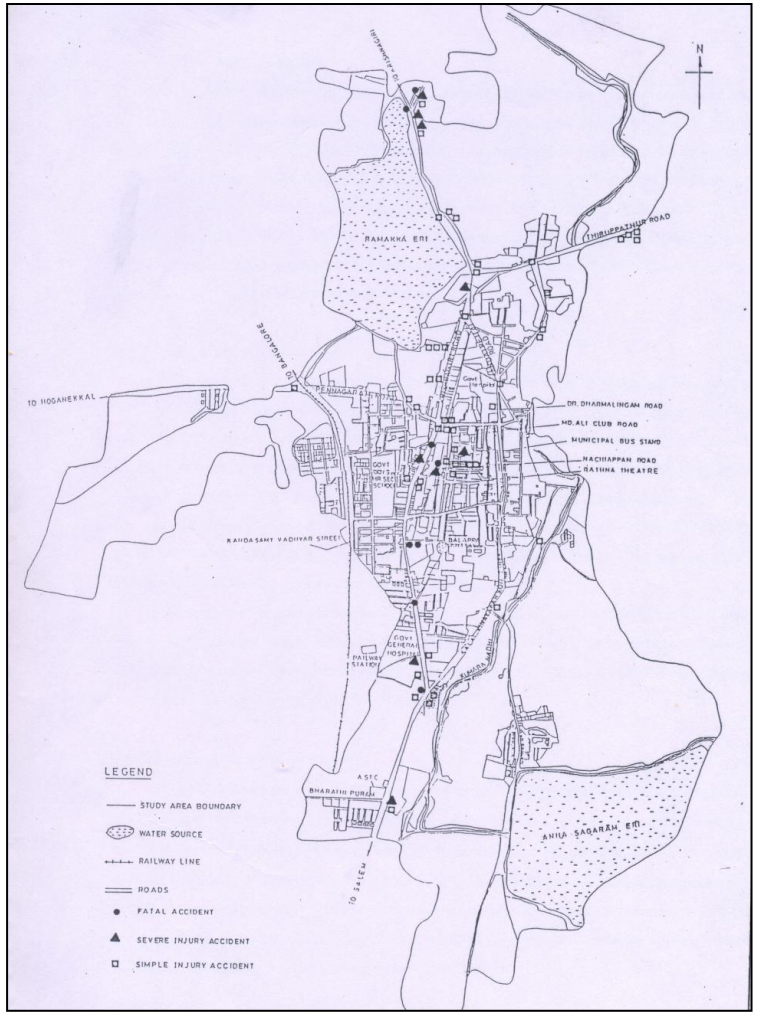
Source: Census 2001, www.tnulbs.tn.gov.in



As per Census-2001, the population of Dharmapuri is 64,496 with a sex ratio of 976. The population density is 5536 persons per sq. km. The decadal population growth rate is only 8.7% for Dharmapuri. The population growth rate was highest during 1961-71, after which it slowed down in the subsequent decades. Almost 40% of the total population is BPL. As per Census 2001, number of households in Dharmapuri district is 14,625. According to a survey, there are 14 slums in the district, with 20,899 people living in around 3638 houses.

Exhibit 2.2 Location & Town Map





2.3.2 Ward wise population

Wards 1,9,10,13,24,26,27,29,30,32,33 had a population of more than 2000 at the time of Census 2001 and constitute the residential areas of the town. The average household size of Dharmapuri town is 4.

Exhibit 2.3 Ward wise Details

Ward No.	Households	Population 2001			Slum Details		Assessed properties	Piped Water Connections
	Nos.	Male	Female	Total	HH	Population		
1	672	1,387	1,273	2,660	215	1,665	593	193
2	604	841	821	1,662	830	2,055	330	117
3	564	821	840	1,661	---	---	423	134
4	463	1,007	921	1,928	---	---	459	219
5	394	898	920	1,818	457	1,905	379	167
6	376	989	942	1,931	---	---	395	186
7	453	778	784	1,562	---	---	359	129
8	472	758	737	1,495	440	1,578	518	135
9	397	1,096	1,078	2,174	182	1,778	668	197
10	364	1,029	1,002	2,031	110	612	844	218
11	476	931	860	1,791	---	---	387	190
12	471	629	532	1,161	---	---	405	177
13	1077	2399	2,253	4,652	420	1,620	847	325
14	423	869	788	1,657	---	---	407	220
15	391	830	843	1,673	---	---	390	233
16	553	642	684	1,326	---	---	754	245
17	554	921	934	1,855	242	1,095	785	241
18	378	460	469	929	---	---	1241	288
19	342	800	673	1,473	---	---	358	175
20	572	825	834	1,659	---	---	456	132
21	454	804	794	1,598	---	---	411	218
22	371	790	852	1,642	---	---	595	253
23	337	743	693	1,436	---	---	966	295
24	465	1,066	957	2,023	---	---	457	300
25	466	695	719	1,414	---	---	501	197
26	495	1,297	1,258	2,555	543	2,324	753	2226
27	725	1,566	1,620	3,186	788	1,980	768	427
28	551	811	739	1,550	---	---	646	252
29	548	1,353	1,528	2,881	---	---	1007	525
30	642	1,281	1,230	2,511	---	---	655	204
31	545	995	895	1,890	---	---	571	202
32	676	1,130	1,289	2,419	445	1,978	483	72
33	792	1,202	1,091	2,293	745	2,309	449	50
Total	**17,063**	**32,643**	**31,853**	**64,496**	**5,417**	**20,899**	**19,260**	**9,142**

2.3.3 Literacy Rate and sex ratio

Exhibit 2.4 provides details of the sex ratio along with details of Literates for Dharmapuri Town, District and Urban areas in Tamil Nadu.

Exhibit 2.4 Literacy and sex ratio

Particular	Male	Female	Total
Literates (no.) – Dharma-M	25611	21296	46907
Literacy % - Dharma-M	89%	75%	82%
Literacy % - State - Urban	89%	76%	83 %

Region	Sex Ratio
Dharmapuri Town	976
Dharmapuri District	932
Tamil Nadu Urban	982

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

The town's literacy rates are largely in line with the state's urban averages. However, the sex ratio in the town at 976 is lower than the state average of 982 (as per Census 2001) reflecting the lower female population.

2.4 Population projections

We have projected the population for Dharmapuri town has been made using the following methods:

d) Arithmetical Increase Method
e) Geometric Increase Method
f) Incremental Increase Method

Exhibit 2.5 provides the summary of the population projects made for the town.

Exhibit 2.5 Population Projections

	Arithmetic	Geometrical	Incremental	Average
2001 Actual	64496	64496	64496	64496
2011	73597	77467	71325	74130
2016	78147	84900	73888	78978
2021	82697	93047	75883	83876
2026	87247	101975	77310	88844
2031	91798	111760	78170	93909

Source: IMaCS analysis, Dharma -M

The population of Dharmapuri town will increase and expected to reach about 94,000 in the next two decades. Dharma-M should need to take into account these population projections and trends for planning, execution and implementation of infrastructure projects in order to ensure adequate provision of urban services.

3. Economic profile and Land use

This section analyzes issues relating to Town planning, land-use and economic status of the town.

3.1 Planning efforts in Dharmapuri

The Town and Country Planning (T&CP) Act 1971 (Tamil Nadu Act, 35 of 1972) provides for the preparation and sanction of Master Plan. It also envisages the Local Planning Areas and Authorities for the preparation of Master Plan. Dharmapuri Municipal Area has been declared as Dharmapuri Local Planning Area under section 10 (4) of the T&CP Act and the Local Planning Authorities have been constituted under section 11(1) of the Act.

Dharmapuri Local Planning Area comprises of the Dharmapuri Municipal Area notified under section 10 of Town and Country Planning (T&CP) Act 1971 by the government of Tamil Nadu. Accordingly the Local Planning Authority (LPA) has been constituted under section 11 (1) of T&CP Act 1971 by the government.

3.1.1 Land-use and development as per Master Plan

Existing use of land in a town is studied for the preparation of physical land use plan. Detailed survey for the town was carried out in 1975-76 by Directorate of Town and Country Planning, Vellore-Dharmapuri region. A land use map was then prepared under the six categories – residential, commercial, industrial, educational, public and semi-public, and agricultural.

Under section 19 (1) of the T&CP act 1971, the local planning authority, Dharmapuri Municipality passed resolution to prepare 14 Detailed Development Plans (DDPs). It was further sent to government for approval and was sanctioned by government of Tamil Nadu in 1980. Accordingly the Dharmapuri Master plan and DDPs were prepared and sanctioned by government in 1988.

According to the existing pattern of land use, town development was and is still confined within Tiruppattur-Salem road and Salem-Bangalore railway line. Major portion of the town is under agricultural use (80%). There are two draft Town Planning Schemes notified under Town Planning Act.

The commercial area developed along Bazaar Street, Bye-pass road and Pennagaram road. Major activities are located around the existing bus stands. As per Master Plan 1988, there were around 45 manufacturing industrial units employing around 230 workers. Area under educational institutes was proposed to be increased from approximately 1% in 1988 to around 8% in 2001. Public and semi-public uses of land include area under hospitals and health centres, religious places, parks, various government offices, transport and communications. The land use under transport and communication includes post and telegraph, roads, bus stands, railway stations, etc.

The land use pattern for Dharmapuri, as per the Master Plan 1988, is given below in *Exhibit 3.1*.

Exhibit 3.1 Existing Land Use Distribution- Town 1988

Land Use	Existing area In Ha	% to developed area	% to total area	Proposed area 2001 in Ha	% to total area
Residential	100.56	44.11	8.60	588.00	50.78
Commercial	13.86	6.08	1.20	49.00	4.23
Industrial	20.56	9.02	1.78	1.00	0.09
Educational	11.40	5.0	0.98	4.00	7.94
Public & Semi public	81.58	35.79	7.04	92.00	0.35
Agriculture	930.04	---	80.32	424.00	36.61
Total Area	**1158.00**	**---**	**100.00**	**1158.00**	**100.00**

Source: Dharmapuri Master Plan 1988

3.2 Economic status

The town is a multifunctional town with both retail and wholesale business units.

3.2.1 Primary Sector - Agriculture and Mining

Dharmapuri district is mainly an agrarian economy, with nearly 70% of the total population depending on this economic activity for their livelihood. Main crops grown in this district are paddy, millets (ragi), other minor millets, pulses, sugarcane, mango, coconut, tamarind, and other crops.

Though the major portion of Dharmapuri town is under agricultural use, it is not primarily an agriculture driven economy. This is also reflected in the town's approved Master Plan, which proposed to reduce land under agricultural use from 80.32% of the total area in 1988 to around 36.5% in 2001. The soil of the town and its urban area consist of gravel, clay mixed with loam and soft lime.

Exhibit 3.2 Categorised Agricultural produce

Category	Produce
Cereals	Paddy, Ragi
Sugar	Sugarcane
Fruits	Mango
Oil	Coconut
Condiments	Tamarind
Other	Pulses
Oil seeds	Ground nut, Coconut, Soya bean

3.2.2 Secondary Sector – Manufacturing Base

There is no significant industrial activity in the town, which is also reflected in the land allocated for industrial usage. According to the town's approved Master plan, the existing land allocated for industrial usage was 1.78% of the total area of the town in 1988, which was then proposed to be reduced to 0.09% of the total area of the total town in 2001.

As per Master Plan for the town, the rice mills and other food processing units are sparsely distributed in the town; these units form the major manufacturing industrial units of the town. In 1988, there were 45 such units employing around 230 workers. Another small-scale industry present there is match industry. There also exist few engineering works and saw mills. Weaving units are located in Annasangram village. Moreover, according to Master Plan, industrial activities are mainly service industries. According to Census 2001 figures, number of workers in household industries is now 1644, which is approximately 7% of the total worker population of the town.

3.2.3 Tertiary Sector - Services

Dharmapuri municipality is one of the prominent towns in Tamil Nadu and serves as a commercial centre for surrounding villages. The tertiary sector is the predominating sector of the town, which includes trade and commerce, transport, communication and other services. Besides agricultural trading activities, the town also serves as a commercial centre to meet provision needs of the population from the surrounding region / villages. Retail activities include provision stores, and shops for household goods, clothing, etc. The town also serves as the nodal point to surrounding villages for professional services like medical facilities, banks and education.

The town in future is expected to grow further in its commercial importance and being a service town to surrounding towns. Hence, the focus for development of Dharmapuri 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.

3.3 Occupational pattern

Occupational pattern for Dharmapuri municipality is given in *Exhibit 3.3*, which illustrates the distribution of the working population according to Census 2001.

Exhibit 3.3 Occupational distribution

Category	Male	Female	Percentage
Main Workers	**17496**	**5864**	**36.22**
Cultivators	506	224	3.14
Agricultural Labourers	233	196	1.84
Workers in Household Industries	771	873	7.02
Other Workers	15986	4571	88.00
Marginal Workers	**347**	**407**	**1.17**
Cultivators	10	14	3.18
Agricultural Labourers	23	47	9.28
Workers in Household Industries	57	149	27.32
Other Workers	257	197	60.21
Total Workers	**17843**	**6271**	**37.39**

As per census-2001, primary sector employs about 1159 persons, which is 5% of the total workers population in the town. Household industries employ about 1644 workers, which is 7% of the total worker population. This again shows the low level of industrial activity inside the town. The largest segment in terms of employment is the "services and trading" sector, contributing 88% of the total employment in the town. The census data supports our field assessment of predominance of "trading and services" sector in the town's economy. Marginal workers constitute slightly higher than 1% of the total population of the town, with more than 60% being employed in the services and trading sector.

4. Rapid urban assessment - services, issues and gaps

This section provides details of the current status of various urban services in Dharmapuri Municipality and summarizes key issues. The section also covers an analysis of the projects identified by Dharmapuri municipality as part of its Vision Plan and the demand assessment of these projects. Finally, the section summarizes the normative gaps in infrastructure provisioning in water supply, underground drainage, roads, streetlights and solid waste management.

4.1 Water Supply – existing status

4.1.1 Sources of supply and Transmission

Water is supplied to the town through the Chinnar river scheme commissioned in 1976. The head work is situated at the Panchapalli at a distance of 52 km from town. The water from river is pumped for initial 700 m then it flows through gravity.

During summer session fluoride contamination is high in water. The river Thenpennaiyar is polluted by the sewerage effluents overflowing form the lake Varathur and Belandur near Bangalore city About 30 % of the drinking water (Greenish colour) source in the two districts had fluoride content, 26 % nitrate, 24 % iron and 18 % hardness which could lead to **dental, skeletal flourosis, blue body syndrome, throat infection and skin irritation in that order**. **Presently there is no treatment of the water supplied to the city.**

Exhibit 4.1 provides details of the sources of water and the total daily supply.

Exhibit 4.1 Water Supply - Storage infrastructure

Sr. No.	Details of water supply schemes	Unit	Capacity
1	Quantity Supplied	MLD	6.75
2	Distance of the Source from Town	Km	52
3	Capacity of the Treatment Plant	MLD	Nil
4	Per capita supply- 2007	Lpcd	93
*As per Hogenakkal project report the existing net water supply is 4.65 MLD i.e. 67 lpcd			
5	Collection Well	6.0 m to 10.4 m depth – 1no.	
6	Infiltration well	4.5m to 8.0 m depth- 6 no.	
	Other Details		
7	Public fountains/ stand post- No.	124	
8	Population covered by public stand post-No.	12400	
9	Hand pumps-No.	265	
10	Bore wells-No.	70	
11	Total supply by hand pumps, bore wells	1.258 MLD	

Source: As provided by Dharma-M. Discussions, IMaCS analysis

4.1.2 Storage

Water is pumped from head works and transmitted to the Over Head Tanks (OHTs) located at various places in the town. Water is then distributed to the people through localised distribution networks without treatment from the respective OHTs. The total capacity of four OHTs has a capacity of 3.70 ML, as shown in *Exhibit 4.2*.

Exhibit 4.2 Water Supply - Storage Capacity

Sr. No.	OHT-location	Capacity (Lakh litres)
1	Ramalingam Chetty Road	16.0
2	Ambedkar Colony	10.0
3	Sandaipettai	7.0
4	Kumarasamypettai, Pennagaram road	4.0
	Total	**37.0**
Operationally Available Storage (Lakh Lit)		**37.0**
Required (50 % of requirement) (Lakh Lit)		**27.5**
Gap in Storage (Lakh Lit)		**(9.5)**

Source: As provided by Dharma-M. Discussions, IMaCS analysis

4.1.3 Distribution Network and House Service Connections

The distribution network length in Dharma-M is about 41 km and translates to 71% of road network. The total road length in Dharma-M is 58 km (municipal roads) and 67 km (including roads managed by State highways).

4.2 House Service Connections

As of October 2007, Dharma-M municipality manages about 7249 House Service Connections within its limits. The number of HSCs is approximately 38% of total assessed properties. There are 124 public fountains in the town. Water is supplied for 2 hours every alternate day.

Exhibit 4.3 provides the details of House Service Connections, user charge and connection charges in Dharma-M.

Exhibit 4.3 House service connections

Connection type	Connection Deposit amount Rs.	Water user charges per month (flat)
Domestic	4000	62
Non-Domestic	8000	100
Total no. of HSCs		**7249**
Total Assessed properties		**19258**
% of Properties covered by HSCs		**38%**

4.3 Proposed Hogenakkal Water Supply Project

The water supply requirement of the Dharmapuri and Krishnagiri districts is expected to be addressed the proposed Hogenakkal project. The beneficiaries of this project will be Dharmapuri, Krishnagiri and Hosur municipality, Seventeen town Panchayats from Dharmapuri district and six thoursand and fiifty five villages. The estimated installation cost of the project is Rs. **1334** crore and the estimated maintenance cost is Rs. 51.65 crore. The project is funded by JBIC and implementing agency will be TWAD board. The length of distribution system as per the zones is given in *Exhibit 4.4.*

Exhibit 4.4 Beneficiary list and Distribution length proposed in Hogenakkal project

Beneficiary List			
District	**Municipalities**	**Town Panchayats nos.**	**Unions**
1. Dharmapuri	**Dharmapuri town**	10	8
Population coverage 2001	**64444**	128473	1103348
Population for Base year 2006	**73000**	134898	1158516
Population forecast for 2036	**138000**	175370	1506072
2. Krishnagiri	a) Krishnagiri town b) Hosur town	7	10
Population coverage 2001	149338	89163	129246
Population for Base year 2006	163000	93622	1357084
Population forecast for 2036	336000	121708	1764209

Source: As provided by Hogenakkal project office, TWAD board

The water from the surface flow of river Cauvery at the Hogenakkal 1276 lakh litres of water would be pumped to a height of 913 metres to Head works is located at 6.22 km from source. From treatment plant it will travel a distance of 5.3 km to reach Pennagaram and Madam; from here gravity would carry the water to most of the habitations to 3 municipalities (Krishnagiri, Dharmapuri, and Hosur), 17 town panchayats and 6,755 villages in 18 blocks.

