

**Tamil Nadu Urban Infrastructure Financial Services Limited**

**City Corporate Plan cum Business Plan for  
Pudukottai Municipality**

**Final Report**

**April 2008**



**ICRA Management Consulting Services Limited**

## Contents

<b>1. INTRODUCTION.....</b>	<b>1</b>
1.1 BACKGROUND TO THE STUDY .....	1
1.2 OBJECTIVES, SCOPE OF WORK AND STUDY MODULES .....	1
1.3 APPROACH AND METHODOLOGY .....	2
1.4 ORGANIZATION OF THIS REPORT .....	4
<b>2. TOWN PROFILE AND CITY DEMOGRAPHICS .....</b>	<b>5</b>
2.1 TOWN PROFILE .....	5
2.2 PUDUKOTTAI MUNICIPALITY .....	6
2.3 POPULATION AND OTHER SOCIAL INDICATORS OF PUD-M .....	6
2.4 POPULATION PROJECTIONS.....	7
<b>3. ECONOMIC STATUS AND TOWN PLANNING .....</b>	<b>9</b>
3.1 ECONOMIC DEVELOPMENT .....	9
3.2 OCCUPATIONAL PATTERN .....	11
3.3 LAND USE AND GROWTH MANAGEMENT .....	11
<b>4. RAPID URBAN ASSESSMENT – SERVICES, ISSUES AND GAPS.....</b>	<b>13</b>
4.1 WATER SUPPLY .....	13
4.2 SEWERAGE AND SANITATION .....	14
4.3 SOLID WASTE MANAGEMENT (SWM) .....	16
4.4 ROADS, BUS STANDS AND STREET LIGHTS .....	18
4.5 URBAN SERVICES FOR POOR .....	19
4.6 MARKETS AND OTHER ASSETS.....	20
4.7 SOCIAL INFRASTRUCTURE.....	21
4.8 SUMMARY - PERFORMANCE VIS-A-VIS SELECT INDICATORS .....	22
<b>5. URBAN GOVERNANCE AND MANAGEMENT .....</b>	<b>24</b>
5.1 POLICY OVERSIGHT AND INSTITUTIONAL FRAMEWORK – STATE LEVEL .....	24
5.2 GOVERNANCE STRUCTURE OF PUDUKOTTAI MUNICIPALITY .....	26
5.3 MANPOWER POSITION .....	28
5.4 ROLE OF OTHER AGENCIES .....	29
5.5 REFORMS UNDERTAKEN BY PUDUKOTTAI MUNICIPALITY .....	30
<b>6. ANALYSIS OF FINANCIALS.....</b>	<b>31</b>
6.1 INCOME AND EXPENDITURE SUMMARY OF PUDUKOTTAI MUNICIPALITY .....	31
6.2 REVENUE STREAMS OF ULB IN TAMIL NADU .....	33
6.3 REVENUES.....	33
6.4 COSTS .....	37
6.5 LOANS AND FINANCE CHARGES .....	38
<b>7. VISION &amp; STRATEGIC PLAN, CIP AND ASSET MANAGEMENT PLAN .....</b>	<b>40</b>
7.1 POTENTIAL THEMES FOR ECONOMIC DEVELOPMENT .....	40
7.2 SWOT ANALYSIS .....	41
7.3 STRATEGIC PLAN – FOCUS AREAS AND TIME HORIZON .....	42
7.4 POPULATION PROJECTIONS UNDERLYING THE STRATEGIC PLAN .....	42
7.5 WATER SUPPLY .....	42
7.6 SANITATION .....	45
7.7 SOLID WASTE MANAGEMENT .....	47
7.8 ROADS, TRANSPORTATION AND STREETLIGHTS .....	48
7.9 URBAN SERVICES FOR THE POOR .....	50
7.10 SOCIAL INFRASTRUCTURE AND OTHER URBAN AMENITIES .....	51
7.11 CAPITAL INVESTMENT PLAN – SUMMARY .....	52
7.12 TECHNICAL ASSISTANCE REQUIREMENTS .....	53
7.13 INTERVENTIONS REQUIRED FROM OTHER AGENCIES/DEPARTMENTS OF GoTN.....	53
7.14 REFORM TARGETS .....	53
7.15 ASSET MANAGEMENT PLAN .....	54

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<b>8.</b>	<b>PROJECT PROFILES INCLUDING ANALYSIS OF RISKS AND ESA CONSIDERATIONS .....</b>	<b>61</b>
8.1	PROJECT PROFILES OF SELECT PRIORITY PROJECTS.....	61
<b>9.</b>	<b>REFORM AGENDA AND TECHNICAL ASSISTANCE .....</b>	<b>64</b>
9.1	URBAN SECTOR REFORM IN TAMIL NADU – AN OVERVIEW.....	64
9.2	REFORM AGENDA – INTERVENTIONS REQUIRED AT THE STATE LEVEL .....	65
9.3	MEASURES FOR IMPROVING FINANCIAL PERFORMANCE .....	68
<b>10.</b>	<b>SUSTAINABLE FINANCIAL AND OPERATING PLAN.....</b>	<b>74</b>
10.1	FINANCIAL AND OPERATING PLAN (FoP)– TIME HORIZON, BASIS AND ASSUMPTIONS .....	74
10.2	ESTIMATION OF BORROWING CAPACITY AND INVESTMENT CAPACITY .....	76
10.3	PROJECT SPECIFIC CASH FLOWS .....	77
10.4	POSSIBLE FINANCING MIX FOR ACHIEVING FULL INVESTMENTS.....	77
10.5	FINANCIAL AND OPERATING PLAN.....	78

## List of exhibits

<i>Exhibit 1.1 iMaCS' approach and methodology .....</i>	<i>3</i>
<i>Exhibit 2.1 Population growth trend .....</i>	<i>6</i>
<i>Exhibit 2.2 Literacy and sex ratio.....</i>	<i>7</i>
<i>Exhibit 2.3 Population Projections.....</i>	<i>7</i>
<i>Exhibit 3.1 List of categorised agricultural produce in Pudukottai town.....</i>	<i>9</i>
<i>Exhibit 3.2 Occupational distribution in Pudukottai town (2001).....</i>	<i>11</i>
<i>Exhibit 3.3 Land use distribution in Pudukottai town (1991).....</i>	<i>11</i>
<i>Exhibit 4.1 Water supply - sources of supply and distance .....</i>	<i>13</i>
<i>Exhibit 4.2 Water Supply - Storage tanks and capacities .....</i>	<i>14</i>
<i>Exhibit 4.3 Salient features of proposed UGD system.....</i>	<i>15</i>
<i>Exhibit 4.4 Public Conveniences .....</i>	<i>15</i>
<i>Exhibit 4.5 Solid Waste Management - Current status.....</i>	<i>17</i>
<i>Exhibit 4.6 Road network .....</i>	<i>18</i>
<i>Exhibit 4.7 Street Lighting.....</i>	<i>19</i>
<i>Exhibit 4.8 IHSDP scheme at Pud-M – components .....</i>	<i>20</i>
<i>Exhibit 4.9 Details of Educational institutions in Pudukottai town.....</i>	<i>21</i>
<i>Exhibit 4.10 Details of Health care institutions in Pudukottai town .....</i>	<i>22</i>
<i>Exhibit 4.11 Core urban services - Baseline performance, issues and gaps .....</i>	<i>23</i>
<i>Exhibit 5.1 Urban sector - Institutional framework - State Level.....</i>	<i>24</i>
<i>Exhibit 5.2 Manpower status (as of October 2007).....</i>	<i>28</i>
<i>Exhibit 6.1 Income and Expenditure of Pudukkottai Municipality – 2003-06.....</i>	<i>31</i>
<i>Exhibit 6.2 Revenue streams - ULBs in Tamil Nadu.....</i>	<i>33</i>
<i>Exhibit 6.3 Property tax - analysis of DCB statement .....</i>	<i>34</i>
<i>Exhibit 6.4 Property tax – break up of assesseees and demand .....</i>	<i>34</i>
<i>Exhibit 6.5 Professional Tax - revenue drivers .....</i>	<i>35</i>
<i>Exhibit 6.6 Professional tax – break up of assesseees and demand .....</i>	<i>35</i>
<i>Exhibit 6.7 Water charges and other service charges – 2003-06.....</i>	<i>36</i>
<i>Exhibit 6.8 Water charges - revenue drivers .....</i>	<i>36</i>
<i>Exhibit 6.9 Repair and maintenance expenditure - Sector wise break up .....</i>	<i>38</i>
<i>Exhibit 6.10 Power costs - Water &amp; Sewerage and Street Lights (Rs in Lakh).....</i>	<i>38</i>
<i>Exhibit 6.11 Loan Statement (as of March 2006).....</i>	<i>39</i>
<i>Exhibit 7.1 Population projections and related estimates - Pudukottai town.....</i>	<i>42</i>
<i>Exhibit 7.2 Water supply - Service Goals and Reform Targets .....</i>	<i>43</i>
<i>Exhibit 7.3 Water Supply - Baseline status and gaps (short term and long term).....</i>	<i>43</i>
<i>Exhibit 7.4 Water Supply - Baseline status and gaps (short term and long term).....</i>	<i>44</i>
<i>Exhibit 7.5 Water Supply - Capital Investment outlay and phasing .....</i>	<i>44</i>
<i>Exhibit 7.6 Sanitation - Service Goals and Reform Targets.....</i>	<i>45</i>
<i>Exhibit 7.7 Sanitation – Ongoing/proposed projects.....</i>	<i>45</i>
<i>Exhibit 7.8 Sanitation- Baseline status and gaps (short term and long term) .....</i>	<i>46</i>
<i>Exhibit 7.9 Sanitation - Capital Investment outlay and phasing .....</i>	<i>46</i>
<i>Exhibit 7.10 Solid Waste Management - Service Goals and Reform Targets.....</i>	<i>47</i>
<i>Exhibit 7.11 Solid Waste Management - Baseline status and gaps (short term and long term).....</i>	<i>47</i>
<i>Exhibit 7.12 Solid Waste Management - Capital Investment outlay and phasing .....</i>	<i>48</i>
<i>Exhibit 7.13 Transportation and street lighting - Service Goals and Reform Targets .....</i>	<i>48</i>
<i>Exhibit 7.14 Transportation and street lights - Interventions - Physical.....</i>	<i>49</i>
<i>Exhibit 7.15 Transportation and Street lighting - Capital Investment outlay and phasing .....</i>	<i>50</i>
<i>Exhibit 7.16 Urban Services for poor – Service level goals and outcomes .....</i>	<i>50</i>
<i>Exhibit 7.17 Urban Services for the poor - Capital outlay and phasing .....</i>	<i>51</i>
<i>Exhibit 7.18 Social infrastructure and other urban amenities – Capital outlay and phasing .....</i>	<i>51</i>
<i>Exhibit 7.19 Priority projects - FY 2008-12 .....</i>	<i>52</i>
<i>Exhibit 7.20 Capital Investment Plan summary .....</i>	<i>52</i>
<i>Exhibit 7.21 Service level and reform targets – a summary .....</i>	<i>53</i>
<i>Exhibit 7.22 Land assets summary .....</i>	<i>55</i>
<i>Exhibit 7.23 Building assets summary.....</i>	<i>56</i>