Exhibit 4.5 gives other details of the proposed scheme.

Exhibit 4.5 Other details of proposed Hogenakkal water supply project

SN	Particulars	Details
1	Proposed Per capita raw water supply	90 lpcd for 70% of pop (HIG)
		40 lpcd for 70% of pop (LIG)
2	Headwork	Intake well in river Cauvery at Hogenakkal
3	Pumping	18 hrs- 1,18,148 LPM
4	Raw water main	1000mm dia. and 6.2 Km length
5	Treatment plant at 6.21 Km from Head works	127.6 MLD

Source: As provided by Hogenakkal project office, TWAD board

4.3.1 Issues and gaps

Exhibit 4.6 summarizes the current status vis-à-vis ultimate population requirements

Exhibit 4.6 Water Supply – Gap analysis

Indicator	Unit	Norm	Existing	Gap
Per Capita Water Supply	LPCD	135	93	42
Storage and Distribution				
Storage - % of Current Demand	%	50%	58 %	**8**
Distribution Network - % of Road Network	%	80%	61%	**(29%)**
Connections / Properties	%	70%	~38%	**(32%)**
Demand - Supply Gap				
Water Demand - Current-2007	MLD		9.4	
Water Demand – 2027	MLD		~12	
Water Supply – Current	MLD		6.75	
Demand Supply Gap – Current	MLD			**3.3**
Demand Supply Gap – 2027	MLD			**~ (6.4)**

Source: Inputs from Dharma--M and IMaCS analysis

a. Present status-Lack of adequate access

Dharma-M has 33 wards and had a population of 64,496 during Census 2001, which is estimated to have increased to 69749 in 2007. Given municipal norm of 90 lpcd, demand for water supply in Dharma-M has increased form 5.80 MLD in 2001 to 6.28 MLD in 2007. As against this, the total water supplied within Dharma-M is only about 5.5 MLD implying that Dharma-M is meeting about 87% of its 2007 requirements. The population in Dharma-M could reach 87,888 by 2026. Even at 120 LPCD norm of World Health Organisation (WHO), this would imply that Dharma-M water demand would go up to 10.55 MLD by 2026, which is twice the demand as of 2001. The proposal to supply water at 90 lpcd under Hogenakkal water supply project to Dharmapuri town for the estimated population of 138,000 in year 2036 is expected to address bulk of this requirement.

b. Mode of supply

There are some parts of the town where water is supplied through the Lorries for about 3 hrs in the morning and 3 hrs in the evening totaling to 1.0 lakh litres per day. During summer season the quantity of water supplied through lorries increases. Water Supply by Lorries is not a sustainable solution and it may lead to other problems including traffic congestion and accidents.

c. Supply of water for 2 hrs every alternate day

Water is supplied for 2 hrs every alternate day in Dharmapuri town. This exposes the entire population to the hazards of unhygienic conditions, mosquito breeding near storage places and also the substantial amount of water is thrown away every alternate day for refilling of fresh water.

4.4 Sewerage and Sanitation

4.4.1 Underground Drainage (UGD)

Current status

There is no dedicated UGD system for carrying sewage and storm water separately in the town. The roadside drains are used for carrying both the sullage and rainwater. The main mode of individual disposal in the town is through septic tanks, Low Cost Sanitation units and through public conveniences.

Proposed UGD System

The existing open drains are dumped with solid waste, night soil etc. and use to this, the drains often gets choked. In order to overcome the problems faced by municipality due absence of proper UGD system, municipality has proposed to provide the sewerage system and a plan was prepared by TWAD board at an estimated cost of Rs 32.19 crore. *Exhibit 4.7* gives details of cost of the proposed UGD scheme for Dharma-M.

Exhibit 4.7 Details of proposed UGD system

Particulars	Details
Implementing Agency	TWAD
O & M Agency	Dharmapuri Municipality
Estimated Cost-	Phase I Rs. 16.53 crore, Phase II Rs.15.66 Crore
Annual maintenance cost for Phase I	Rs. 21.80 lakh
No. of wards covered	**Phase I-** 19 wards fully- 1, 4 to 9, 14 to 20, 23,24,27 to 29, 30 and 1 ward partially
Length of sewer network	30.05 Km
Funding Pattern	
Grant Fund I	Rs. 4.96 crore
Local Body/ Public Contribution	Rs. 3.69 crore
TNUDP III Loan	Rs. 5.38 crore
Additional Grants sought	Rs. 2.50 crore
Total	**Rs. 16.53 crore**
Proposed House Connections- nos.	
Domestic	10300
Non-domestic	
Total HSCs	10300

Source: TWAD board project office- Dharmapuri

The committee consisting engineers from TWAD board and officials from TNUIFSL is reviewing the possibility new technology to be adopted for setting up of sewage treatment plant (STP) which will reduce the land requirement for STP unit to 1-1.5 acre. According to the municipality the decision regarding it will be taken soon.

The proposal submitted to the Commissioner of Municipal Administration TNUIFSL, Chennai and the Managing Director, TNUIFSL, Chennai for request of grant for the excess amount of the tender value. The Municipal Council has passed its resolution on 30.07.2007 for the same. *Exhibit 4.8* gives details of the proposed STP under the proposed UGD scheme for Dharma-M.

Exhibit 4.8 Details of proposed Sewage Treatment Plant

Particulars	Details	
Sewage Treatment Plant (STP) Details		
Estimated cost of STP	Rs. 3.5 crore (to be changed)	
Capacity- proposed	4.86 MLD	
Required Capacity	4.86 MLD	
Location	Beeman nagar ,Thiruppathur road	1.5 acre
Type of Plant	Cyclic activated process	
Effluent Discharge	Sanethkama river	

Source: TWAD board project office- Dharmapuri

Exhibit 4.9 gives details of the proposed pumping stations for lifting of sewage under the proposed UGD scheme for Dharma-M.

Exhibit 4.9 Details of Proposed UGD Pumping station

Pumping station	Location of pumping station	Area 'acre'
1. Zone –I	SF no.-214- Paramboke	0.4
2. Zone –II	SF no.-372- TNHB	0.89
3. Zone- III	SF no.-843- Municipal land	0.22
4. Zone-IV	SF-376 (P)-Municipal Land	0.62
5. Zone-V	SF no. 507 (P)- Paramboke	0.22

Source: TWAD board project office- Dharmapuri

It is proposed to give house service connections under the proposed UGD scheme. The proposed tariff structure under scheme is given in the *Exhibit 4.10* for Dharma-M.

Exhibit 4.10 Details of Proposed Tariff Structure

Domestic		
Area in sq. Ft	**Tariff in Rs.**	**Deposit in Rs.**
<500	75.00	5000.00
500-1200	85.00	6000.00
1200-2400	95.00	7000.00
>2400	105.00	8000.00
Weighted Average	**81.00**	**5632.00**
Commercial		
Area in sq. Ft	**Tariff in Rs.**	**Deposit in Rs.**
<500	150	10000
500-1200	255	18000
1200-2400	285	21000
>2400	525	40000
Weighted Average	**239**	**17065**

Source: TWAD board project office- Dharmapuri

4.4.2 Public conveniences (PC)

There are twenty-two public conveniences throughout the town, out of which 2 are in slums. The 2 public conveniences in slums cover 16 % of total slum population of town. Outward population growth of the town will increase the quantum of sewage generated by the town, which need to be considered in the provision of sanitation facilities to the town.

Exhibit 4.11 provides details of PCs

Exhibit 4.11 Details of public conveniences

Particulars	Nos.
Public Toilets-No. of units	18
Public Toilets-No. of seats	214
No. of public bathrooms	36
No. of sanitary complexes in slums	2
Slum population covered by sanitary complexes	3243
% of total slum population covered by sanitary complexes	16 %

Source: Inputs from Dharma-M and IMaCS analysis

There is proposal for 10 toilets at an estimated cost of Rs. 50 lacs, out of which construction of one toilet block is completed and as per the municipal officials the construction of the other blocks will be completed by March 2008.

4.4.3 Storm water drains

Storm water drains carry the wastewater in addition to storm water generated during rain. With a total length of 66.57 km, the drains cover nearly 115 % of road network (excluding SH and NH) of the town. Even in roads covered by drain network, there are inadequacies relating to poor design, lack of connection to main channels, clogging and waste accumulation. Though storm drains cover 115% of road network, about 17.37 km of roads are uncovered. The water stagnation in these drains is seen in most of the wards due to the garbage and other solid waste thrown in the drains leading to blockages and unhygienic conditions. *Exhibit 4.12* provides the details of coverage of storm water drains *Exhibit 4.12* provides the details of coverage of storm water drains.

Exhibit 4.12 Storm water drain network

Type	Length (km)	% of total road network
Total Drain length	84.4	126%
Uncovered Road Length-	17.37	30%
Total road length	57.83	100%
Gap (length of drains on both side of road)	17.37 km	

Source: Inputs from Dharma-M and IMaCS analysis

A proposal was submitted to TUFIDCO for improvement of Storm Water Drain, Road at an estimated cost of Rs. 183.2 lakh for funding under UIDSSMT. The scheme was later dropped for implementation of the Phase-I of the proposed UGD scheme.

4.4.4 Issues and gaps

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

1. **Absence of UGD system –** All the wards are to be covered with UGD system. Though Dharma-M has some coverage through septic tanks, the disposal of sewage through either open drainage or septic tanks is leading to the pollution of ground water and surface water. This proposed UGD system is expected to resolve part this to a large extent.
2. **Uncovered Population –** While the absence of UGD itself exposes the entire town population to the hazards of unsanitary conditions, nearly 15% of the town's population remains uncovered by safe sanitary disposal systems.
3. **Need for greater coverage and better maintenance of Public conveniences –** There are 82 persons per seat of public convenience. There is a need to strengthen the network of public conveniences throughout the town in form of ISP, Vambay toilets and others.
4. **Use for sewage disposal, overflows and blockages of Storm water drains -** With the growth in population of the town, use of storm water drains for sewage disposal and without adequate linkages of storm water drains to main channels requires immediate attention. The drains also face the overflow and blockage problems due to the garbage thrown in the drains.

4.5 Solid Waste Management (SWM)

Exhibit 4.13 summarizes the status of SWM in Dharmapuri municipality.

4.5.1 Waste Generation and collection

Dharmapuri town generates around 32 MT of waste every day at the rate of 459 gm/day. The waster generated from households is 52% while that from commercial establishments is 36%. It is estimated that nearly 60% of the waste generated in the town is organic waste, while about 36% is inorganic waste and 4% hospital waste. There are four sanitation wards in Dharmapuri town.

4.5.2 Primary and secondary collection

The vehicular fleet available with the municipality for collection of solid waste includes pushcarts, tractor-trailers, trucks and tippers. The door-to-door collection and segregation of waste is done in 15 wards. *Exhibit 4.13* provides the details SWM system in Dharmapuri municipality.

Exhibit 4.13 Solid Waste Management - Current status

Particulars	Units	Values
Generation		
Daily Waste Generation	MT	32
Daily Waste Collection	MT	32
Waste generation per capita-2007	gm	459
Collection efficiency	%	100%
Dumping Yard		

Particulars	Units	Values
Generation		
Dumping Yard Area	4.10 acres	
Distance from town centre	4 km	
Collection / Transfer		
Wards with door to door collection	33 wards	
Privatisation of collection	No	
Number of Workers	186	
Primary Collection		
Door-to-Door collection	Nil	
Pushcarts in use	60	
Lorries	8	
Autos	8	
Secondary Collection		
JCP	1	

Source: Dharma-M

4.5.3 Dumping/Compost yard infrastructure

At present there is no compost yard. The temple (Chelliamman and Mariamman) land was taken for lease and used for as a dumping yard. The land identified in Thandangam village for the proposed Compost Yard has been cleared by TNPCB and the tenders for the same had been received. The government has already sanctioned the amount of Rs. 10.0 lakh in the part II scheme for the purchase of this land for the Compost yard. But, the Thandangam village residents have opposed the use of this land due to which the further process is being on halt.

4.5.4 Solid Waste Management Action Plan - Outlay

The solid waste management action plan involved an outlay of Rs. 100 lakh. *Exhibit 4.14* provides the break up of this outlay.

Exhibit 4.14 Solid waste management action plan – outlay

Activity	Rs. Lakh
Primary collection	20.0
Secondary Collection	30.0
Compost yard with infrastructure	50.0
TOTAL	**100.0**

4.5.5 Issues and Gaps

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

1. **Need for composting** – Presently the ultimate disposal of waste is by dumping and there is proposal for compost yard. There is need to accelerate the process to start use of compost yard, which will solve the problem of biodegradable waste to the large extent.

2. **Scope for private participation –** While Dharma-M has not privatized garbage collection in any ward, there appears to be potential for comprehensive end-to-end management of solid waste through a public private partnership covering collection, transfer and scientific disposal.

3. **IEC campaigns necessary for minimizing usage of plastic bags-** There is need for increasing awareness on RRR i.e. Reduce waste at source, Recycle and Reuse of waste. Dharma-M should progressively move towards source level segregation of waste for more efficient disposal and conversion. It may need to intensify promotion campaigns in this regard.

4.6 Transportation, Bus stands and street lights

4.6.1 Municipal roads

The total road length maintained by municipality is nearly 58 km of which is 96% of roads are surfaced. The 98% of the total road length are surfaced. The total length does not include the length of unauthorized layouts, which have developed in the outer areas of the town. There are 11.25 Km of roads maintained by the other departments. Detail of roads inside the town is shown in *Exhibit 4.15* below.

Exhibit 4.15 Road network

Type	Length in km
Municipal Roads	
Cement Concrete	22.825
Bitumen Top roads	32.773
WBM roads	2.23
Earthen roads	0.0
Total	**57.828**
% of roads surfaced (BT + CC)	**96%**
Roads maintained by other agencies	
National Highways	5.25
State Highways	3.75
Major District Roads (MDR)	0.0
Total	**9.00**
Total Length of Road	**66.828**

Source: Dharma-M

National Highway No. 7 connects the town. NH7 passes through Dharmapuri town connecting Salem on the south with Krishnagiri and Hosur on the north. Adiyamankottai – Hosur road on west, Morappur to Hosur on east, Dharamapuri to Tiruppattur on the north are the other important roads in this town.

The proposal for improvement of Roads and Storm Water Drain was submitted to the TUFIDCO at an estimated cost of Rs. 183.2 lakh for funding under UIDSSMT. The scheme will be considered after implementation of the Phase-I of the proposed UGD scheme

4.6.2 Bus terminus

There are two bus stands in the town. One at Arummugam Achari Street with 53 bus bays and the other one is the town bus stand. There are 6 bus shelters in the town. It has been proposed to improve the bus stands at an estimated cost of Rs 120 lakh. *Exhibit 4.16* details out the proposed improvements with corresponding estimates of the cost.

Exhibit 4.16 Details of improvements proposed at bus stand

Details of facilities	Estimated cost in Rs. Lakh
1. Providing CC pavement	40.00
2. Safe drinking water facility	1.00
3. Passenger seating arrangement	1.00
4. Improvement in parking bays for auto/taxis	12.00
5. Provision of High mast lights	6.00
6. Construction of shops at bus stand	30.00
7. Construction of shops at town bus stand	30.00
Total	**120.00**

Source: Dharma-M

4.6.3 Street Lights

The town has a total of 2389 streetlights of which 74% is high power tube lights. The town has 42 streetlights per kilometer of road length with a spacing of 24 meter between lampposts, which is adequate considering the norm of 30.0 m spacing between streetlights being adopted in the state. *Exhibit 4.17* provides details of provision of street lights.

Exhibit 4.17 Street Lighting

Type	All Wards	
	Nos	%
Tube lights	1765	77%
Sodium Vapor Lamps	326	14%
Mercury Vapor Lamps	199	9%
High Mast lamps	7	0%
Total	**2389**	**100.0**
Average distance between street lights		**29.0 m**
Spacing between streetlights as per norm		**30.0 m**

Source: Dharma-M

4.6.4 Issues and gaps

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

1. **Problems of traffic congestion and inadequate parking facilities -** Increase in the number of vehicles and inadequate road networks are the major causes for traffic congestion. Inadequate traffic management measures and inadequate parking facilities are major problems of the town. The ongoing and planned transportation improvements need to be implemented on priority.

2. **Encroachments along the roads** - Presence of informal activities along the road margins illegal encroachments of pedestrian areas and footpaths are the other causes for traffic congestion in the town. There is considerable commercial activity on the arterial roads. Many shops along these roads have encroached the road / footpath which creates congestion in the centre of the town.
3. **Need for planning restoration post water supply and UGD scheme -** With the plans to create water supply and an UGD scheme in the city, the entire road network in the town would need to be restored. So it may be appropriate to take up any large scale upgradation of the road network keeping this in consideration.
4. **Provide street lights to uncovered area –** The spacing between the streetlights is 24m which is adequate considering the norm of 30m for spacing between streetlights.

4.7 Urban Services for poor

4.7.1 Slum Details

There are 20,899 people residing in total of 5,417 houses in 14 slums in the town. Out of these only two slums have public convenience facility i.e. the 2 public conveniences cover only 16% of the total slum population. As 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, health, and recreation.