<i>Exhibit 7.24 Asset Management Plan and timeline – summary.....</i>	<i>59</i>
<i>Exhibit 10.1 Population projections and related estimates - Pudukottai town.....</i>	<i>74</i>
<i>Exhibit 10.2 Revenue related assumptions .....</i>	<i>74</i>
<i>Exhibit 10.3 Expenditure related assumptions .....</i>	<i>75</i>
<i>Exhibit 10.4 Capital Investment Plan.....</i>	<i>76</i>
<i>Exhibit 10.5 Loan related assumptions.....</i>	<i>76</i>
<i>Exhibit 10.6 FOP projections.....</i>	<i>78</i>
<i>Exhibit 10.7 FOP summary .....</i>	<i>78</i>

## 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 Pudukottai Municipality (Pud-M). This exercise intends to enable Pud-M to develop a holistic, structured and consultative approach to fine-tune and define its development priorities going forward.

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

### City profile and growth potential

Pudukottai town serves as head quarters for the district. Pudukottai Municipality (Pud-M) is a selection grade municipality comprising 39 wards and extends over an area of 12.95 sq.km with an official population of 93148 (2001 census).

<b>Constitution</b>	Selection grade
<b>Area</b>	12.95 sq.km
<b>Wards</b>	30
<b>Population (2001)</b>	109217
<b>Decadal growth %</b>	10.3%
<b>Population Density per ha</b>	84
<b>Slum population (% of total)</b>	36%

Pudukottai is a town with historical significance - the town was ruled by several dynasties, including the Cholas, Pallavas, Hoysalas and was also a part of the Vijayanagara Empire. Pudukkottai or “New Fort” from which the town takes its name might have been erected in the eighteenth century. The Thondaiman, Vijaya Raghunatha rebuilt it on principles of town planning, in that the main streets were laid intersecting at right angles with the palace at the centre.

The town is the marketing centre for trading of agricultural produce from neighbouring villages. It has a weekly and a daily market, which act as centres for trading of agricultural produce from the contiguous region. A brief SWOT analysis of the town is presented below:

<b>Strengths</b> <ul style="list-style-type: none"> <li>District Headquarters</li> <li>Commercial / trading hub for surrounding areas</li> <li>Heritage town with tourist attractions in vicinity</li> <li>Proximity to other important tourism centres including Trichy and Thanjavur</li> </ul>	<b>Weakness</b> <ul style="list-style-type: none"> <li>Limited industrial activity and employment generation potential</li> <li>Poor infrastructure and connectivity</li> <li>Weak municipal finances</li> </ul>
<b>Opportunities</b> <ul style="list-style-type: none"> <li>Heritage / Religious tourism</li> <li>Economic, Trade and Education hub for nearby villages</li> <li>Potential for enhancing value-add and processing facilities given strengths in granite deposits and fisheries</li> <li>Trade hub for agri produce</li> </ul>	<b>Threats</b> <ul style="list-style-type: none"> <li>Outward migration of skilled workforce</li> <li>Continued constraints on ability and willingness to pay for urban services.</li> </ul>

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

- Promote and develop Agri-processing industry and terminal market infrastructure.** The agricultural produce in Pudukottai district is dominated by 3 crops namely, paddy, ground nut and sugarcane. Given the predominance of paddy, straw boards industries can be developed in this district by using Paddy straw as raw material. There is potential for setting up processing facilities for cashew and banana as well.
- Incentivise investments in granite, fisheries and related industries.** The district is rich in granite deposits and recently an initiative has been mooted to form a granite industry cluster in the district<sup>1</sup>. Over 140 mining leases are in operation. Fisheries is another potential area. The present annual catch is around 50,000 MT, which are being taken away to the freezing plants in Kerala and Andhra for export purposes. Freezing Plants and other opportunities including dried fish mass, smoking process plant, fish oil extraction plant, water skating and manufacturing of fishing boats are the possible ventures suggested by the District Industries Centre.
- Promotion as a Heritage site / town - Impetus to Tourism.** Pudukottai is considered an archeologists' delight. Megalithic burial sites near the Sithannavalas caves signify the region's heritage with rich sculpture and painting adorning the caves. There is potential for promoting tourism leveraging the heritage sites in the town's vicinity. Pudukottai's proximity to Trichy and Thanjavur, other fairly important tourist destinations in the state can also be turned to an advantage. Initiatives to create tourist amenities and recreation activities would enable attract and handle larger number of tourists and provide an avenue for incremental economic opportunities.
- Address the gaps in road and rail connectivity.** Improvement in rail connectivity to Pudukottai figured high on the list of priorities and the completion of Pudukottai-Thanjavur railway link and the Pudukottai-Kallal link (to connect Madurai). Establishing a bypass / ring road around Pudukottai town is another long standing felt need of the stakeholders of the town.