Exhibit 4.18 Ward wise slum population

Name of the Slum	Ward No	Population	No of Household
New Thirupathur Road	1	1665	215
Mathikonpalayam	2	2055	830
Dekispettai	05,06	1905	457
Golden street	8	1578	440
Gudasi colony	9	1778	182
Navithar colony	10	612	110
M.G.R Nagar	13	1620	420
Narisaiyar kulam (South)	17	1095	242
Vediappan Thittu (South)	26	1508	125
Gollahalli Road (South)	26	816	418
Nattaimaipuram (South)	27	320	310
Ghandi Nagar (South)	27	1660	478
Annasagaram East	32	1978	745
Annasagaram West	33	2309	445
Total slum population		**20899**	**5417**

Source: Dharma-M

The Dharma-M has proposed under IHSDP to provide basic infrastructure facilities in 7slums. The total estimated cost of the proposed IHSDP project is Rs. 266.75 lakh. The details of the proposed scheme are given in *Exhibit 4.19.* The GoTN has released the sanctioned amount of Rs. 89.10 lakh towards its share.

Exhibit 4.19 Details of proposed IHSDP scheme

Sr. NO.	Name of slum cluster	Project cost Rs. Lakh
1	Mathikonpalayam	39.80
2	Golden Street	45.80
3	Gudusai Colony	32.50
4	Nattanmaipuram South	12.90
5	Annasagaram East	71.30
6	Annasagaram West	46.75
7	Navithar Nagar	17.70
Total		**266.75**

Project Components	No. of units	Total Cost Rs. Lakh
Housing- new const.	197 houses	157.60
Housing –Upgradation	236 houses	94.40
Roads	0.11 km	1.20
Storm Water Drain	0.20 km	1.30
Water supply		11.90
Streetlights	7 no.	0.35
Total		**266.75**

Source: Dharma-M

4.8 Markets and other assets

4.8.1 Markets

Dharmapuri is having a Daily market and Weekly market located at Sandai Pettai. The market lacks in basic infrastructure facilities like adequate parking areas, proper traffic movements, sufficient road width and pavements which ultimately leads to the problems like traffic congestion and public inconvenience. Absence of Compound wall in the outer boundary of the market is concern over security issues.

4.8.2 Crematoria and burial grounds

There are 6 municipal burial grounds in the town. The burial ground lacks in basic infrastructure such as fencing, access roads, lighting facilities etc. There is proposal for Gasifier based crematorium at an estimated cost of Rs. 45lakh with Rs. 20 lakh funding from state government and Rs. 25 lakh from general fund. The tender has been issued for the proposed Gasifier based crematorium.

4.8.3 Slaughter house

Presently Dharma-M has one slaughter house and it is also envisaging development of a modern Slaughter house at an outlay of Rs. 23 lakh comprising of Rs. 10 lakh grant from state govt. The work order has been issued and the implementation work is in progress.

4.9 Social infrastructure

4.9.1 Schools

There are 41 schools in the town, out of which 15 are municipal schools. There are seven elementary schools, seven middle schools and one high school. Other than these, there is a polytechnic also in the town. In total, they account 12 hectares, which is 3.46% of total developed area of the town. The educational infrastructure available in the town is presented in the *Exhibit 4.20* below.

Exhibit 4.20 Educational institutions

Type	Nos.
Municipal Schools	15
Private schools	14
Total	**28**
Noon Meal Centres	14

Source: Dharma-M

4.9.2 Hospitals and medical facilities

Healthcare services are amongst the most vital services provided by the municipal bodies. Dharmapuri is served by one govt. hospital, one maternity centre and by 58 dispensaries and private clinics.

4.9.3 Recreational facilities

There are a total of 2 parks in the town. The spread of the park in terms of area is 0.5 acre, maintained by municipality and two playgrounds of total 1.40 acre area are attached with the high school. There are six commercial complexes at bus stand and one reading room at Town hall road.

4.10 Status of Vision Plan of Projects

Exhibit 4.21 provides a summary of the projects envisaged as part of the Vision Plan and the current status of these projects.

Exhibit 4.21 Vision Plan projects and status

Segment	Projects	Outlay Rs. Lakh	Total Rs. Lakh	Remarks
Water Supply	Provision of 5 bore Wells with motor or Hand pumps	12.00	**33. 00**	Completed
	40 bore wells in mun. limit	21.00		
Storm Drains	Improvements of storm water drains	210.00	**210.00**	Under progress
SWM	Primary Collection	20.00	**100.00**	Under progress
	Secondary Collection	30.00		
	Infrastructure in Compost yard	50.00		
UGD	Phase –I	1653.00	**1653.00**	Submitted to CMA for financial assistance for excess amount than tendered
Hospitals	Modernisation of labour room and other amenities	15.00	**15.00**	Under progress
Bus terminus	Provision of Bus shelter	**2.00**	**2.00**	Completed
Schools	Const. of computer aided elementary centre	21.00	**66.00**	Completed
	Const. of new school bldg.	39.00		
	Conversion of existing AC roof	6.00		

Segment	Projects	Outlay Rs. Lakh	Total Rs. Lakh	Remarks
	bldg.			
Street Lights	Conversion of tube lights to SV lamps	5.00	**15.00**	Applied for funds
	Additional automatic timer switches	10.00		
Toilets	VAMBAY and ISP	60.00	**60.00**	Completed
Parks	Development of 2 parks	12.00	**12.00**	Completed
Tree plantation	Plantation of trees	6.00	**6.00**	Applied for funds
Burial Grounds	Construction of burning shed, waiting shed, water supply	20.00	**20.00**	Completed
Crematorium-Gasifier based	Gasifier based crematorium	**45.00**	**45.00**	Work in progress

Completed *Partially done / under implementation* *Not taken up yet*

Source: Discussion with municipal officials. To be confirmed.

4.11 Service level indicators and demand assessment summary

Exhibit 4.22 below captures the status of core urban services of Dharmapuri Municipality in terms of key indicators and summarises 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. In the next phase of the study, these gaps would be analysed in greater detail to arrive the vision for urban services in Dharmapuri and to estimate the capital investments required to address these gaps. Based on consultations, we would then define the Capital Investment priorities for the town.

Exhibit 4.22 Core urban services - Ongoing initiatives, Baseline indicators and gaps

Sl. No	Name of the Indicator	Value	Issues and Gaps
Water Supply: TWAD board currently preparing Hogenakkal water supply scheme to supply water in all wards in Dharmapuri town.			
1	Daily Per Capita Supply (LPCD)	93	• Current supply on a per capita basis just meets municipal norms of 90 LPCD. • Need for significant augmentation of water supply source and distribution. • Penetration of HSC connections also needs improvement.
2	Storage Capacity / Daily Supply (%)	58%	
3	Distribution Network / Road Length (%)- (only municipal roads)	61%	
4	Water connections / Assessed properties (%)	38%	
Sanitation: The tender for the proposed UGD system covering 18 wards fully and one ward partially out of the total 33 wards had been called. The proposal for funding from CMA has been submitted for the excess amount quoted by the contractor.			
6	Presence of UGD network (Yes / No)	No	• No UGD network currently • Storm water drains coverage seems adequate, though there are a few uncovered areas. But they are in poor condition and need to be rehabilitated.
7	UG connections / assessed properties (%)	N.A	
8	Household per Public convenience (nos.)	90	
9	Storm Drain Length / road network (%)	126%	
Roads and Street Lights: Proposal Rs. 183.2 lakh for road and storm water drainage network improvements under UIDSSMT will be executed after the implementation of water supply and UGD schemes.			
10	BT roads / Total (%)	63%	• Municipal roads would require comprehensive upgradation following water supply and UGD implementation.
11	Road length per Street Light (m)	29 m	
Solid Waste Management: The solid waste management action plan involved an outlay of Rs. 100 lakh is under implementation.			
11	Waste generation per capita (gms)	459	• Composing, Source segregation and Door-to-door collection needs implementation in a phased manner. • Land availability for disposal is a concern.
12	Collection efficiency (% of waste generated)	100%	
14	Compost yard area (Acres per 10,000 population)	59%	
15	Average vehicle trips	4	
16	Source Segregation and Composting (Yes/No)	partial	

5. Urban governance and management

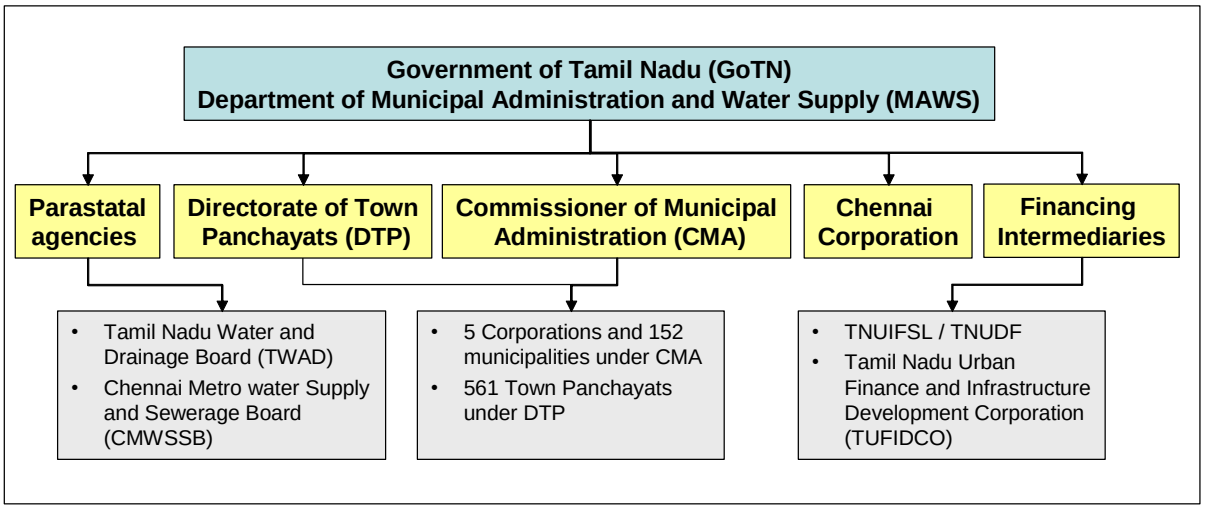
5.1 Policy oversight and institutional framework – State level

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 5.1* 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

The institutional framework for municipal administration is described below:

- **Corporations and Municipalities** - There are 10 Municipal Corporations, namely, Chennai, Madurai, Coimbatore, Tiruchirappalli, Salem, Tirunelveli,Erode, Tiruppur, vellore and Tuticorin in the State of Tamilnadu. Nine Corporations (except Chennai) and 151 Municipalities including 49 Third Grade Municipalities are under the oversight of the Commissioner of Municipal Administration.
- **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 TWAD 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 Dharmapuri municipality

Dharmapuri 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 52 elected councillors, each representing a ward, forms the political wing of the municipality. One of the elected representatives is selected by the council as the Chairperson. 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 Chairman and the Commissioner.

Contract Committee

The 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 six members comprising of the commissioner, chairman and four councillors.

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:

g) 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.

h) 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.

i) 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.

j) 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.

k) 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.

l) 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.

m) 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	No. of posts sanctioned	Staff in position			Posts vacant
			Perma-nent	Consoli-dated Pay	NMRs	
A	**General Administration**					
1	Commissioner	1	1			
2	Deputy Commissioner					
3	Assistant Commissioner					
4	Manager	1	1			
5	PA					
6	Assistant					
7	Junior Assistant	6	6			
8	Typist	1	1			
9	Record clerk	1	1			
10	Office Assistant	6	5			1
11	Asst. Programmer	1				1
12	Data Entry Operator	1	1			
B	**Accounts Department**					
1	Accounts Officer					
2	Accountant	1				1
3	Assistant Accountant					
4	Assistant					
5	Cashier	1	1			
6	Junior Assistant	1	1			
7	Office Assistant					
C	**Revenue Section**					
1	Revenue Officer					
2	Asst. Revenue Officer					
3	Revenue Inspectors/Market Superintendents	1	1			
4	Bill Collectors	9	8			1

Sl.No	Name of the Post	No. of posts sanctioned	Staff in position			Posts vacant
			Perma-nent	Consoli-dated Pay	NMRs	
5	Assistant					
6	Jumior Assistant	2	2			
7	Office Assistant					
D	**Engineering Wing**					
1	Municipal Engineer (E.E.)	1	1			
2	Asst. Executive Engineer					
3	Assistant Engineer					
4	Junior Engineer	1	1			
5	Supervisors					
6	Foreman					
7	Overseer					
8	Draughtsmen	1	1			
9	Work Inspector	1				1
10	Office Assistant					
E	**Street Lighting**					
1	Wireman	2	2			
2	Helper	3	3			
3	Others (Pl .specify)					
F	**Water Supply**					
1	Assistant Engineer					
2	Water works Supdt.					
3	Junior Engineer					
4	Electrician	3	3			
5	Meter Reader					
6	Pump Operator					
7	Fitters	5	3			2
8	Mechanic					
9	Turn Cock Operator					
10	Watchman	6	6			
11	Driver	3	3			
12	Cleaner					
13	NMR					
G	**Public Health**					
1	Health Officer					
2	Sanitary Officer	1	1			
3	Sanitary Inspector	4	3			1
4	Supervisor	10	10			
5	Conservancy staff	215	189			26
6	Drain cleaners					

Sl.No	Name of the Post	No. of posts sanctioned	Staff in position			Post vacant
			Perma-nent	Consoli-dated Pay	NMRs	
7	Drivers	9	9			
8	Office Assistant					
9	Watchman					
H	**MEDICAL**					
1	Sanitary Officer	1				1
2	Staff nurse					
3	Pharmacist					
4	Mat. Assistant	4	2			2
5	Mat. Ayah	4	1			3
6	Health visitor					
7	Computer cum clerk					
8	M.P.H. worker					
9	Female attendent					
10	Watchman	1	1			
I	**SEWERAGE**					
1	Junior Engineer					
2	Workers					
3	Others (Pl .specify)					
J	**Town Planning**					
1	Town Planning Officer	1	1			
2	Town Planning Inspector	1				1
3	Assistants					
4	Junior Assistants	1	1			
5	Chainman	2	2			
5	Office Assistant	1	1			
K	**Parks & Gardens**					
1	Park Officers					
2	Watchman					
3	Gardener					
3	Gang mazdoor					
L	**Other Staff**					
1	Community Organiser (NM)	14	12			2
2	Community Ayah(NM)	14	11			3
3	Cook	14	10			4
2	Assistant	1				1

Source: Dharma-M

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. However, Dharmapuri Municipality is responsible for the provision and delivery of services within the City.
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.
e) Slum Upgradation. The Tamil Nadu Slum Clearance Board (TNSCB) develops improvement schemes for notified/regularized slum settlements in the city/town.

5.5 Reforms undertaken by Dharmapuri 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 Dharmapuri municipality has also been following the system for the last 4-5 years.

5.5.2 E-Governance

E-Governance of Dharmapuri 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 connected to an uplink which 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, Dharmapuri 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 Dharmapuri 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 to:

- 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 Dharma-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 Dharmapuri Municipality.

6.1 Income and Expenditure summary of Dharmapuri Municipality

Exhibit 6.1 provides a summary of the income and expenditure of Dharmapuri Municipality. This summary has been prepared based on information provided by Dharmapuri Municipality covering audited accounts for FY 2003 to 2005 and unaudited accounts for FY 06. Income has grown faster (CAGR of 5%) than expenditure (CAGR of 3%). The municipality has observed a positive cash balance and overall surplus over past four years except in FY 05.

Exhibit 6.1 Consolidated Income and Expenditure trend

Rs. In Lakhs

INCOME	2002-03	2003-04	2004-05	2005-06	CAGR %
OWN INCOME	**322**	**388**	**434**	**451**	12%
Property tax	135	151	154	154	5%
Profession tax	17	17	24	22	9%
Water & Sewerage Charges	48	54	72	69	13%
Other Service Charges & Fees	22	23	25	43	25%
Other Income	101	144	160	162	17%
ASSIGNED REVENUE	*92*	*147*	*48*	*50*	-19%
DEVOLUTION FUND	*108*	*171*	*93*	*121*	4%
GRANTS & CONTRIBUTIONS	*0*	*0*	*0*	*0*	-42%
PRIOR PERIOD INCOME	*15*	*7*	*9*	*1*	-62%
TOTAL	**537**	**713**	**583**	**622**	**5%**
EXPENDITURE	**2002-03**	**2003-04**	**2004-05**	**2005-06**	**CAGR %**
Salaries	214	231	226	257	6%
Operating Expenses	70	80	71	83	6%
Programme Expenses	0	0	0	0	38%
Administrative Expenses	47	86	123	26	-18%
Finance Expenses	22	64	48	17	-9%
Depreciation	81	97	115	103	8%
Prior Period Expenses	6	2	53	0	-65%
TOTAL	**440**	**561**	**636**	**487**	**3%**
DEFICIT/SURPLUS (Excl.Depr)	**97**	**152**	**-52**	**135**	**12%**
Operational Ratio (Total Exp/Total Income) (All figures in Percentage)					
Incl Depreciation	83%	79%	100%	62%	**69%**
Excl. Depreciation	68%	65%	82%	78%	**85%**
Debt servicing (Rs in lakhs)					
Loan repayments - Interest	12.76	53.66	31.44	15.12	**112.97**
Loan repayments - Principal	18.67	105.32	15.42	15.51	**154.92**
Debt servicing Vs Income	**6%**	**22%**	**8%**	**5%**	**-6%**

Source: Dharma-M, IMaCS analysis

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.