### Municipal Services - Status assessment, gaps and actions being taken

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

#### **Exhibit 1 Summary of prevailing service levels – key indicators, issues and gaps**

Sl. No	Name of the Indicator	Value	Issues and Gaps / Initiatives
<b>Water Supply</b>			
1	Daily Per Capita Supply (LPCD)	79	<ul style="list-style-type: none"> <li>Water supply level is below municipal norms of 90 LPCD.</li> <li>Water connections are only 56% of property tax assessments and indicate scope for</li> </ul>
2	Storage Capacity / Daily Supply (%)	67%	
3	Distribution Network / Road Length (%)	84%	
4	Water connections / Assessed properties (%)	57%	

<sup>1</sup> <http://www.hindu.com/2007/10/18/stories/2007101858500600.htm>

Sl. No	Name of the Indicator	Value	Issues and Gaps / Initiatives
5	Population per Public Fountain (Nos.)	118	improvement <ul style="list-style-type: none"><li>Very large number of public fountains appears to be a deterrent to more house connections.</li></ul>
Sanitation			
6	Presence of UGD network (Yes / No)	Planned	<ul style="list-style-type: none"><li>Planned UGD scheme critical for improving sanitation needs of town</li><li>Large number of water bodies in town (more than 30) . Several in poor condition and need restoration.</li></ul>
7	Septic Tanks / assessed properties (%)	40%	
8	Slum Population per Public convenience seat (nos.)	95	
9	Storm Drain Length / road network (%)	83%	
Roads and Street Lights			
10	BT roads / Total (%)	84%	<ul style="list-style-type: none"><li>Comprehensive road upgradation would be required on completion of UGD scheme</li></ul>
11	Road length per Street Light (m)	35 m	
Solid Waste Management			
11	Waste generation per capital (gms)	294	<ul style="list-style-type: none"><li>Composting facility already partly in place, but suspended in the last few months.</li><li>Proposed actions for equipment purchase need to be taken up on priority</li><li>Disposal land while adequate in the medium term, marginally short of 1 acre per 10000 population for 2027.</li></ul>
12	Collection efficiency (% of waste generated)	100%	
14	Disposal area gap ( in meeting 1 acre per 10,000 population for 2027)	2.15	
15	Average vehicle trips	2	
16	Source Segregation and Composting (Yes/No)	Partial	

## Analysis of financial performance

Exhibit 2 provides a summary of the income and expenditure of Pudukottai Municipality. This summary has been prepared based on information provided by Pudukottai Municipality.

### **Exhibit 2 Income and Expenditure summary**

**Rupees in lacks**

INCOME	2002-03	2003-04	2004-05	2005-06	CAGR %
<b>OWN INCOME</b>	<b>533</b>	<b>526</b>	<b>572</b>	<b>578</b>	3%
Property tax	207	216	224	229	3%
Profession tax	35	37	47	53	15%
Water & Sewerage Charges	112	103	129	131	5%
Other Service Charges & Fees	28	33	32	30	2%
Other Income	151	137	140	135	-4%
<b>ASSIGNED REVENUE</b>	<b>180</b>	<b>136</b>	<b>71</b>	<b>70</b>	-27%
<b>DEVOLUTION FUND</b>	<b>182</b>	<b>257</b>	<b>227</b>	<b>322</b>	21%
<b>GRANTS &amp; CONTRIBUTIONS</b>	<b>10</b>	<b>19</b>	<b>0</b>	<b>10</b>	0%
<b>PRIOR PERIOD INCOME</b>	<b>5</b>	<b>3</b>	<b>16</b>	<b>8</b>	18%
<b>TOTAL</b>	<b>909</b>	<b>942</b>	<b>886</b>	<b>987</b>	<b>3%</b>



EXPENDITURE	2002-03	2003-04	2004-05	2005-06	CAGR %
Salaries	415	399	391	438	2%
Operating Expenses	265	456	266	274	1%
Programme Expenses	0	0	0	0	-40%
Administrative Expenses	42	40	68	24	-17%
Finance Expenses	60	16	57	79	10%
Depreciation	112	107	169	28	-37%
Prior Period Expenses	0	0	0	0	55%
<b>TOTAL</b>	<b>782</b>	<b>912</b>	<b>782</b>	<b>815</b>	<b>1%</b>
<b>SURPLUS - (Excl.Depr)</b>	<b>127</b>	<b>30</b>	<b>104</b>	<b>171</b>	<b>10%</b>
<b>Operating Ratio (Total Exp/ Total inc) All figures in Percentage</b>					
Excluding depreciation	86%	97%	88%	83%	<b>89%</b>
Including depreciation	98%	108%	107%	85%	<b>101%</b>
<b>Debt Servicing</b>	<b>Rs, in lacks</b>				
Loan Interest	38.09	5.76	48.91	60.89	<b>153.65</b>
Loan Repayment	66.56	16.98	24.21	42.34	<b>150.09</b>
<b>Percentage of Income</b>	<b>12%</b>	<b>2%</b>	<b>8%</b>	<b>10%</b>	<b>8%</b>

Source: Pud-M accounts.

Overall, income of Pud-M grew by 3% during the period, primarily boosted by a 21% growth in devolution income. Own income grew by 3% with professional tax growing by 15% annually during this period. Assigned revenue and other income declined. Expenditure showed a decline largely on account of decline in administrative expenditure, which offset the 10% increase in finance expenditure. Overall the municipality reported a fairly good growth in cash surplus during the period inspite of a fairly slow rate of growth of 3% CAGR in income.