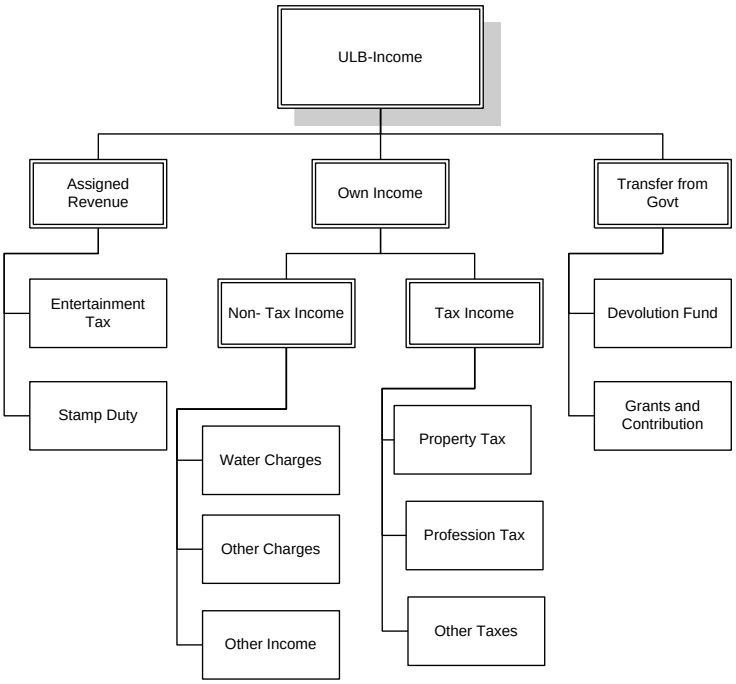
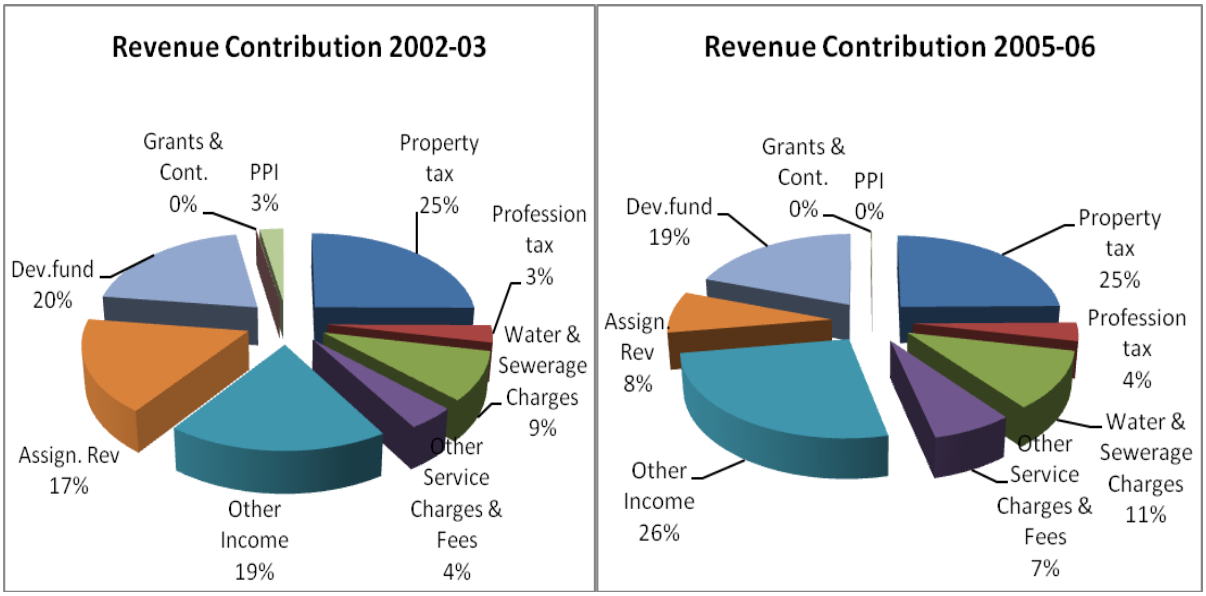


Exhibit 6.2 Revenue streams - ULBs in Tamil Nadu

6.3 Revenues

Exhibit 6.3 provides the composition of revenue of Dharmapuri Municipality along various heads between FY 2003 and FY 2006. These are based on information provided by Dharmapuri Municipality.

Exhibit 6.3 Analysis of Revenues



6.3.1 Tax Income

Tax income has grown at a CAGR of 5 % over the last four years aided by a 5% growth in Property tax. Professional Tax has grown at 9 % during this period. But, the share of property tax in total revenue has remained constant at 25 % of income; share of professional tax in revenue has increased marginally from 3% to 4% over four years.

6.3.2 Property Tax

Property tax alone accounted for almost a third of income of Dharmapuri Municipality in FY 2006 and is an important contributor of revenues to Dharmapuri Municipality. Following are the key issues / observations with respect to property tax. Exhibit 6.4 provides a summary.

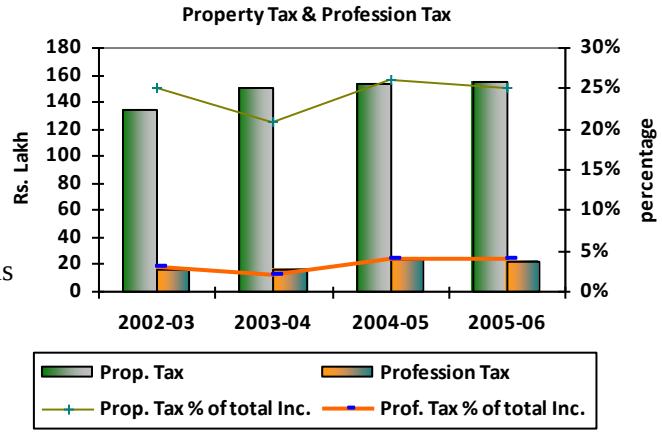
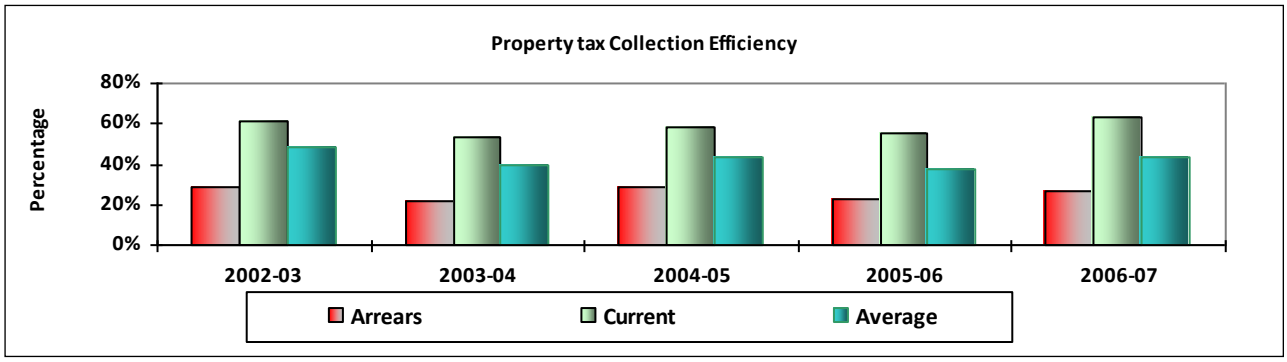


Exhibit 6.4 Property tax - analysis of key revenue drivers

Year	Collection Efficiency			Properties		Growth Rate Of properties	Growth Rate of Current Demand
	Arrears	Current	Total	Numbers	Tax/property		
2002-03	29%	61%	48%	17594	829	NA	NA
2003-04	22%	53%	40%	18241	893	4%	12%
2004-05	29%	58%	43%	18499	898	1%	2%
2005-06	23%	55%	38%	18886	918	2%	4%
2006-07	27%	63%	43%	19258	939	2%	4%

Source: Dharma-M



Share of property tax remained constant over four years - The property tax has increased marginally in absolute terms and its share in total income has remained constant at 25%.

Demand per assessment - Assessments have grown at 2.3% over the last 5 years. During FY 2003 to FY 2005, the average tax per property assessed has increased from Rs. 829 per property to Rs 939 per property.

Low collection efficiencies - Collection efficiency is a cause for concern. The collection efficiency in current demand has grown marginally from 61% to 63% from FY 03 to FY 07 with declining trend in FY 04 and FY 06. The recovery of arrears has shown the declining trend of even low. In FY 2005, arrears collection efficiency dipped to 27%.

Exhibit 6.5 Property Tax - breakup of assessees (2007-08)

Category of Property	Number of Assessments	%	Annual Tax Demand (Rs. lakh)	%
Residential	14791	76	135.16	81
Commercial	1275	7	18.64	11
Industrial	140	1	1.54	1
State Government Properties	76	0	12.34	7
Exempted if any	3104	**16**		
Total	**19386**	**100%**	**167.68**	**100%**

6.3.3 Professional tax

Exhibit 6.6 provides an analysis of key drivers for professional tax revenue.

Exhibit 6.6 Professional Tax - revenue drivers

Year	Collection Efficiency			Assesses		Growth rate of Assesses	Growth Rate of Current Demand
	Arrears	Current	Total	Numbers	Tax demand/assessee		
2002-03	4%	79%	62%	406	4177	NA	NA
2003-04	34%	93%	72%	443	3673	9%	-4%
2004-05	36%	63%	54%	603	3967	36%	47%
2005-06	40%	73%	59%	574	3791	-5%	-9%
2006-07	48%	94%	74%	571	3555	-1%	-7%

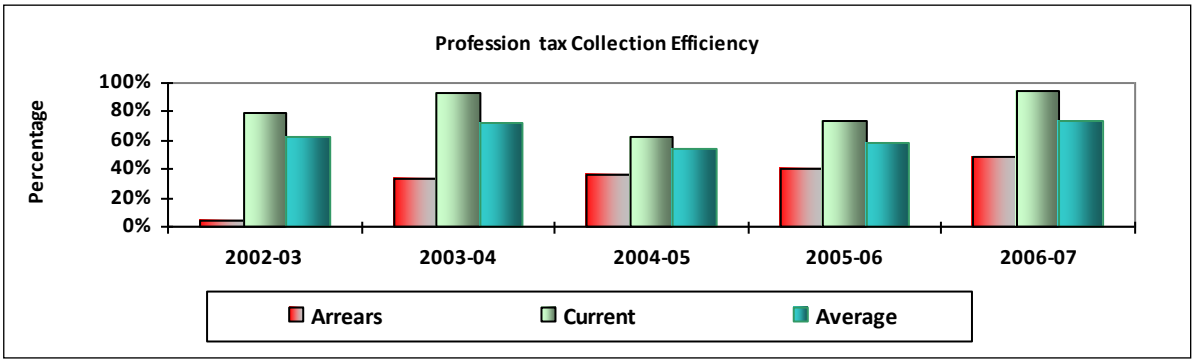


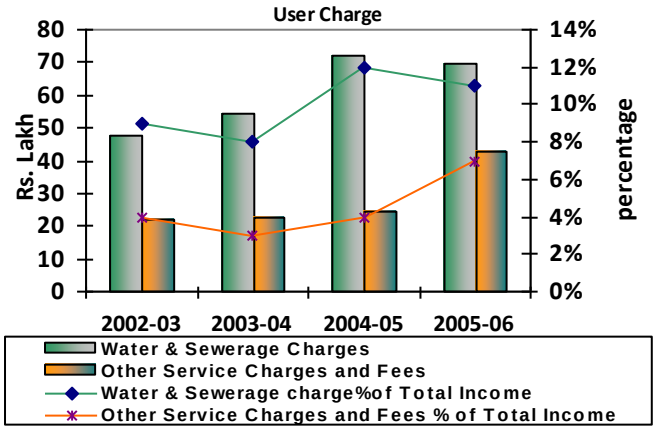
Exhibit 6.7 Professional Tax – assessee break up (2007-08)

Category	Number of Assessments	%	Annual Tax demand (Rs in Lakh)	%
State/Central/Quasi Govt. Employees	130	21	22.22	92
Traders	460	74	1.64	7
Private employers/ Companies/ Industrial	34	5	0.32	1
Total	**624**	**100**	**24.18**	**100**

1. **Share of professional tax in total income** has increased marginally from 3% to 4% of total income
2. **Demand per assessment has** decreased from Rs 3946 in FY2003 to Rs 3555 in FY2007.
3. **Collection efficiency** was ~74% in FY 2007, aided by improvement in current collection. While current collections are high at around 94%, there is still a scope for improvement in arrear collection

6.3.4 User Charges / Fees

User charges have grown by 17%, aided by 25 % increase in Service charges and fees. Share of other service charges and fees in total income has increased from 4% in FY2003 to 7% in FY2006. At the same time share of water charges has increased marginally from 9 % to 11 % of total income. As a result the share of total user charges/fees has increased from 13% of total income to 18% of total income over the last four years.



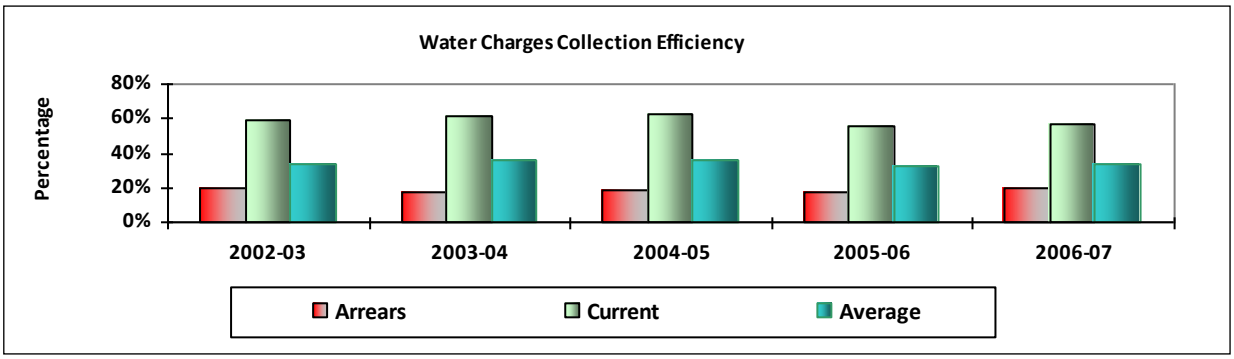
6.3.5 Water charges

Exhibit 6.8 provides an analysis of key drivers for water charges.

Exhibit 6.8 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	20%	59%	34%	6311	640	NA	NA
2003-04	17%	62%	36%	6314	838	0%	31%
2004-05	19%	63%	36%	6815	767	8%	-1%
2005-06	17%	56%	32%	7101	796	4%	8%
2006-07	20%	57%	34%	7255	813	2%	4%

Source: Dharma-M



Exihibit 6.9 Water Connection – Break up (2007-08)

Category	Number of Connections	%	Annual Demand (Rs in Lakh)	%	Deposit Amount / connection	Monthly Charges/ connection
Residential	6759	91	50.28	87	4000	61
Commercial	641	9	7.69	13	8000	102
Industrial						
Total	**7400**	**100%**	**57.97**	**100%**		

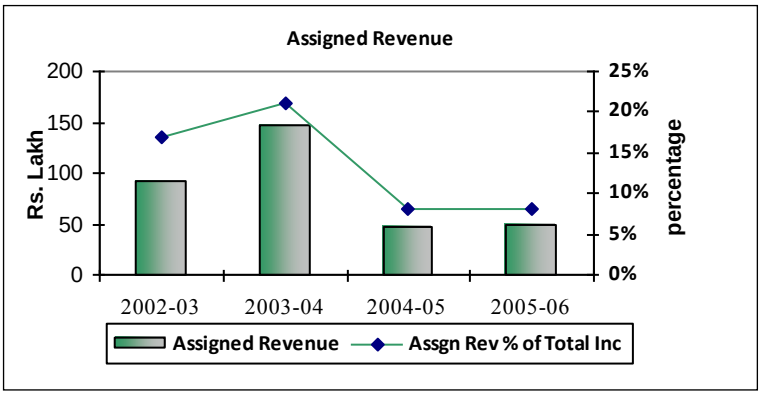
a) **No. of connections** - There has been a marginal increase in number of connections from 6311 in FY2003 to 7255 in FY2005 showing CAGR of 6%. There exists a lot of scope for the municipality to increase its revenue by converting unmetered connections to metered connections.

b) **Water tariff / connection have** increased from Rs 640 to Rs. 813.

c) **Collection efficiency** - Current collection efficiency has declined marginally from 59% (FY 2003) to 57% (FY 2007). Arrears collection efficiency has also been very low and has ranged between 17% and 20%. The overall collection efficiency of 34% is quite low and needs significant improvement.

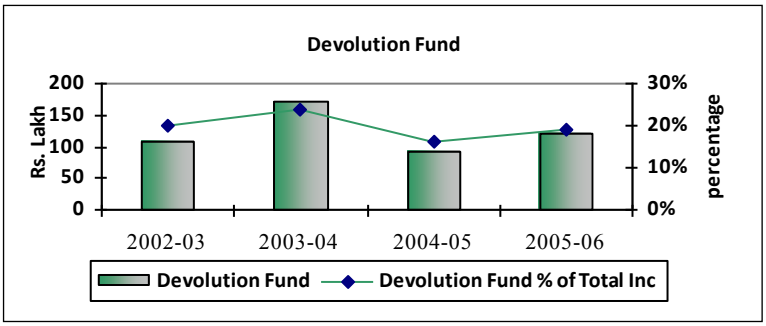
6.4 Assigned Revenue

Assigned Revenue (which includes transfers of stamp duty and entertainment tax) decreased from Rs 92 lakh in FY2003 to Rs 50 lakh in FY2006. Share of assigned revenue in total income declined from 17% of revenue in FY 2003 to 8% of revenue in FY 2006.



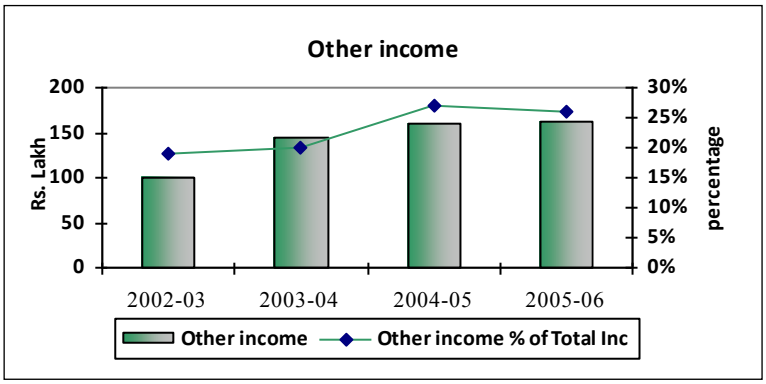
6.5 Devolution Fund

While Devolution fund has increased from Rs 108 lakh in FY2003 to nearly Rs 121 lakh in FY2006, its share in total revenue of the municipality has declined from 20% to 19% in respective years.



6.6 Other Income

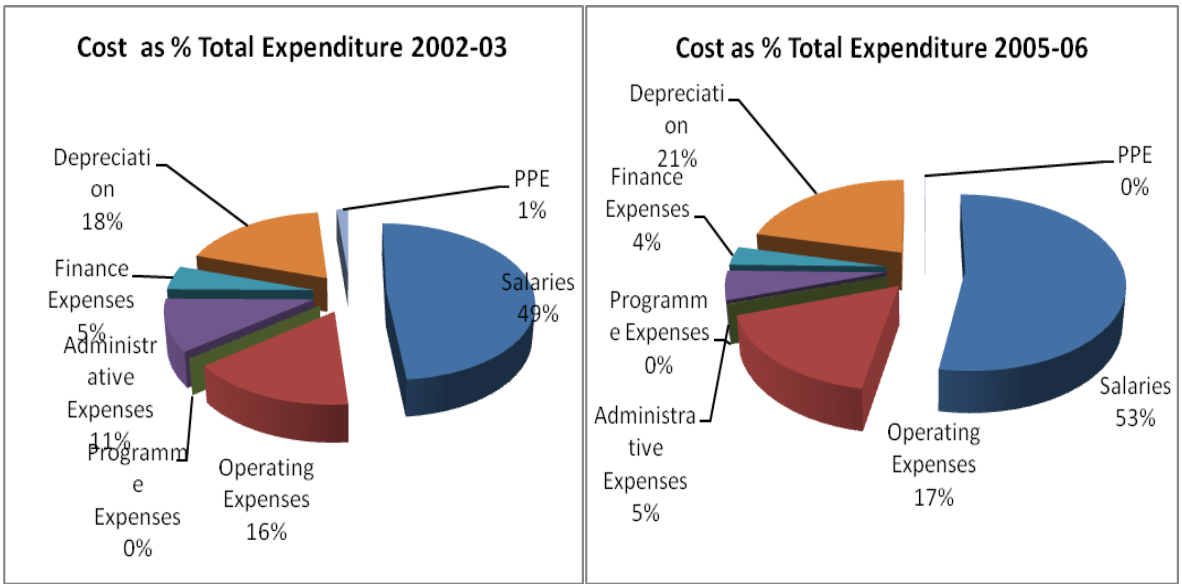
Other Income has increased from Rs 101 lakh in FY2003 to slightly above Rs 162 lakh in FY2006. Its share in total income of the municipality has increased from 19% in FY2003 to around 26% in FY2006.



6.7 Analysis of Costs

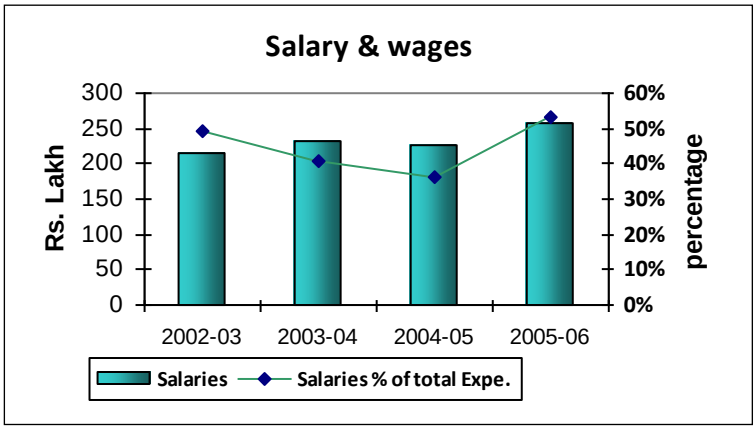
Exhibit 6.10 provides details of costs of Dharmapuri Municipality along various heads between FY2003 and FY2006. Total expenditure has shown an upward trend, except for a dip in FY2006. This decline in total expenditure in FY2005 is due to decline in administration expenses by more than 80 %. Operating expenditure has shown an upward trend over the period except in FY06.

Exhibit 6.10 Expenditure – FY 2003 and FY 2006



6.8 Salary and wages

While salary and wages account for almost a half of total expenditure incurred by the municipality, it has increased from Rs. 213 lakh to Rs. 257 lakh over this period. It accounts for **40 % of total income.**

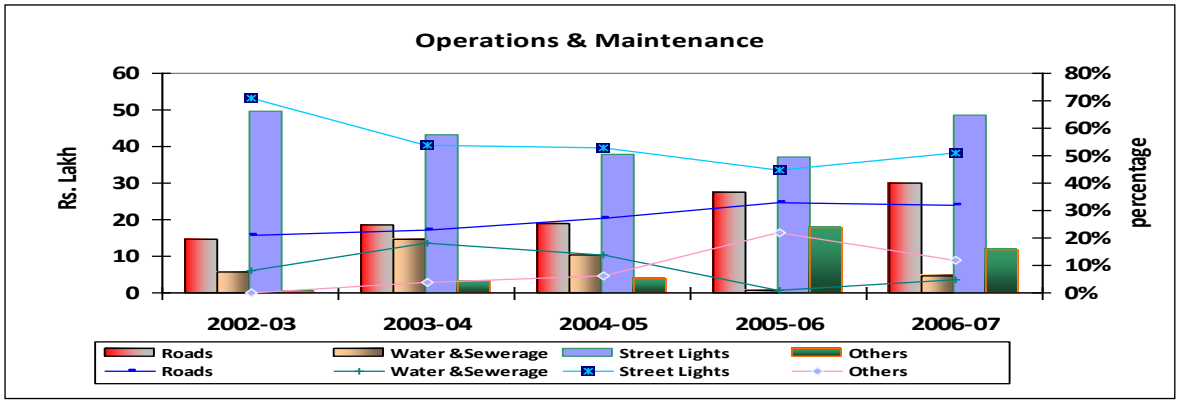


6.9 Operations and Maintenance

Repairs and maintenance form the other major component of total expenditure. In absolute terms, repairs and maintenance expenditure has shown inconsistent trend, over the last four years, growing from Rs 70 lakh in FY2003 to Rs 83 lakh in FY2006. Its share in total expenditure has increased marginally from 16% to 17% in FY2003 and FY2006, respectively. *Exhibit 6.11* provides details of sector wise composition. Though streetlights form the major proportion of operating expenses, there has been a downward trend in expenditure between FY 2003 to FY 2006. Expenditure on water and sewerage has shown inconsistent trend with overall decrease from 8 % to 1% over past four years. Overall repairs and maintenance has grown at a CAGR of 6% over the period.

Exhibit 6.11 Repair and maintenance expenditure - Sector wise break up (Rs. lakh)

Item	FY2002	%	FY2003	%	FY2004	%	FY2005	%
Roads	14.69	21%	18.51	23%	18.93	27%	27.52	33%
Water & Sewerage	5.55	8%	14.65	18%	10.23	14%	0.68	1%
Street Lights	49.53	71%	43.36	54%	37.93	53%	37.12	45%
Others	0.22	0%	3.19	4%	4.06	6%	17.99	22%
Total	**69.99**	**100%**	**79.70**	100%	**71.16**	100%	**83.32**	100%



6.9.1 Power costs

Exhibit 6.12 gives the details of power costs out of the total repair and maintenance expenditure relating to Water & Sewerage and Street lights. Power costs have declined at a CAGR of 8%.

Exhibit 6.12 Power costs – Water, Sewerage and Street Lights (Rs in Lakh)

Item	FY2002	%	FY2003	%	FY2004	%	FY2005	%
Water	**18**	**100%**	**25**	**100%**	**21**	**100%**	**10**	**100%**
Power	12	69%	10	41%	11	51%	9	93%
Non Power	5.55	31%	14.65	59%	10.23	49%	0.68	7%
Street Lights	**37**	**100%**	**33**	**100%**	**27**	**100%**	**29**	**100%**
Power	32	87%	27	83%	26	95%	25	88%
Non Power	4.90	13%	5.54	17%	1.45	5%	3.39	12%
Total	**55**	100%	**58**	100%	**48**	100%	**39**	100%

Power costs account for nearly 85% of repair & maintenance costs of operating streetlights.

6.10 Loans and Finance charges

Exhibit 6.13 gives the details of outstanding loans of Dharmapuri Municipality at the end of year 2006.

Exhibit 6.13 Loan statement (as of FY 2006)

Rupees in lakhs

Lending Agency	Amount of Loan (Rs in Lakh)	Year of drawal	Interest Rate %	Repayment period (years)	Purpose / Scheme	Moratorium Years	Outstanding loan amount
TUFIDCO - Water	52.66	2004	8%	10	SWM . Roads & Drainage		44.61
TUFIDO (take over finance)	63.03	2003	8%	13	Roads & Drainage	3	63.03
TUFIDCO	158.60	2001	**8%**	**13**	Special roads		141.87
TNUDF	31.17	2005	**8%**	**7**	SWM	2	31.17
Government Loan*	**214.46**	**1998**	**14%**	**20**	**Water supply**		**156.40**
TOTAL	**519.92**						**437.08**

Source: Dharma-M ****Government Loan is expected to be written off***

6.11 Analysis DCB – Based on FY' 2007-08

6.11.1 Property Tax:

Exhibit 6.14 Property tax analysis per capita

Category of Property	No of Assts	%	Demand	%	ATPA*	Collection Effy
Residential	14791	76%	142.8	81%	965	56%
Commercial	1275	7%	18.64	11%	1,462	59%
Industrial	140	1%	1.54	1%	1,100	100%
State Government Properties	76	0%	12.34	7%	16,237	78%
Charitable & Religious Institutions	0	0%		0%		
Other if any *	3104	16%		0%		
Total	**19,386**	**100%**	**175.32**	**100%**	**904**	**58%**
Average for 5 years	**18,495**		**165.83**		**897**	**58%**
Increase Over Previous Year	**0**	**0**	**0**	**0**		
Litigation	405	2%	15.17	9%		
Growth in 5 years- Current		**2%**		**6%**		**6%**

Source: Dharma- M and IMaCS analysis

Exhibit 6.14 provides a summary of the Current Collection Efficiency of Dharmapuri Municipality. This summary has been prepared based on information provided by Dharmapuri Municipality covering break up for category of property tax. Following are our observations:

- The municipality has seen a CAGR of 2% in assessments and 6% in demand respectively. Demand growth at a higher rate than assessments is a positive sign. However, litigation accounts for 2 % of assessments and 9% of properties which needs to be addressed on priority.
- Collection efficiency at 58% is a serious cause for concern. Also, the collection efficiency has not improved over the last 5 year period. The collection efficiency is low across residential, commercial and state government categories.
- About 3104 assessments have issues and show nil demand. It is not clear if these are exempted properties. The municipality needs to review the details of these properties and add them to property tax payer database.
- Overall Average tax per Assessment shows (ATPA) for 2007-08 was **Rs.904, marginally higher than the average Rs. 897 for last five years.** Residential ATPA was Rs.965 and Commercial ATPA was Rs.1462. Industrial ATPA was Rs.1100 and State government ATPA was Rs.16237**.**

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6.11.2 Professional Tax:

Exhibit 6.15 Professional tax analysis per capita

Category of Professional	No of Assts	%	Demand	%	ATPA	Collection Effy
State / Central / / Quasi/ Government Employees	130	21%	22.22	92%	17,092	100%
Traders	460	74%	1.64	7%	357	46%
Industrial / Private Exmployees	34	5%	0.32	1%	941	100%
Other if any		0%		0%	-	-
Total	**624**	**100%**	**24.18**	**100%**	**3,875**	**96%**
Average for 5 years	**519**		**19.84**		**3,820**	**80%**
Increase Over Previous Year	n.a	n.a	n.a	n.a	n.a	n.a
Litigation	n.a	n.a	n.a	n.a	n.a	n.a
Growth in 5 years- Current		**9%**		**5%**	**-**	**9%**

Source: Dharma-M and IMaCS analysis

Exhibit 6.15 provides a summary of the Current Collection Efficiency of Dharmapuri Municipality. This summary has been prepared based on information provided by Dharmapuri Municipality covering break up for category of professonal tax. Following are our observations:

- The municipality has seen a CAGR of 9% in assessments but only 5% in demand respectively. Demand is growing at a lower pace than assessments and that needs to be reviewed.
- Collection efficiency at 96% is healthy. But, the collection efficiency among traders is low.
- Average tax per Assessment is Rs. 3875 slightly higher than the average Rs. 3820 in the last 5 years. ATPA for State/Central government employees was Rs.**17092**, Traders was **Rs.357** and industrial/ private employees was Rs.941. The number of assessments is recorded at an organization level and not at the level of individual professionals paying taxes. This constrains us from making a meaningful comparison of ATPA across categories and across years. The municipality needs to make a change to reflect assessments at the level of individual paying professional tax.

6.11.3 Water supply Charges

Exhibit 6.16 Water Supply charges analysis per capita

Category of Water Supply	No of Assts	%	Demand	%	ATPA	Collection Effy
Residential	6759	91%	50.28	87%	744	93%
Commercial	641	9%	7.69	13%	1,200	73%
Industrial		0%		0%		
Other if any *		0%		0%		
Total	**7,400**	100%	**57.97**	100%	**783**	90%
Average for 5 years	**6,759**		**52.21**		**772**	**59%**
Increase Over Previous Year	**98**	**1.30%**	**0.19**	**0.30%**		
Litigation	n.a	n.a	n.a	n.a	n.a	n.a
Growth in 5 years- Current		4%		10%	-	9%

Source: Dharma-M and IMaCS analysis

Exhibit 6.16 provides a summary of the Current Collection Efficiency of Dharmapuri Municipality. This summary has been prepared based on information provided by Dharmapuri Municipality. Following are our observations:

- Current Collection Efficiency for Residential, Commercial, and Industrial shows **93% ,73%** and **nil.** Overall current collection efficiency was around **90%** for 2007-08, but an average for the last five years shows the current collection efficienty is **59%.** The municipality needs to ensure that its improvement in collection efficiency in the previous year is sustained and improved upon.
- The municipality has seen a CAGR of 4% in assessments and 10% in demand respectively. Demand growth at a higher rate than assessments is a positive sign.
- However, only about connections account for only 38%.of property tax assessments which indicate low penetration. The municipality needs to improve this from current levels.
- Average tax per Assessment shows (ATPA) for Residential connections was **Rs.744**, Commercial - **Rs.1200.** Over all average tax per assessment shows **Rs.783** for the FY'2007-08 and is higher than the ATPA of **Rs.772** in the last five years.

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

This section articulates a strategic plan for urban development in Dharmapuri 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 economic development

The key economic development themes for Dharmapuri town are articulated below:

7.1.1 Incentivize industrialization in the district to create greater economic and employment opportunities

Dharmapuri district is among the most backward districts in the state and hence it is critical to seed and incentivize industrial development in the region. Given that there are large tracts of barren uncultivable land available in the district and its strategic location in the Salem-Bangalore corridor, it presents an ideal location for low-cost manufacturing industries. As in the case of the recent initiative in Krishnagiri district, GoTN should take steps to create a Special Economic Zone in Dharmapuri district as well. This would have a positive effect on the local economy and would further boost economic opportunities in Dharmapuri town.

7.1.2 Evaluate potential for investments in terminal markets and tap opportunities in setting up cold storage infrastructure

Given the potential for horticultural produce in the region and Dharmapuri town's position as a potential trade and commercial hub for the villages and agri-zones in the region, there is potential for investing in terminal market infrastructure and cold chain facilities in the town. During our consultations with the municipal council, the council members expressed that the municipality was open to providing land for setting up cold storage on a BOT basis for private entrepreneurs along the bypass road. Initiatives like this could enable boosting economic activity and improve the revenues for the municipality as well.

7.1.3 Plan investments in social infrastructure in lines with the population growth.

Dharmapuri town should potentially become an important base for the surrounding areas as a education and healthcare hub. This would require a combination of private/Government investments to address future requirements in education and health infrastructure. A Government High School, Engineering College (at Sendiapet), Government Hospital and Marriage Hall (at Pennagaram road) figured high on the list of felt needs in our interactions with both the Council and the public stakeholders. GoTN through DTCP and CMA should immediately map land-use to identify and ring-fence public land (including a specific strategy for minimising slum proliferation and removal of encroachments from public spaces) for this purpose.

7.2 SWOT analysis

A brief SWOT analysis of the town is presented below:

Strengths	**Weakness**
• Industrial region with a number of large, medium and small industrial units • Proximity to Bangalore city • Horticulture potential in the region	• Town is congested and faces structural limitations for growth • Encroachments on arterial roads and traffic problems • Water availability and quality. • Major portion of the town is still under agriculture use which is not an agriculture driven economy town
Opportunities	**Threats**
• Potential for further growth in industrial development with expansion of existing units and proposed SEZ plans • Potential for IT-ITES given proximity to Bangalore and proposed IT SEZ / IT park development plans of ELCOT • Emerging as an important commercial and trade hub with improving road connectivity and new bus stand. • Availability of land for urban development purposes	• Outward migration of skilled workforce • Municipal areas not getting the benefit of growth around the city limits in terms of finances and meeting investment needs. • Listed as 3rd Most backward district in Tamilnadu • 40% of population is under BPL

7.3 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 the following areas:

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 Dharmapuri municipality as of March 2007.

7.4 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

	Unit	Baseline	Projected		
		2007	2012	2017	2027
Population	Nos	70276	75104	79977	89896
Households	Nos	15936	17030	18135	20385
Slum population	Nos	20899	21,780	23,193	26,070
Slum households	Nos	4180	4,467	4,715	5,300
Assessed Properties	Nos	19258	20581	21916	24634
Road length	Km	58	64	64	70

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 4.4 is assumed (in line with Census 2001). The percentage of road length to town area is assumed to increase up to 11 % by 2017 and further to 12 % in 2027.

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	78*	135	135	135
Storage capacity / Total demand	%	58%	50%	50%	50%
Distribution network / Road length	%	61%	85%	90%	100%
Frequency of supply	hours/day	3	4	4	24X7
Reform targets					
Current collection efficiency	%	59%	85%	90%	95%
House Service Connections / Assessed Properties	%	34%	80%	85%	95%
Population per water fountain	nos.	153	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	30%	50%	100%

(*As per Hogenakkal project report the existing net water supply is 4.65 MLD i.e. 67 lpcd)

As observed, Dharma-M currently falls short of the municipal norms for percapita supply. On the reform agenda, however, at 59% the current collection efficiency requires significant improvement. Connection efficiency (as measured by connections / assessed properties) also is low at 41% and

indicates scope for improvement. Dharma-M appears to have a marginally higher level of public fountain access, which would require some level of rationalization.