### Capital Investment Plan

The CIP has been prepared based on

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

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

#### **Exhibit 3 Capital Investment Plan summary**

Segment	2008	2009	2010	2011	2012	2008-12	2013-17	2018-27	TOTAL
Water Supply	70	270	60	60	608	1068	1296	1548	3913
Sanitation	46	1502	1502	1456	123	4630	677	764	6071
Solid Waste Management	46	20	0	0	0	66	138	133	337
Transportation and street lights	43	43	701	701	701	2188	571	2966	5726
Urban Services for the poor	800	400	1111	1111	1111	4533	1778	1778	8089
Others	10	80	55	15	100	260	660	330	1250
<b>TOTAL</b>	<b>1015</b>	<b>2316</b>	<b>3429</b>	<b>3343</b>	<b>2642</b>	<b>12746</b>	<b>5121</b>	<b>7520</b>	<b>25387</b>

## **Priority projects**

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

**Exhibit 4 Priority projects - FY 2008-12**

Sl. No	Sector	Project	Cost Rs. Lakh	Status
1	Water Supply	Replacement of Transmission line and pumping equipment - Vellar source	200	Proposal stage. DPR required.
2	Water Supply	Construction of OHTs at Machuvadi, Kamarajpuram and Gandhi nagar	140	Proposal stage
3	Sanitation	Implementation of UGD scheme	4000	Under implementation
4	Sanitation	Storm water drains restoration (80 km)	320	Proposal stage
5	Sanitation	Desilting of 15 water bodies	138	Proposal stage
6	Transportation	Upgradation of roads	1786	Proposal stage. To be taken up after UGD implementation
7	SWM	Equipment – procurement of 2 compactors and dumper bins and modernisation of compost yard	66	Under implementation
8	Remunerative enterprises	Municipal office complex	150	Proposal stage. DPR required.
9	Remunerative enterprises	New market complex	150	Proposal stage. DPR required.
10	Urban services for poor	Provision of services in 14 slums	2400	Under implementation

## **Technical assistance requirements**

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

1. Development of a comprehensive GIS for the town with updated information on all urban assets including roads, water supply, sanitation etc.
2. DPR on comprehensive water supply covering a) need and feasibility evaluation for improvements of Vellar source, b) Bulk metering and independent audit of leakage and losses in water supply and c) roadmap for achieving 135 LPCD water and 24x7 supply
3. DPR to comprehensively identify flood mitigation covering drain networks and interlinking/restoration of water bodies.
4. DPR and assistance in project structuring on PPP for development of proposed municipal markets along with development of municipal office complex.

## **Projects by other departments / agencies**

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

1. **Industries department** - Evaluate feasibility for incentivising fish processing industry and granite industries apart from straw based and other agro-processing industries in the region.

2. **PWD** – Develop a plan for restoration and rehabilitation of all the water bodies coming under its jurisdiction. We understand from information with Pud-M that there are 36 water bodies in Pudukottai and 7 ooranies
3. **State Highways / NH / NHAI**– Implement the proposed strengthening / widening arterial roads passing through Pudukottai and explore feasibility for developing a bypass road for the town. Prepare and implement a traffic improvement plan for arterial roads maintained by the State Highways department.
4. **Railways** - Expedite project for providing railway links between Pudukottai-Thanjavur and subsequently to Madurai.

### **Reform Agenda**

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

#### **State level**

1. Implement recommendations of the Third State Finance Commission, particularly those relating to the revenue buoyancy including property tax reform and devolution income from GoTN.
2. Ensure stability of tenure of key officials and ensure that except for extraordinary circumstances, there should be a minimum tenure of at least 2 years for all the key positions including Commissioner, Municipal Engineer, Manager, Town Planning Inspector, Sanitary and public health head and Accountant. Further, guidelines need to be clarified and enforced for formal charge handover whenever there is a transfer of officials to ensure continuity.
3. Carry out an independent assessment of skill gaps and manpower needs of ULBs to ascertain the appropriate manpower plan in terms of skill sets and experience/seniority. This is particularly relevant given the recent developments, specifically in urban planning and GIS, municipal accounting and systems, e-governance and modern practices in infrastructure service delivery including potential for Public-Private Partnerships.
4. Address critical operational areas through focused training and capacity building interventions, particularly in the areas of a) Engineering and project development, b) Accounting and Finance and c) Use of CAD/GIS applications in Town Planning and Engineering functions.
5. CMA, GoTN should continue its technical assistance efforts to ULBs to improve their accounting systems and practices. The setting up of the Debt Monitoring Cell to reconcile and provide updated information on the debt status of the ULBs is also a positive step in this direction.
6. CMA, GoTN should insist and implement closing of accounts and audit of the same within a fixed time period subsequent to the completion of financial year. TNUDF could consider a grading system to categorise ULBs on the basis of quality of accounting and reporting practices.
7. Create and enforce technical standards with specific applicability to municipal projects construction and execution particularly in the areas of a) integrated road asset creation and management, b) Detailed Flood management strategy and guidelines for storm water drain construction and c) Building on ongoing initiatives in Solid Waste Management through greater emphasis on implementation of scientific waste processing and disposal mechanisms

8. CMA, GoTN along with TNUISL should develop a framework for PPP covering specific policies and guidelines and model concessions for PPP in urban services including Water supply, Sanitation, Solid waste management, Street light maintenance and remunerative projects.
9. ULBs should be required to establish the practices of an independent systems audit to be conducted annually. This would enable ULBs to establish greater accountability and build in robust processes for disaster recovery and security of the IT architecture of the ULB.
10. Facilitate creation of a formal institutional mechanism to manage functional overlaps among nodal agencies/state level agencies and the ULB at the city level.