7.5.2 Baseline status and requirements – short term & long term

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

INFRASTRUCTURE - Baseline and Gaps	Unit	Baseline	Required			Incremental addition		
		+ Ongoing	2012	2017	2027	2012	2017	2027
Gross Water Supply	MLD	5.50	10.14	10.80	12.14	4.6	0.7	1.3
Storage Capacity	ML	3.7	5.07	5.40	6.07	1.4	0.3	0.7
Distribution network length	km	41	54	58	70	13.5	3.2	12.2
HSCs	nos	6,613	13,624	15,415	19,365	7,011	1,791	3,950
Public fountains	nos	459	376	400	449	-	-	-

As seen from the above table, there are significant gaps in supply, storage and distribution network reach even in the short term, which need to be addressed on priority.

7.5.3 Interventions – immediate priorities

Hogenakkal water supply project

The Hogenakkal Water supply project for addressing water supply requirements of Dharmapuri and Krishnagiri district is expected to address requirements of Dharmapuri town as well. Regarding the project, the following details are available to us based on reports provided to us by TWAD and TNUIFSL. While we understand that the project is still under finalization and these numbers are subject to change, they provide the broad details to base the range of operational indicators and capital investment requirements:

a) **Gross water supply** – The project is assumed to provide 128 MLD supply at intermediate stage and 160 MLD at ultimate stage. For Dharmapuri, the project envisages supply of 10.99 MLD at the ultimate stage or 2036. While our computation of overall demand works out to nearly 12.14 MLD by 2027 itself as per our estimates, based on a norm of 135 LPCD, we have not provided for any additional capital investment for the same. This is also assumed to cover 13.5 km of distribution network (that is uncovered as per normative estimates indicated in Exhibit 7.3

b) **Connections** – The project envisages servicing 6028 connections. However, our estimates of connections at 90% of properties by 2027 imply a demand of about 19000 connections.

c) **Allocated cost** – Assuming cost of the project at Rs. 1334 crore, the apportioned cost on a pro-rata basis works out to Rs.9163 lakh. Discussion with TWAD authorities indicate that the project

would cover necessary additions to local infrastructure (including distribution network for uncovered areas and storage augmentation).

Other ongoing projects

Dharma-M is contemplating addition of 20 lakh litres of storage capacity through construction of 2 OHTs in view of the proposed Hogenakkal water supply scheme.

Asset Management and developmental activities

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.

7.5.4 Interventions - medium-long term

The Hogennakal water supply scheme is envisaged to take care of the water supply requirements of Dharma-M in the medium to long term as well. We have provided for additional investments for distribution network extension based on normative gaps. Further, we believe that Dharma-M should strive towards 24x7 water supply in the medium to long term. This would require comprehensive metering of all connections and implementing volume based user charges. Investments in metering have been provided based on expected connections in 2027 during 2018-27

Asset Management and Developmental activities

Critical asset management and development activities in the medium to long term are listed below:

- Implement metering and metering-based-tariff /graded water tariff at household level
- 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.
- Undertake a comprehensive GIS mapping of the water supply network of the town.

7.5.5 Investment summary - Water supply

The total outlay and phasing of investments for water supply is given in Exhibit 7.4 below.

Exhibit 7.4 Water Supply - Capital Investment outlay and phasing

(Rs in Lakhs)

CAPEX PLAN AND PHASING	2008	2,009	2,010	2,011	2,012	2008-12	2013-17	2018-27	Total
Ongoing / Proposed projects									
Hogenakal scheme		2291	2291	2291	2291	**9163**			**9,163**
Storage capacity addition	25		**25**			**50**			**50**
New bore well	10					**10**			**10**
Wall in infiltration gallery	7					**7**			**7**
Others - normative gaps									
Pumping and Distribution network							10	37	**46**
Metering							-	275	**275**
TOTAL	**42**	**2291**	**2316**	**2291**	**2291**	**9230**	**10**	**312**	**9,551**

7.6 Sanitation

7.6.1 Service Goals and Reform targets

Exhibit 7.5 provides the service goal/outcomes and reform targets for 2008-12.

Exhibit 7.5 Sanitation - Service Goals and Reform Targets

SERVICE LEVEL GOALS AND OUTCOMES	Unit	Baseline	Target		
		2007	2012	2017	2027
Service Goals					
UGD Network					
Availability	Yes/no	No	Yes	Yes	Yes
Treatment capacity per capita	lpcd	-	120	120	120
Sewer network - % of road length		-	80%	80%	80%
Storm Water Drains					
Drain length / Road length		115%	130%	130%	130%
Public Conveniences					
Population per PC seat		450	200	200	200
Reform targets					
Sanitation coverage - % of population		2%	100%	100%	100%
User charges - Current collection efficiency		N.A	70%	90%	90%
Household connections / Assessed Properties	%	N.A	30%	50%	50%

7.6.2 Baseline status and gaps

Exhibit 7.6 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 7.6 Sanitation- Baseline status and gaps (short term and long term)

INFRASTRUCTURE - Baseline and Gaps	Unit	Baseline + Ongoing	Required			Gap		
			2012	2017	2027	2012	2017	2027
Treatment & pumping capacity	MLD	Project in progress	9.01	9.60	11	-	-	-
Sewer Length	km		51	51	56	-	-	5
Household connections	nos		5,109	9,068	10,192	-	-	-
Storm Water Drains	km	67	83	83	91	17	-	8
Public convenience seats	nos	100	376	400	449	276	24	50

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.

The project priorities in the short term are listed below:

a) UGD scheme Dharma-M has proposed to provide the sewerage system in entire town in two phases: Phase I at Rs. 16.53 crore and Phase II at Rs. 15.66 crore. While the details of the project are not available (the DPR is under finalization), the following are the normative gaps that would need to be addressed by the system (as outlined in Exhibit 2.6 above)

- ❖ Treatment capacity requirement (9.01 MLD by 2012 and 11 MLD in 2027)
- ❖ Sewer length (83 km in 2012 and 91 km in 2017)
- ❖ Connections (5109 in 2012 and 10192 in 2017).

b) Storm water drains

- ❖ As part of the CIP, we have provided for complete renovation of the entire storm drain network (of about 67 km) and additional uncovered length (of about 17 km) during 2008-12 on a normative basis at an outlay of Rs. 967 lakh.

c) Public conveniences

- ❖ Dharma-M intends to build public convenience seats at an outlay of Rs. 138 lakh.

Asset Management and developmental activities

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.

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. The proposed UGD system will cover all the wards of Dharma-M in terms of sanitation facilities. We have provided for investments in these areas on a normative basis, depending on the demand gaps emerging from Exhibit 7.6 above.

Asset Management and Developmental activities

Dharma-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.

7.6.5 Project components and Capital Investment

Exhibit 7.7 provides a summary of the project components, capital outlay and phasing for sanitation.

Exhibit 7.7 Sanitation - Capital Investment outlay and phasing

Rs in. Lakh

	2008	2009	2010	2011	2012	2008-12	2013-17	2018-27	TOTAL
UGD scheme	-	1,073	1,073	1,073	-	3,219	-	-	3,219
Sewer line addition in new roads	-	-	-	-	-	-	-	37	37
Storm water drains	-	-	-	483	483	967	-	-	967
Public conveniences	-	-	46	46	46	138	12	-	150
TOTAL Capex- Sanitation	**-**	**805**	**851**	**1,334**	**1,334**	**4,324**	**12**	**37**	**4,373**

7.7 Solid Waste Management

7.7.1 Service goals and reform targets

Exhibit 7.8 provides the service goal/outcomes and reform targets in SWM during 2008-27.

Exhibit 7.8 Solid Waste Management - Service Goals and Reform Targets

	Unit	Baseline	Target		
		2007	2012	2017	2027
Collection efficiency	%	100%	100%	100%	100%
Door-to-door collection	%	100%	100%	100%	100%
Source Segregation	%	30%	60%	80%	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 7.9 provides the baseline status in solid waste management and the requirements and gaps in the short, medium and long term.

Exhibit 7.9 Solid Waste Management - Baseline status and gaps (short term and long term)

	Unit	Baseline	Required			Incremental gap		
			2012	2017	2027	2012	2017	2027
Waste Generated	**MT**	**32**	**45**	**52**	**58**			
Primary collection								
Number of trips	Nos.	3.14	4	4	5			
Vehicle capacity (Tricycle equivalent)	MT	0.15	0.15	0.15	0.15			

	Unit	Baseline	Required			Incremental gap		
			2012	2017	2027	2012	2017	2027
Number of Tricycle equivalent	nos.	**68**	**75**	**87**	**78**	7	19	10
Replacement - Tricycle equivalents	nos.			**75**	**47**		75	47
Secondary collection / Transfer								
Number of trips	nos.	2.13	2.00	2.00	2.00			
Vehicle capacity	MT	15.00	22.53	25.99	29.22	7.53	3.46	3.22
Equipment - tonnage equivalent	MT			22.53	25.99		22.53	25.99
Disposal								
Land	acres	15.10			8.99			
Compost yard	acres	6.04			3.60			
Processing yard	acres	9.06			5.39			

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 Interventions required – Short Term

The following projects are proposed and required in the short term.

a) Land acquisition

- Dharma-M is in the process of acquiring 11 acres land at Rs.550 lakh.

b) Compost yard development

- An outlay of Rs. 120 lakh has been provided for Compost yard / processing facility development

c) Equipment – primary and secondary collection

- Capital estimate for equipment procurement has been provided for on the basis of normative gaps. The estimated outlay for 2009-12 is Rs. 3.1 lakh for primary collection and Rs. 30 lakh for secondary collection and transfer.

Asset Management and developmental activities

- Dharma-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
- Conduct IEC activities to back other initiatives like door-to-door collection to facilitate effective segregation of waste at source.
- Review and updated the Solid Waste Management Action Plan and prepare a detailed feasibility report for comprehensive Solid Waste Management in the town
- Implement door-to-door collection and source segregation in all wards.

- Identify transfer points / collection points for every ward and streamline primary and secondary collection trips

7.7.4 Interventions required – medium term

The following projects are proposed and required in the medium to long term. The outlay has been arrived at based on the normative gaps established in Exhibit 7.10 above.

a. **Equipment -** Purchase of equipments for primary and secondary collection at an outlay of Rs. 75 lakh and Rs. 220 lakh respectively.

b. **Sanitary Land fill -** Development of scientific landfill site and compost yard at an estimated outlay of Rs. 60 lakh.

Asset Management and Developmental activities

- Progressively enable greater mechanisation of waste handling.
- Implement a nominal conservancy fee for primary collection.
- 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
- 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.

7.7.5 Project components and Capital Investment

Exhibit 7.10 provides a summary of the project components, capital outlay and phasing for Solid Waste Management in Dharmapuri town.

Exhibit 7.10 Solid Waste Management - Capital Investment outlay and phasing

Rs.in Lakh

CAPEX PLAN AND PHASING	2008	2009	2010	2011	2012	2008-12	2013-17	2018-27	TOTAL
ONGOING / PROPOSED PROJECTS			-	-	-		-	-	**-**
Land acquisition 11 acres		300	250			550			**550**
Compost yard development	7	-				7			**7**
Others – normative estimates									
Primary collection	4	-	-	-	-	4	47	28	**79**
Secondary collection	30	-	-	-	-	30	104	117	**251**
Development cost - Compost Yard		60	60	-	-	121	-	-	**121**
Development cost - Landfill site	30	30	30			91	91	-	**181**
Total	**371**	**341**	**91**	**-**	**-**	**802**	**241**	**145**	**1,189**

7.8 Roads, Transportation and Streetlights

7.8.1 Service goals and reform targets

Exhibit 7.11 provides the service goal/outcomes and reform targets for the horizon period.

Exhibit 7.11 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	%	10%	11%	11%	12%
Surfaced roads to Total roads	%	96%	100%	100%	100%
Street Lights - Distance between streetlights	M	24	30	30	30
Street Lights - Proportion of high power lamps	%	26%	30%	30%	30%
Street Lights - Proportion of lights with energy saving devices	%	n.a	30%	30%	30%

7.8.2 Baseline status and gaps

Exhibit 7.12 provides the baseline status and interventions in transportation sector.

Exhibit 7.12 Transportation- Interventions - Physical

	Unit	Total	Phasing (outcome)		
			upto 2012	2013-17	2018-27
Municipal road network	**km**	58	64	64	70
Upgrading non-surfaced roads to BT roads	km	2	2		
Restoring roads after UGD completion	km	56	56		
Ongoing/Planned new road formation	km	12	6	-	6
Re-laying roads once between 2018-27	km	64	-	-	64
Road facilities					
Bus shelters upgradation	nos	5	5		
Bus terminus upgradation	nos	1	1		
New Bus stand	Nos	1		1	

Out of the total road network 96% roads are 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

Investment / Project components

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

a) **Road upgradation, surfacing and restoration** – Dharma-M has nearly 58 km of roads and nearly 95% are surfaced roads. The entire road network would need to be restored post the UGD

scheme. Outlay for resurfacing is estimated at Rs. 667 lakh and upgradation would cost Rs. 33 lakh.

b) **Bus stand** – Dharma-M intends to modernize its existing bus stand at an outlay of Rs. 50 lakh. We have also factored an outlay of Rs. 600 lakh for a new bus stand in the medium term.

Asset Management and developmental activities

- 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
- Establish process and accountability for periodically updating this database with details of works done on these roads and disseminating information on the same on Dharma-M's website.
- 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.
- 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.
- Provide ducts for cables and other utilities along all arterial and major roads to minimise road digging.
- Adopt energy saving measures including implementation of energy savers in all high power street lights.

7.8.4 Capital outlay and phasing

Exhibit 7.13 provides the details of the capital outlay for transportation and street lighting requirements

Exhibit 7.13 Transportation and Street lighting - Capital Investment outlay and phasing

Rs in. lakh

TRANSPORTATION INTERVENTIONS	Phasing		
	up to 2012	2013-17	2018-27
Municipal road network			
Upgrading non-surfaced roads to BT roads	33	-	-
Re-surfacing of roads after UGD scheme	667	-	-
New road formation / Surfacing	125	-	117
Re-laying of roads once between 2018-27	-	-	1,025
Road facilities			
Bus shelters upgradation	25		
Bus terminus upgradation	50		
New bus stand	-	600	
TOTAL- Outlay	**901**	**600**	**1142**

Rs.in Lakh

CAPEX PLAN AND PHASING	2008	2009	2010	2011	2012	2008-12	2013-17	2018-27	Total
Bus stand			300	300	300	901	600	1,142	**2,642**
Roads and Road facilities				17	17	34	-	10	**44**
Street lights	-	-							
Total- Capex Transportation			**300**	**317**	**317**	**935**	**600**	**1,152**	**2,686**

7.9 Urban services for the poor

The Dharma-M has proposed under IHSDP to provide basic infrastructure facilities in 7slums out of the total 14 slums in the town. The total estimated cost of the proposed IHSDP project is Rs. 266.75 lakh. The GoTN has released the sanctioned amount of Rs. 89.10 lakh towards its share.

7.9.1 Service levels goals and outcomes

Exhibit 7.14 gives a snapshot of the service level goals and outcomes of Dharma-M with respect to provision of urban services for the poor.

Exhibit 7.14 Urban Services for poor – Service level goals and outcomes

Particulars	Unit		Target		
			2012	2017	2027
Total Slum Households	No.	4180			
HHs coverage under IHSDP	No.	433			
HHs need to be covered	No.	3747			
Slum Households other than IHSDP to be covered	%		50%	50%	-
Slum Households other than IHSDP to be covered	No.		1874	1874	-

7.9.2 Proposed Projects

Dharma-M has to take up a comprehensive proposal for upgradation of slums not covered under IHSDP.

7.9.3 Capital outlay and phasing

Exhibit 7.15 provides the summary of capital outlay and phasing of investments for provision of urban services for the poor.

Exhibit 7.15 Urban Services for the poor –Capital outlay and phasing

Rs.in Lakh

	2008	2009	2010	2011	2012	2008-12	2013-17	2018-27	Total
Ongoing/Planned Interventions-IHSDP	89	89	**89**	0	0	267	**0**	0	267
Additional Outlay required for service level goals	-	890	890	890	890	3560	1761	0	5321
Total Capex-USP	**89**	**979**	**979**	**890**	**890**	**3826**	**1761**	**0**	**5588**

7.10 Social infrastructure and other urban amenities

Exhibit 7.16 provides the summary of interventions, capital outlay and phasing of investments for provision of other urban service amenities in Dharma-M.

Exhibit 7.16 Social infrastructure and other urban amenities – Capital outlay and phasing

Rs.in lakh

						Phasing			TOTAL
	2008	2009	2010	2011	2012	2008-12	2013-17	2018-27	
Hospitals							20	40	60
Schools		30				30	30	60	120
Slaugher House		25				25			25
Gasifier Crematorium		45				45			45
Market		75	25			100			100
Burial Ground Development	-	50				50			50
Parks	20	-				20	20	40	80
Municipal office		10	25	25		60			60
TOTAL	**20**	**235**	**50**	**25**	**-**	**330**	**70**	**140**	**540**

a) Slaughter house and Gasifier crematorium (Ongoing projects)

- Gasifier based crematorium is being built at an outlay of Rs. 45 lakh.
- Slaughterhouse modernisation is proposed at by Dharma-M at an outlay of Rs. 25 lakh.

b) Markets & Shops

- Dharma-M intends to undertake improvements to weekly market at an outlay of Rs. 25 lakh. A commercial complex at Mohammad Ali road is being implemented at an outlay of Rs. 75 lakh

c) Improvement of Health Care Centres

- An outlay of Rs. 20 lakh has been provided for improvement of health facilities every 5 years. No outlay provided for 2008-12 since Dharma-M has recently done improvements in its health centres.

d) Schools

- We have allocated Rs. 30 lakh for improvements to School building once every 5 years.
- An outlay of Rs. 20 lakh has been allotted for parks every 5 years.

7.11 Capital Investment Plan - Summary

7.11.1 Ongoing Projects

The critical priority projects to be implemented by Dharma-M in the short term (2008-12) are summarized below in Exhibit 7.17.