### ULB level

Pud-M could potentially by FY ending 2012 through focused interventions in the following areas:

1. **Property tax**: – through revision in ARV, widening assessee base and closer scrutiny.
2. **Professional tax** – sustaining a growth in assessments through widening tax base among traders and self-employed professionals
3. **User charges** – through increased penetration of water connections and new sewerage connections could potentially triple user charges income from the current levels.
4. **PPP / remunerative projects** - Pud-M also needs to explore land development as a revenue enhancement mechanism and should focus on attracting private sector participation through appropriate BOT/ SPV structures for implementing remunerative projects.
5. **Energy costs** - A savings of 10-15% reduction in energy costs appears imminently achievable and could translate to annual savings of Rs. 12-15 lakh annually on the current cost base.
6. **Collection Efficiencies** – Collection efficiencies in taxes as well as user charges indicate significant scope for improvement.
7. **NGOs / Corporate participation** - Intensify focus on attracting NGOs/advertising revenue for city beautification projects to reduce reliance on grants for such projects.

### FOP, borrowing capacity and investment capacity

Exhibit 5 provides a summary of the results of the FOP prepared for a 20 year horizon.

**Exhibit 5 Financial and Operating Plan – summary**

Estd. Revenues – FY 2008 (Rs. Lakh)	1,324
Estd. Revenues – FY 2016 (Rs. Lakh)	2,958
Estd. Revenues - FY 2027 (Rs. Lakh)	6,796
Revenue CAGR % - FY 2008-17	10.1%
Revenue CAGR % - FY 2008-27	9.0%
Average TE (excluding depreciation)/TR (%)	71%
Average DS/TR (%)	20%
Average DSCR	2.50
Borrowing Capacity	4521
Investment Requirement	25,387
Investment Capacity (at 50% loan)	9,043
IC/IR (including Urban Service for Poor)	36%

The borrowing capacity of Pudukottai works out to Rs. **4521** lakh. At an aggregate level, assuming loans to be equivalent to **50%** of investment, investment capacity works out to Rs. **9043 lakh**, which translates to only **36 %** of the total investment requirement. Therefore Pud-M is constrained to meet its investment requirement in full. While Loans should be used to finance core infrastructure projects which also have an identifiable revenue component (such as UGD), Pud-M should utilize Grants from schemes like UIDSSMT and IHSDP to undertake non remunerative projects relating to slum development, canal de-silting etc. Further, Pud-M should implement land development projects including development of markets and municipal complex on PPP mode.

## 1. Introduction

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### 1.1 Background to the study

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

This exercise intends to build on internal efforts of Pud-M and the Vision Plan prepared by Pud-M in FY 2005 that identified projects and development priorities in various areas of municipal functioning and also enable Pud-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<sup>2</sup>

#### 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.

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<sup>2</sup> 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 Pudukottai
- c) Review issues relating to revenue realisation, asset management and institutional constraints
- d) Development of a Financial and Operating Plan (FOP), taking into account potential revenue enhancement and cost reduction measures
- e) Prepare a draft Memorandum of Association between ULB and TNUIFSL that will outline base line indicators and the performance targets on the same.
- f) Initiate consultations with council and local stakeholders on the priorities; redefine priorities and work with the Council to resolve on adoption of the City's FOP and CCP actions.
- g) Finalize Action Plan for the City, with a resolution from the council on the priorities and commitment to implement revenue and management improvement measures.

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

### 1.2.3 Study outputs and modules

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

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

## 1.3 Approach and Methodology

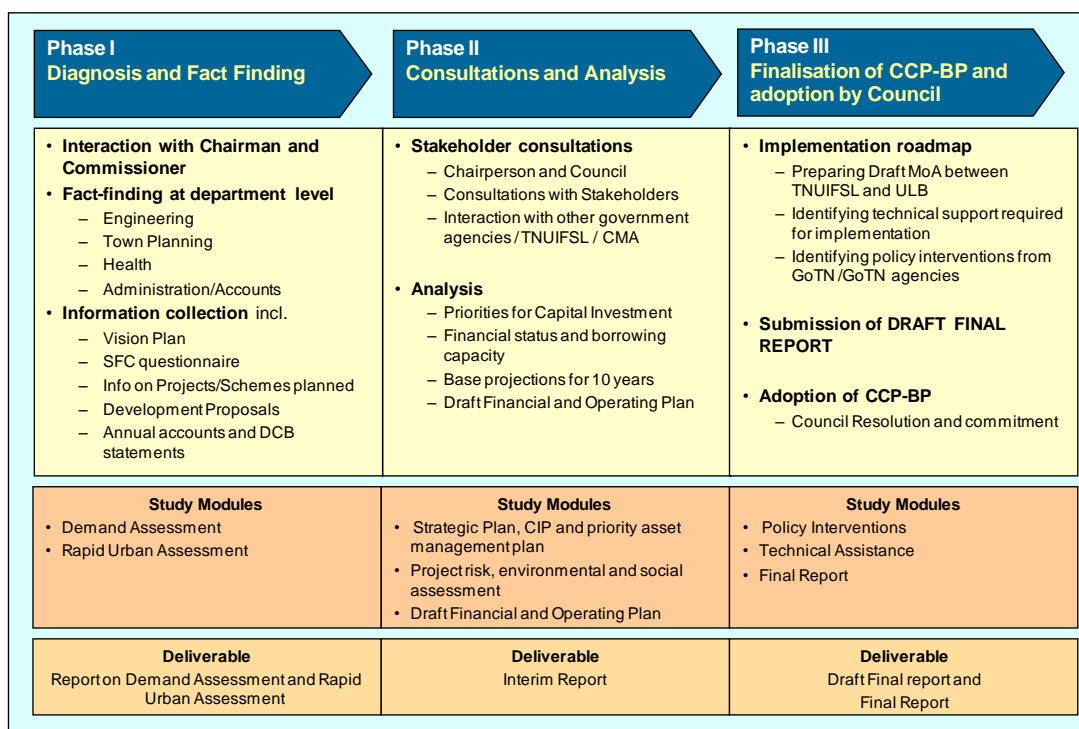
We conducted this study in three phases. Exhibit 1.1 provides a snapshot of the approach and methodology along the study modules and the deliverable(s) covered in each phase.

### 1.3.1 Phase I – Diagnosis and Fact-finding

The diagnostic review was directed towards achieving an understanding of demographic and economic profile of the town along with a review of the operating and financial performance of Pudukottai 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 Pud-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 Pudukottai 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.

**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 Pud-M and in follow-up discussions with ULB officials on the information gathered. In preparing this report, we have relied on the information provided by the ULB.

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

### 1.3.2 Phase II - Consultations and Analysis

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

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



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

- b) **Public consultations** – We also had public consultations with key stakeholders in the city. . The objective of this session is to complement the information gathered from our interactions with the council members to facilitate a wider participation of stakeholders in this exercise. Annexure III provides minutes of our meeting with the public stakeholders.
- c) **Analysis and finalisation of Capital Investment Plan** – Based on the findings of the rapid urban assessment and consultations with Council and stakeholders, we arrived at the Capital Investment Requirements for the town for the next 20 years. (i.e., 2008-2027).

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

### 1.3.3 Phase III – Finalisation of report

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

- a) Reform agenda to be adopted by Pud-M including revenue enhancement options.
- b) Policy interventions and technical assistance required for Pud-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 Pud-M. The report with the incorporated changes was presented to the municipal council, which passed a **Council Resolution<sup>3</sup>**, approving the report in its meeting on **27.02.08**

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

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<sup>3</sup> Copy enclosed with Executive Summary of report

## 2. Town profile and city demographics

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### 2.1 Town Profile

#### 2.1.1 District overview

Pudukkottai town is the headquarters, of the District and is situated on the Chennai-Rameswaram rail route. Pudukkottai was formed as District on 14.1.1974. The total area of the district is 4663.2 sq.km (466329 Ha).

#### 2.1.2 Historic significance

Pudukkottai is a town with historical significance - the town was ruled by several prominent South Indian dynasties, including the Cholas, Pallavas, Hoysalas and was also a part of the Vijayanagara Empire. Pudukkottai or “New Fort” from which the town takes its name might have been erected in the eighteenth century. The Thondaiman, Vijaya Raghunatha rebuilt it on principles of town planning, in that the main streets were laid intersecting at right angles with the palace at the centre, in the heart of the present town which was called ‘ old palace’ till recently.

Originally the town was surrounded by dense forests. In the course of time it developed into modern Pudukkottai through the merger of several contiguous older towns and villages. The town has many important historical monuments, including a fort, a palace and also an old prison. While the King’s palace now houses district offices, the erstwhile prison serves as the municipal office.

Besides historical monuments, the town also has places of religious interest, which include temples and churches. The Victoria Jubilee Arch on the east main street constructed in commemoration of the Diamond Jubilee of Queen Victoria is a notable structure in the town. There are several impressive public buildings erected in Indo-Islami-dravidan-European style. The public office buildings, contiguous with the residence of the Collector, the college of Education and the Rajah’s college, the District Head Quarters Hospital, Ranees girls school, all built in red brick uncovered by mortar belong to the style popularized by the British architect Robert Chisholm and is generally called as “Indo-Saraceni”.

#### 2.1.3 Location and connectivity

The town, situated in the valley of river Vellar, has rail connectivity on the railway line from Chennai to Rameshwaram as well as road connectivity (being situated on the Perambalur Manamduurai State Highway connecting the town with Thanjavur and Sivaganga). It is well connected with Tiruchirapalli (52 Km on NH 210) and with Thanjavur (62 Km on NH 67), two prominent commercial and religious centres in the state. Chennai, the state capital, is 390 kilometer from Pudukkottai. By virtue of its location, the town is connected to significant commercial and religious centres in the state. Trichy is a major commercial centre and Thanjavur is a major religious centre in the state.

## 2.2 Pudukottai municipality

Pudukkottai Municipality was Constituted as a III Grade Municipality during the Year 1912. It was upgraded as a first Grade Municipality from 01.11.1963 and Selection grade Municipality from 22.03.1998. Pudukkottai Municipality covers Kavinadu and Nathampannai Villages. The extent is about 12.95 sq.km. area. Pudukkottai is one of the towns of ancient historical importance in Tamil nadu. It is also well planned town. The Municipal office which is running now was build during the period of the King Thondaimaan. Pud-M comprises 39 wards and extends over an area of 12.95 sq.km with an official population of 93148 (2001 census).

## 2.3 Population and other social indicators of Pud-M

### 2.3.1 Population trends

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

**Exhibit 2.1 Population growth trend**

Year	Population	Census households	Growth Rate (%)	
			Annual	Decadal
1961	50428	12226		
1971	66384	14432	2.8%	31.64%
1981	87952	16877	2.9%	32.49%
1991	99058	20377	1.2%	12.63%
2001	109217	23654	1.0%	10.26%

*Source: Census 2001*

As per the latest census, Population of Pud-M was 109217 (~ 23654 households). Population in Pudukottai town has seen a decline in growth across the last few decades, although it increased in absolute terms throughout the period. The increase in 1961-81 was driven by establishment of many government offices after formation of new district. As per the last census 2001 population was 1.09 lakh with floating population of approximately 5500.