Exhibit 7.17 Priority projects - FY 2008-12

Sl. No	Sector	Project	Cost *Rs. Lakh*	Status
1	Water Supply	Hogenakkal water supply project- Dharmapuri component	9163	Proposed. DPR being prepared by TWAD
		Storage capacity (Expecting Hogenakkal project) @20LL	50	Additional outlay phasing
		New borewell 6"	10	Work done
		Wall in infiltration gallery	7	Work done
	Total		**9230**	
2	Sanitation	Proposed UGD Scheme	3219	Tenders finalised. Work also commenced from 29.11.2007 and will be completed with in 18 months.Work is going on
		Storm water drains	967	Proposed
		Public Conveniences	138	Proposed
	Total		**4324**	
3	Transportation	Street lights	34	Under implementation
		Roads	901	Would be taken after completion of UGD phase-I
	Total		**935**	
4	SWM	Land acquisition for disposal yard	550	Dharma-M in the process of identifying land
		Provision of facilities in compost yard	7	Dharma-M in the process of finalising cost
		Purchase equipments for Secondary Collection	30	Proposed
		Development of Compost Yard	121	Proposed
		Primary collection	4	Additional outlay phasing
		Development cost - Landfill site	91	Additional outlay phasing
	Total		**803**	
5	Others	Slaughter house	25	Under implementation
		Gasifier crematorium	45	Under implementation
		Markets	100	Proposed
		Burial Ground Development	50	Proposed
		Parks	20	Proposed
		Municipal Office	60	Additional outlay phasing
		Schools	30	Additional outlay phasing
	Total		**330**	
6	UIDSSMT	Ongoing/Planned Interventions-IHSDP	267	267.75 lacks 7 slums are covered 433 houses complete the work 2008 end
		Additional Outlay required for service level goals	3560	Additional outlay phasing
	Total		**3827**	
	Overall		**19447**	

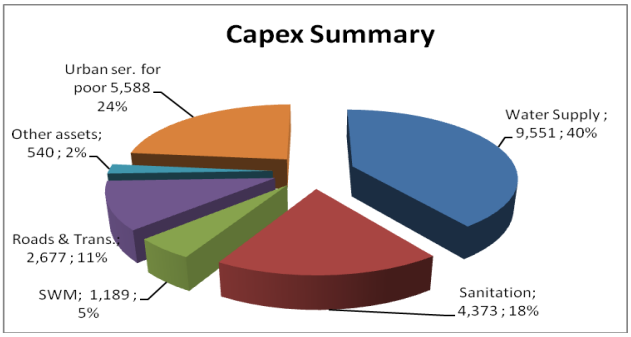
7.11.2 CIP summary

Exhibit 7.18 provides a summary of sector wise phasing of investment needs of Dharma-M.

Exhibit 7.18 Capital Investment Plan summary

Rs in Lakhs

Segment	2008	2009	2010	2011	2012	2008-12	2013-17	2018-27	TOTAL
Water Supply	42	2,291	2,316	2,291	2,291	9,230	10	312	9,551
Sanitation	-	1,073	1,119	1,602	529	4,324	12	37	4,373
Solid Waste Management	71	391	341	-	-	802	241	145	1,189
Transportation and street lights	-	-	300	317	317	935	600	1,152	2,686
Others	20	235	50	25	-	330	70	140	540
Urban Services for the poor	89	979	979	890	890	3,826	1,761	-	5,588
TOTAL	**222**	**4968**	**5104**	**5125**	**4027**	**19447**	**2694**	**1786**	**23927**



The specific points from consultations and the amount allocated with respect to these suggestions are summarised in table below.

Segment	Suggestions	Reflection in CIP
Water Supply Pilot project 24x 7 Upgradation Distribution	1) Improve the water supply through out the dharmapuri 2) Improve the quality of water in all session 3) Quality of water during summer season.Hogenakal project implementation should address this problem. Need two more Over head tanks at Annasagaram and Appavu nagar.	Rs. 9230 lakhs are allocated in CIP up to FY2008-12
Sanitation Toilets UGD Storm water drainage	1. Need Storm water drainage through out city. 2. Need Under ground drainage system 3. Beautification of park near Ramakkal Eri.(Eri maintained by PWD) 4. Under ground drainage should be implemented on priority. 5. Need storm water drainage at both sides of Bye pass roads 6. Renovate and improve the rammakkal eri (maintained by PWD) with help of Municipality and require land for this.	Rs. 4324 *lakhs are allocated in CIP up to FY2008-12*

Segment	Suggestions	Reflection in CIP
Road and Transportation Roads (Upgradation and new) Bus terminus New Bus stand Street lights	1. Bus stand should be located Pennagaram road or Avaiyyar road. 2. Existing bus stand should renovate and treated as town bus stand. 3. Traffic conjected in all areas. Mainly four lines Anna statue heavy traffic in all times. Need over bridge avoid traffic conjection 4. Need over bridge at Annasaram to Dharmapuri main road. 5. All roads to be widening. 6. Improve street light facility at all areas. 7. Need new bus stand at pennagaram road. 8. Existing bus stand should be operated as town bus stand. 9. Improve basic amenities in bus stand. 10. Improve the road quality at annasaram. – 34 ward 11. Need separate parking lot for lorry and heavy vehicles. 12. Transportation improvements needed. There is a need for a link / ring road through Old Dharmapuri road (Krishnagiri road), Thiruppathur road, Murappur road, Annasagaram road and Selam road 13. Roads should be upgraded and widened 14. New Bus stand to be constructed in other area and existing bus stand to be modernized for town bus stand 15. Need modernized bus stand and promote existing bus stand as a town bus stand 16. Need highway link road between Pondicherry to Mysore 17. Improve bus shelters, and basic amenities near bye pass road. 18. Need over bridges or sub ways at traffic conjection areas. As follows, 19. Near Anna statue at four line road. 20. Pidamaneri Bye pass road corner 21. On the way to Governement Girls Higher secondary school road near Periyar statue 22. Market roads are renovated and construct CC road through out market area. 23. Master plan for ring road to solve the traffic and all roads to be linked to it.	Rs. 935 lakhs are allocated in CIP up to FY2008-12
Others: Parks Schools Health cares Markets Sluaghter House Gasifier Cremetorium Municipal Office	1) Need more parks. 2) Need Basic facility in government hospital. 3) Modernized hospital / meternity centre is necessary 4) Construct lodges and guest room with low costs. 5) Commercial and shopping facilities can be improved 6) Need low cost marriage hall near Sandipet road and Pennagaram road. 7) Need a daily market near Bus stand 8) Improve the Basic amenities in burial ground. 9) Possibility for setting up gasified crematorium 10) To be construct first floor and second floor in existing shopping complex for multi purpose. 11) Need new bus stand out side dharmapuri with multilevel shopping complex. 12) Remove encroachment in State bank road, Sengodipuram and to be construct shopping mall 13) Improve basic facilities in existing shopping 14) Need new building for super market. Existing super market should demolish. 15) Improve the shopping complex in Bus stand and adjacent side of bus stand. 16) Possibility to setting up gasified crematorium with basic facility to be improve 17) Improve the Parks. Recommended for Pay and Use. 18) Provide the parking lot it should avoid unnecessary traffic in the town.	Rs.330 lakhs allocatted in CIP upto FY' 2008-2012

Segment	Suggestions	Reflection in CIP
	19) Need Public stage hall for all parties at pennagaram road and avoid the traffic conjestion in the city.	

7.11.3 Technical assistance requirements

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

a) Roadmap for 135 LPCD water and 24x7 supply
b) Digitization of layout records and town planning information
c) Comprehensive GIS for the town with updated information on all urban assets including roads, water supply, sanitation etc.
d) DPR for solid waste management with focus on scientific disposal and mechanised handling of waste with private sector participation
e) Identification of land for municipal waste disposal
f) Sewage treatment plant for capacity enhancement

7.11.4 Interventions required from other agencies/departments of GoTN

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

a) DTCP – Review of master plan and land-use and roadmap for extension of city limits. The authorities may also evaluate the need and scope of a master ring road around Dharmapuri town / adjoining areas to facilitate future developments in an orderly manner
b) Department of Highways – Evaluate the scope for providing truck terminals at the entry and exit of Dharmapuri town
c) Commercial taxes / RTO – Streamline, integrate and computerise check post documentation and processing to minimise pile up of trucks on the National Highway connecting the town.
d) Tamil Nadu Pollution Control Board (TNPCB) – Develop and implement necessary pollution control measures to prevent water, land and air pollution that may otherwise arise otherwise due to the expected growth of industrialisation of the region.

7.11.5 Reform targets

Exhibits 7.19 and 7.22 summarize reform targets and asset management plan for Dharma-M respectively.

Exhibit 7.19 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	78	135	135	135
Storage capacity / Total demand	%	58%	50%	50%	50%
Distribution network / Road length	%	61%	85%	90%	100%

FACTOR	Unit	Baseline	Target		
		2007	2012	2017	2027
Frequency of supply	hours/day	3	4	4	24X7
Reform targets					
Current collection efficiency	%	59%	85%	90%	95%
House Service Connections / Assessed Properties	%	34%	80%	85%	95%
Population per water fountain	nos.	153	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	30%	50%	100%
SANITATION					
Service Goals					
UGD Network					
Availability	Yes/no	No	Yes	Yes	Yes
Design treatment capacity per capita	Lpcd	-	120	120	120
Sewer network - % of road length	%	-	80%	80%	80%
Storm Water Drains					
Drain length / Road length	%	115%	130%	130%	130%
Public Conveniences					
Slum population per PC seat	Nos.	450	200	200	200
Reform targets					
Sanitation coverage - % of population	%	2%	100%	100%	100%
User charges - Current collection efficiency	%	n.a.	70%	90%	90%
Household connections / Assessed Properties	%	n.a.	30%	50%	50%
SOLID WASTE MANAGEMENT					
Collection efficiency	%	100%	90%	90%	100%
Door-to-door collection	%	100%	100%	100%	100%
Source Segregation	%	30%	60%	80%	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	**%**	10%	11%	11%	12%
Surfaced roads to Total roads	**%**	96%	100%	100%	100%
Street Lights - Distance between streetlights	M	24	30	30	30
Street Lights - Proportion of high power lamps	**%**	26%	30%	30%	30%
Street Lights - Proportion of lights with energy savers	**%**	0	30%	30%	30%

7.12 Asset Management Plan

This section details the asset management plan for various urban service areas and assets owned by Dharma-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 Dharma-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 7.12.2 to 7.12.5 below.

Specific actions relating to asset management and reform steps in these areas are also summarized in Exhibit 7.23.

7.12.1 Land and building assets of Dharmapuri Municipality

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

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

Exhibit 7.20 and 7.21 summarises the details of land and building assets in Dharma-M as shown in schedule I and II of the asset register of the municipality.

Exhibit 7.20 Land assets summary

Particulars	No of Buildings	Area in sm
Basic amenities	31	14,720.11
Social Purpose	5	47,151.94
Remunerative Purpose	8	41,123.14
Schools	10	44,807.38
Office Buildings	3	11,111.16
Vacant Place & Others	7	52,349.04
Total	**64**	**211262.77**

Source: Dharma -Mply

Exhibit 7.21 Building assets summary

		All in sm	
Particulars	No of buildings	Total area	Plinth area
Basic amenities	5	460.50	110.88
Social Purpose	5	2,144.63	842.02
Remunerative Purpose	7	39,065.97	4,550.79
Schools & Noon Meal centre	19	82,374.35	4,318.14
Office Buildings	9	24,711.86	2,666.60
Others	11	58,972.54	4,468.05
Total	**56**	**207729.85**	**16956.48**

Source: Dharma -Mply

We observe that the asset register of Dharma-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 Dharma-M

a) 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.

b) Dharma-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.
c) Dharma-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

As explained in section 4, Dharma-M handles water supply in Dharmapuri and other areas. Dharma – M handles O&M for water supply in 33 wards, Bulk water supply to the areas serviced by Dharma-M is catered to by TWAD Dharma-M intends to handle operations and maintenance of the water supply project for the entire town once the proposed water supply scheme is completed. While this would enable focused accountability, it is important that TWAD and CMA prepare a roadmap and take the necessary steps for smooth handover of the water supply network during the next 5 years, when implementation of the proposed water supply scheme is completed. This would entail capacity building within Dharma-M to ensure appropriate upkeep of the network. Specific Asset management activities relating to the water supply assets and network are listed below along with priority.

Immediate Interventions

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.

Medium- Long term

Critical asset management and development activities in the medium to long term are listed below:

a) Implement metering and metering-based-tariff /graded water tariff at household level
b) 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.
c) Undertake a comprehensive GIS mapping of the water supply network of the town.

7.12.3 Sanitation

Underground drainage is being handled in Dharma-M in all wards. TWAD will develop the UGD systems and handle over to Dharma-M for the O&M purposes.

Immediate Interventions

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.

Medium-Long Term

Dharma-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.

Exhibit 7.22 Asset Management Plan and timeline

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

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

Interventions requiring technical assistance/support in DPR preparation

7.12.4 Solid Waste Management

Short term

a) Dharma-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

Medium & 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

The related asset management and developmental activities in transportation and street lights include the following:

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 Dharma-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 road digging.
f) Adopt energy saving measures including implementation of energy savers in all high power street lights.

8. Project profiles, analysis of risks and ESA considerations

This section follows from the Capital Investment Needs identified in the previous section and provides brief profiles of select priority projects that need to be executed by Dharma-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 Water supply

Project Description	Comprehensive water supply scheme for piped water supply in all wards
Project Status	DPR under preparation TWAD.
Need for the project	Water supply is only **78** LPCD while less than 35% of assessed properties have house service connections, indicating the significant gaps in water supply service levels and coverage. Therefore this project needs to be addressed on priority
Project Components	This outlay is based on initial estimates provided by TWAD to Dharma-M and exact components and scope of DPR are not available. Assessments of normative gaps that need to be addressed are highlighted below. • **Supply augmentation, Transmission and primary storage** for supply of 10.14 MLD (by 2012) and 12.14 MLD (by 2027) • **Local storage and pumping -** Additional **1.3** ML of storage capacity by 2012 and another 0.3 ML by 2027. • **Investments in pumping and distribution network -** Comprehensive provision of protected piped water supply in all wards covering about 58 km of roads in the short term. • **Rapid scale up in House service connections –** which would potentially need to increase nearly 8-fold in the next 5 years to more than 13500 connections
Project Cost and basis	**Estimated at Rs. 91.63 crore.** Based on discussions with Dharma-M, initial estimate provided by TWAD of Rs. crore, but is likely to get escalated.
Revenue impact	Direct incremental revenue impact as Dharma-M intends to levy house connection deposits and user charges. However, it has still not been decided whether Dharma-M or TWAD would be handling the maintenance of water supply
Financing mix	Would be structured as a combination of grant, loan and own funds based on a detailed appraisal of potential revenues and other possible credit enhancements including escrow of part of property tax receivables and user charges and creation of debt service reserve. JNNURM grants likely to be accessed.
Risk factors and other remarks.	Given the large size and the complexity of the project, it is important to follow best practices in contracting out this project. Stringent quality considerations must be adopted in selecting contractors. The contract could be structured on a BOT format where the contractor is also responsible for maintaining the network, so that that the risk of non-performance is shared. Further incentives and penalties should be built into the contract to ensure timely completion of the project. To ensure scalability, TWAD should ideally make the design amenable for 24x7 supply in the future, even it does not envisage 24x7 supply in the short term.
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

8.2 Sanitation

Sector	Sanitation
Project Description	UGD scheme
Project Status	**Work is going on**
Need for the project	All 33 have Underground Drainage system in place. TWAD has also prepared a DPR for the uncovered areas. Therefore there is significant gaps in sanitation that need to be rectified on priority.
Project Components	**Comprehensive Underground Drainage scheme (Est. Outlay – Rs. 32.19 crore) covering the following components** • Provision of UGD scheme in 14 uncovered wards ~ Rs. 15.66 crores • Provision of UGD in uncovered areas in wards with existing UGD scheme • Completion of UGD in 19 wards (ongoing project) ~ Rs. 16.53 crores • Provision of estimated 36000 household connections in 5 years and additional sewer network of approximately 36 km.
Project Cost and basis	Estimated at Rs. 32.19 crore. Based on estimate for 33 wards provided by TWAD, (Phase 1 is going on) cost escalation sought by contractor for ongoing, UGD scheme and discussions with officials of Dharma-M.
Revenue impact	Direct incremental revenue impact as Dharma-M intends to levy house connection deposits and user charges. However, it has still not been decided whether Dharma-M or TWAD would be handling the maintenance
Remarks	Given the large size and the complexity of the project, it is important to follow best practices in contracting out this project. Stringent quality considerations must be adopted in selecting contractors. The contract could be structured on a BOT format where the contractor is also responsible for maintaining the network, so that that the risk of non-performance is shared. Further incentives and penalties should be built into the contract to ensure timely completion of the project. Modern best practices including biogas based electricity generation should be incorporated in the project design.
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	Implementation of pucca storm water drains and flood management measures.
Project Status	**Proposed.** A Detailed Project Report needs to be prepared 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.
Need for the project	Dharma-M has a number of flood-prone and low-lying areas to be identified
Project Components	This project would involve • Construction of new Pucca concrete storm water drains along the road along with interlinking to water bodies in uncovered areas in an estimated length. Cost estimated arrived at based on a normative length of 164 km of

	existing storm water drains. • Rehabilitation and desilting of existing storm water drains. Cost estimate arrived at based on an additional length of 164 km needed to meet 70% of road length.
Project Cost	**Rs.967 lakh**
Revenue impact	The project is likely to be non-remunerative.
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 to ensure appropriate upkeep and maintenance of the asset. Further, the construction of storm water drains should be done in conjunction with road restoration/development to ensure appropriate alignment and flow patterns.
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.

8.3 Solid waste management

Sector	Solid waste management
Project Description	Land acquisition and compost yard development
Project Status	**Proposed.**
Need for the project	Dharma-M has shortage of land for disposal and has decided to acquire 11.08 acres of land in Thandangam village for development of an integrated compost yard.
Project Components	This project would involve • Acquisition of land at a cost of Rs. 550 lakh • Development of compost yard at Rs. 7 lakh
Project Cost	**Rs. 1189 lakh**
Revenue impact	The project could enable earnings through sale of compost manufactured.
Financing mix	The project should be implemented with private sector participation on a BOT basis. This will reduce the capital investment from Dharma-M and at the same time enable Dharma-M to insist and enforce service levels.
Remarks	The project could be clubbed with collection and transfer responsibility in select wards.
ESA analysis and tentative rating	E1 or E2 – Project could have major environmental impacts thus necessitating Environmental Assessment Reports (EAR), particularly if dumping of non-biodegradable waste is also being done in the location. S1 or S2 – may have PAPs and hence need fairly detailed assessment.

8.4 Transportation

Sector	Roads
Project Description	Upgradation of road network post UGD implementation
Project Status	Ongoing – to be implemented in a phased manner to cover all wards.
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 components	Details have already been outlined in section 7.8.3 under the following components • Conversion of Non-BT to BT surface (2 km @ Rs. 33 lakh)

	• Road up gradation and restoration after UGD implementation (56 km @ Rs. 667 lakh) • Road facilities at Rs. 826 lakh
Project Cost	**Rs. 1967 lakh**
Revenue impact	Non-remunerative project
Financing mix	Combination of loans (30%), grant (50%) and own funds
Remarks	The road network up gradation should comprehensively take into account storm water drain design and other road assets including pedestrian foot paths, signage 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 A class bus terminus
Project Status	**Concept stage.**
Need for the project	The existing bus stand area is very congested and it has been proposed to shift the bus stand to a new developed bus stand to Pennagaram road or Avaiyar road
Project components	Details have already been outlined in section 7.8.3 under the following components • Development of new bus stand – Rs. 600 lakh
Project Cost	**Rs. 675 lakh**
Revenue impact	Can be structured as a remunerative project
Financing mix	Implementation should be attempted on PPP mode.
Remarks	Project would require a DPR to ensure appropriate routing of buses to avoid congestion. Provision for commercial activities should be provided to facilitate revenue augmentation and steps to keep the bus stand encroachment free should be planned and enforced.
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 Dharma-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:

a) Reduction in stamp duty on transfer of property from 15 to 8 percent.
b) Implementation of accrual accounting system in all Urban local bodies
c) Introduction of modified area based property tax system
d) Computerization of sub-registrar's offices
e) Repeal of the Land Ceiling Act, while a reformed Rent Control Act is being considered
f) Commitment to levy user charges and improvement in collections for water and sanitation services.
g) 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.

a) Urban planning, including town planning;
b) Regulation of land-use and construction of buildings;
c) Planning for economic and social development;
d) Provision of roads and bridges;
e) Provision of water supply for domestic, industrial, and commercial purposes;
f) Provision of public health, sanitation conservancy, and solid waste management;
g) Provision of fire services;
h) Promotion of urban forestry, protection of the environment, and promotion of ecology;
i) Safeguarding of the interests of weaker sections of society, including the handicapped and mentally retarded;
j) Slum improvement and upgrading;
k) Urban poverty reduction;
l) Provision of urban amenities and facilities such as parks, gardens, and playgrounds
m) Provision of cultural, educational and aesthetic aspects
n) Provision of burials and burial grounds, and cremations, cremation grounds, and electric crematoriums;
o) Provision of cattle pounds, and prevention of cruelty to animals

p) Recording of vital statistics including registration of births and deaths
q) Provision of public amenities including street lighting, parking lots, bus stops and public conveniences
r) 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[3]. 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 Dharma-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:

[3] *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 Dharma-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/up gradation. There is a therefore a need for continued emphasis on training to bring the accounting and finance staff up to speed on these developments.
- **Use of CAD/GIS applications in Town Planning/Engineering –** 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 project*** **-** Identify one major arterial high-density road corridor (typically maintained by the State Highways department) in all district headquarters 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/signage. Implementation of such projects could potentially have a demonstration effect and could contribute to widespread replication and adoption.

- **Flood management and interlinked storm drains –** Storm water drains are among the most expensive assets to be created by ULBs and yet least priority gets accorded to maintaining storm drains and keeping them clean. 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 for all the district headquarters and other flood-prone and coastal towns (such as Krishnagiri) in Tamil Nadu 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 Suggestions for improving financial performance and collection efficiency

Overall income of Dharma-M grew at a 5 % CAGR, driven largely by significant growth in Water and Other service charges income. Own income of the municipality grew at a moderate 12 %, while expenditure actually declined during the period at a CAGR of 3% due to a steep decline in operating expenses and finance expenditure. However, this presents only part of the picture. Current collection efficiencies in property tax and water user charges are abysmally low at an average 58% and 59% respectively.

Dharma-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 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.

Issues	Recommended Interventions
	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, Dharma-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.** 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 19% over the last five years and is becoming an important revenue stream. It is also a visible revenue stream, yet collection efficiency (especially on current demand) has been only about 82%. Dharma-M should improve collection efficiency to more than 95% and should explore options for enhancing revenues by taking the following steps.

31. Dharma-M should focus on widening its professional tax base by bringing more traders and independent professionals within the ambit of professional tax. Specifically, Dharma-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.
- **Databases of Commercial Taxes Department, GoTN** to get details of sales tax registrations within Dharma-M.
- **Yellow pages and other local commercial directories** to identify and bring in more professionals within the ambit of professional tax.

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.

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

User charges

With the proposed UGD system in uncovered areas and proposed implementation of the Combined Water supply scheme, user charges would need increased monitoring and follow-up given their potential to contribute to Dharma-M's revenue. Specifically Dharma-M should

a) Increase penetration of connections for water supply. As of FY 2006, Dharma-M has about 7249 connections, which accounts for only 34% of the properties assessed. Dharma-M should target to increase this to at least 60 % in the next 5 years progressively going up to 70% in the next decade.
b) Providing water fountains only in areas with a predominantly low income population to minimise revenue loss.

c) 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. Dharma-M could also consider implementation of meter based tariffs through involvement of Self Help Groups as meter readers.
d) Adopt measures to improve collection efficiency. Dharma-M should consider stiff penalties for non-payment of user charges. Specifically Dharma-M should consider implementation of late payment fines and in case of extreme overdue situations, disconnecting supply. Recommendations 8-14 given above under Property tax apply for improving collection efficiency in user charges as well.

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, Dharma-M could take the following measures.

a) Evaluate PPP options for development of proposed remunerative projects including a) development of Uzhavar Sandhai and other markets and b) Development of sports complex
b) Actively encourage corporate / NGO partnerships for city beautification and asset management in areas covering bus stops, street lighting, medians, parks and road junctions. Dharma-M could encourage them to adopt specific municipal assets and maintain them as part of Corporate Social Responsibility.
c) Further Dharma-M should also regulate posters and hoardings and outdoor advertising rights available to it to incentivise maintenance of above mentioned municipal assets by corporates that depend on outdoor advertising including banks, consumer goods and retail companies.

9.3.2 Measures for cost management

Energy efficiency

Dharma-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:

a) Dharma-M should conduct a comprehensive energy audit to identify areas for reducing power consumption and related costs.
b) Dharma-M should implement automatic time based dimmers on street light network and ensure that all pumps / motors are energy efficient.
c) A focused study is needed to assess the level of leakages in water supply 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

	Unit	Baseline	Projected		
		2007	2012	2017	2027
Population	nos	70276	75104	79977	89896
Households	nos	15936	17030	18135	20385
Slum population	nos	20899	21,780	23,193	26,070
Slum households	nos	4180	4,467	4,715	5,300
Assessed Properties	nos	19258	20581	21916	24634
Road length	km	58	64	64	70

10.1.3 Revenues

Exhibit 10.2 provides details of the assumptions for projecting revenues

Exhibit 10.2 Revenue related assumptions

Segment	Revenue driver	Basis / Assumptions
Property Tax	Baseline property tax / property (2006)	Rs. 1505 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. 1387 per year
	Growth in tax rate -	30% every 5 years from 2008
	Growth in assessments -	Population growth
Water charges	Penetration (Connections / properties)	Baseline – 22%. Connections growth assumed to reach 60% by 2013 and 80% by 2027.
	Deposit and user charges	Connection deposit assumed at Rs. 3000 and Rs. 8000 for household and commercial connections respectively and user charges assumed at Rs. 100 per month and Rs. 200 per month for residential and commercial connections respectively. Tariffs are

Segment	Revenue driver	Basis / Assumptions
		escalated at 5% annually
Sewerage charges	Penetration (Connections / properties)	Connections growth assumed to reach 50% by 2011 and 80% by 2027.
	Deposit and user charges	Connection deposit assumed at Rs. 3000 and Rs. 8000 for household and commercial connections respectively and user charges assumed at Rs. 75 per month and Rs. 250 per month for residential and commercial connections respectively. Tariffs are escalated at 5% annually
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)	6% growth during projection period

10.1.4 Expenditure

Exhibit 10.3 provides details of the assumptions for projecting expenditures for Dharma-M

Exhibit 10.3 Expenditure related assumptions

Segment	Revenue driver	Basis / Assumptions
Staff Costs	Growth over base salary	10% annually
Operating Expenditure	**Existing asset base** – Growth on base O&M expenditure of 2006	Assumed to grow at 5% annually
	For new capital investments – O&M has been assumed as a % of capital costs given in Exhibit 10.4 CIP	
	Water Supply	3.00%
	Sewerage and Sanitation	3.00%
	Solid Waste Management	8.00%
	Transportation & Street lighting	20.00%
	Urban services for poor	2.00%
	Others	2.00%
Administrative expenditure	Growth over average base expenditure during 2002-06	4%
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	Outlay	Phasing						
		2008	2009	2010	2011	2012	2013-17	2018-27
Water Supply - Project	5000	0	1667	1667	1667	0	0	0
Water Supply - Balance	4552	42	624	649	624	2291	10	312
Sewerage & Sanitation - Project	3219	0	1073	1073	1073	0	0	0
Sewerage & Sanitation - Net	1154	0	0	0	0	1105	12	37
SWM	1190	71	391	341	0	0	241	145
Transportation and Street lighting	2686	0	0	300	317	317	600	1152
Urban services for poor	5588	89	979	979	890	890	1761	0
Others	540	20	235	50	25	0	70	140
TOTAL	**23928**	**222**	**4969**	**5059**	**4596**	**4603**	**2694**	**1786**

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	Medium term
Sewerage and Sanitation	Long term
SWM	Medium term
Lighting	Short term
Urban Services to poor	Long term
Others	Medium term

Type of loan	Tenure years	Moratorium years	Interest rate %
Long	20	5	9
Medium	10	3	10.5
Short	8	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 Dharma-M as the minimum of

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

10.3 Project specific cash flows

As part of the FOP, we have also prepared project specific cash flow projections for the proposed water supply and underground drainage projects, apart from consolidated financial projections. A summary of the assumptions and the computations for water supply and Underground drainage scheme is enclosed below:

10.3.1 Water Supply

Based on preliminary information available we evaluated the financial viability and potential returns (measured by DSCR and DS/TR) for the comprehensive water supply scheme in Dharma-M. Data and underlying assumptions into the model are listed below:

a) **Project Scope**: Comprehensive water supply covering all wards to provide residential and commercial house service connections. The project is to be completed during 2009-11.

b) **Investment** assumed at Rs. 32.19 crore. This is based on the estimates provided to Dharma-M by TWAD which is in the process of preparing the DPR for the project. We do not have access to the DPR and a project component of the project and this is a preliminary estimate arrived at based on our assessment and discussions with Dharma-M. **Capital** structure is assumed at 50% debt, 20% Equity and 30% Grant. Debt assumed to be for 20 years (5 year moratorium) and 10% interest rate.

c) **Residential user charge realization and connection deposits** assumed at Rs. 62 per month and Rs. 3000 initially escalated at 5 % and 2% annually respectively. **Commercial user charge realization and connection deposits** assumed at Rs. 150 per month and Rs. 8000 initially escalated at 5% and 2% annually respectively. In addition, 50% of the property tax allocated to water supply and drainage account (20% of total property tax assumed to be allocated to water supply and drainage account) is assumed to be available for debt servicing and O&M for the project.

d) **Connections** are assumed to increase to 9,088 by 2012 and to 16,541 by 2027 for the whole of Dharma-M. Of this only 75% connections are assumed to accrue revenues to Dharma-M

e) **O&M costs** are assumed at 3% of capital costs with a 5% annual escalation and **bulk water** would be supplied to the concessionaire at Rs. 4.5 per KL by TWAD. This is in addition to the base O&M costs and has been assumed to increase at 5% annually during the projection period.

Results

The cash flows based on the above assumptions translate to an average DSCR of 1.18 and average DS/TR of 25%. TE/TR for the project works out to about 38.35%. However, Dharma-M would need to substantially improve its connection penetration (currently at 22%) and its collection efficiency in order to service the debt on the project. The debt servicing under the above conditions is extremely sensitive to both these parameters.

10.3.2 Underground Drainage scheme

Based on preliminary information available we evaluated the financial viability and potential returns (measured by DSCR and DS/TR) for the comprehensive Underground Drainage scheme in Dharma-M. Data and underlying assumptions into the model are listed below:

a) **Project Scope**: Comprehensive Underground Drainage scheme covering all wards to provide residential and commercial house service connections. The project is expected to be completed during a three year period from 2009-11.

b) **Investment** assumed at Rs. 32.19 crore. This is based on the estimates provided to Dharma-M by TWAD which is in the process of preparing the DPR for the project. **Capital** structure is assumed at 50% debt, 20% Equity and 30% Grant. Debt assumed to be for 20 years (with a 5 year moratorium) and 10% interest rate.

c) **Residential user charge realization and connection deposits** assumed at Rs. 75 per month and Rs. 3000 initially escalated at 5 % and 2% annually respectively. **Commercial user charge realization and connection deposits** assumed at Rs. 250 per month and Rs. 8000 initially escalated at 5% and 2% annually respectively. In addition, 50% of the property tax allocated to water supply and drainage account (20% of total property tax assumed to be allocated to water supply and drainage account) is assumed to be available for debt servicing and O&M for the project.

d) **Connections** are assumed to increase to 6000 by 2012 and to 1, 19,582 by 2027. Of this only 40% connections are assumed to accrue revenues to Dharma-M

e) **O&M costs** are assumed at 3% of capital costs with a 5% annual escalation. This is in addition to the base O&M costs that are incurred currently and have been assumed to increase at 5% annually during the projection period.

Results

The cash flows based on the above assumptions translate to an average DSCR of 1.28 and average DS/TR of 43%. TE/TR for the project works out to about 54.78%. However, Dharma-M would need to substantially improve its connection penetration and its collection efficiency in order to service the debt on the project. The debt servicing under the above conditions is extremely sensitive to both these parameters.

10.4 Possible financing mix for achieving full investments

Based on these criteria, the borrowing capacity of Dharma-M works out to Rs **4955 lakh.** At an aggregate level, assuming loans to be equivalent to **50%** of investment, sustainable investment capacity works out to Rs.**23928 lakh**, which translates to about **41 %** of the total investment requirement (including slum rehabilitation).

If we exclude slum rehabilitation and urban services for poor projects which are largely grant funded, the borrowing capacity translates to **54** % of the total investment requirement. Hence Dharma-M is well placed to meet its capital investment requirements. Exhibit 10.6 provides a possible financing mix.

Exhibit 10.6 Possible financing mix

Segment	Outlay	Suggested Financing %			Sustainable structure		
		Loan	Grant/Private	Own	Loan	Grant	Own/Private
Water Supply - Project	5000	10%	80%	10%	910	7,279	910
Water Supply - Net	4552	0%	95%	5%	-	430	23
Sewerage & Sanitation - Project	3219	50%	40%	10%	1,610	1,288	322
Sewerage & Sanitation - Net	1154	0%	90%	10%	-	1,039	115
SWM	1190	0%	90%	10%	-	1,071	119
Transportation and Street lighting	2686	0%	90%	10%	-	2,418	269
Urban services for poor	5588	0%	90%	10%	-	5,029	559
Others	540		90%	10%	-	486	54
TOTAL	**23928**	**11%**	**80%**	**10%**	**2,519**	**19,039**	**2,370**

10.5 Financial and Operating Plan

Exhibit 10.7 below provides a summary of the financial projections for 10 years.

Exhibit 10.7 FOP projections

	Actual	Estd.	Projections									
FY ending	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2012**	**2014**	**2015**	**2016**	**2017**
INCOME												
Own income	400	312	390	401	412	762	923	1,157	1,183	1,262	1,412	1,305
Property Tax	173	142	201	204	207	210	212	315	319	323	327	331
Profession Tax	22	27	38	38	39	39	40	57	57	58	59	59
Water Charges	-	-	-	-	-	182	200	272	271	296	388	295
Sewerage Charges	-	-	-	-	-	157	288	322	333	373	416	386
Service charges/fees	43	45	47	50	52	55	58	60	64	67	70	74
Other Income	162	98	103	108	114	119	125	132	138	145	152	160
Assigned Revenue	84	89	95	100	106	113	119	127	134	142	151	160
Devolution Fund	228	250	275	302	329	358	392	429	469	514	562	615
Total Income	**713**	**651**	**759**	**803**	**847**	**1,233**	**1,435**	**1,712**	**1,786**	**1,918**	**2,125**	**2,080**
Expenditure												
Salaries	257	283	311	343	377	415	456	502	552	607	668	734
Operations	83	89	103	148	213	484	540	473	495	520	548	579
Programme	282	18	18	19	20	21	22	24	25	26	27	29
Administrative	17	37	34	132	238	349	399	430	464	486	496	493
Finance	103	88	95	275	457	625	700	717	734	751	768	785
Total Expenditure	**742**	**514**	**561**	**917**	**1,305**	**1,894**	**2,117**	**2,145**	**2,270**	**2,390**	**2,507**	**2,620**
Surplus	**(29)**	**137**	**198**	**(114)**	**(458)**	**(661)**	**(683)**	**(433)**	**(483)**	**(472)**	**(381)**	**(540)**

10.6 Summary

Exhibit 10.8 below provides a summary of the results of the Financial and Operating Plan.

Exhibit 10.8 FOP summary

Estd. Revenues – FY 2008 (Rs. Lakh)	938
Estd. Revenues – FY 2016 (Rs. Lakh)	2,390
Estd. Revenues - FY 2027 (Rs. Lakh)	4,718
Revenue CAGR % - FY 2008-17	10.8%
Revenue CAGR % - FY 2008-27	8.9%
Average TE (excluding depreciation)/TR (%)	16%
Average DS/TR (%)	31%
Average DSCR	1.09
Borrowing Capacity	4955
Investment Requirement	23,928
Investment Capacity (at 50% loan)	9,910
IC/IR (including Urban Service for Poor)	41%
IC/IR (without USP investment)	54%

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