According to a survey there are 20 slums with total population of approx. 37740 in around 6861 houses. Slum population constitutes about 35% of the present town population. Decreasing population growth rate in last four decades can be attributed to general migration in search of employment and this may indicate lesser opportunities for meaningful employment to residents of the town.

From the study of the master plan town and our interactions with town planning officials, residential density is not uniform through out the town. Density is high in the centre and decreases in the peripheral areas such as Sivagandapuram, Ganesh nagar and the Tamil Nadu Housing Area. High density ranges from 200 - 300 persons per hectare (PPH) in the central part of the town and 16 - 55 persons per hectare (PPH) in the peripheral areas with low density.

### 2.3.2 Literacy Rate and sex ratio

Exhibit 2.2 provides details of the male and female population of the town along with details of Literates.

**Exhibit 2.2 Literacy and sex ratio**

Particular	Male	Female	Total	Sex Ratio
<b>Population</b>	54614	54603	109217	1000
<b>Literates</b>	45262	40127	85389	982
<b>Literacy % - Pudukottai</b>	94.13%	82.34%	88.20%	
<b>Literacy % - State - Urban</b>	<b>88.97%</b>	<b>75.99%</b>	<b>82.53</b>	

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

As seen, literacy rates in the town are higher than the overall urban literacy scenario in Tamil Nadu. The sex ratio for Pud-M at 10000 is also higher than the state average of 982 (as per Census 2001)

### 2.4 Population projections

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

- Arithmetical Increase Method**
- Geometric Increase Method**
- Incremental Increase Method**

Exhibit 2.3 provides the summary of the population projections made for the town. Annexure IV gives the detailed computations.

**Exhibit 2.3 Population Projections**

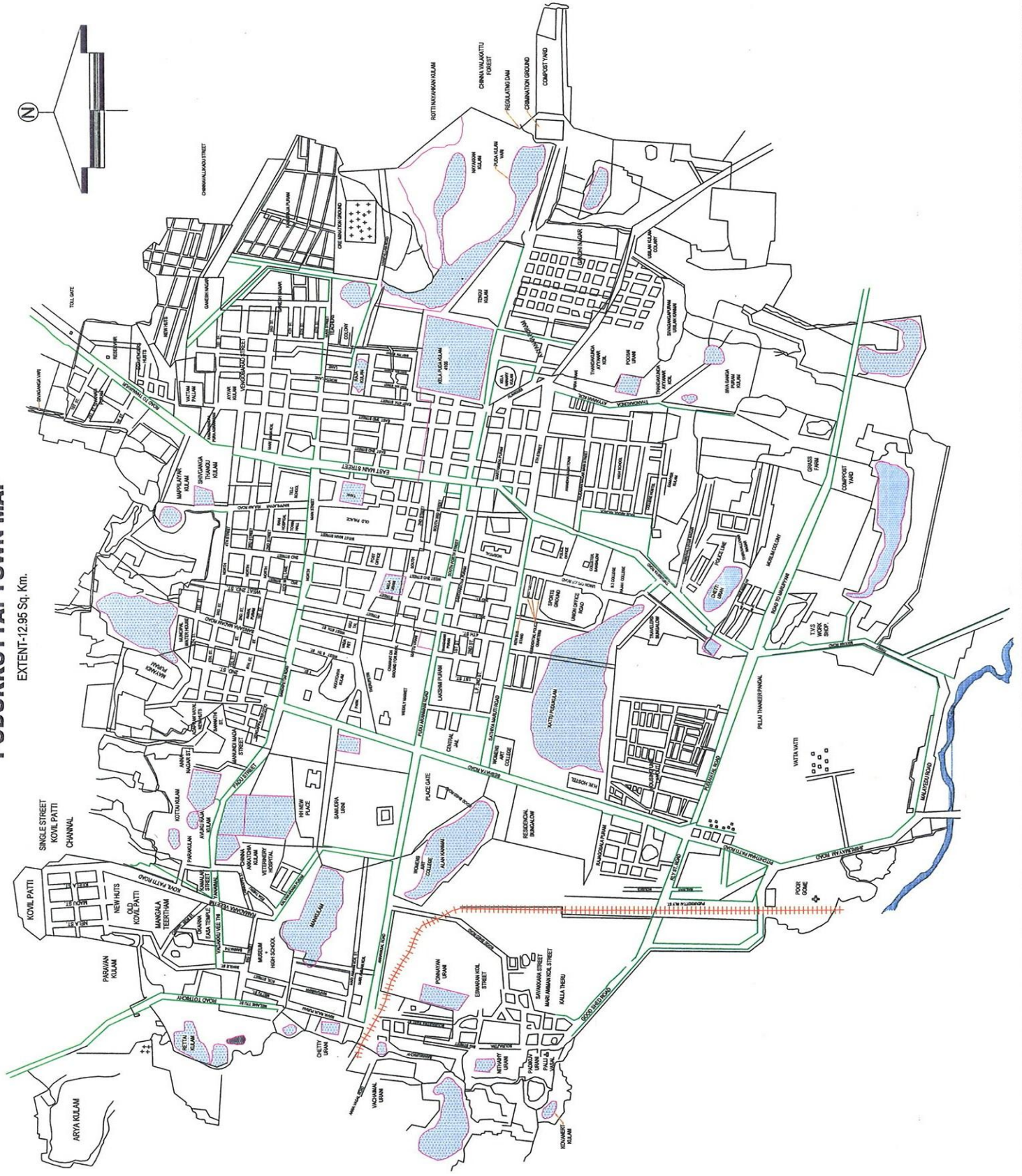
Year	Arithmetic	Geometrical	Incremental	Average
2001	109217	109217	109217	109217
2011	123914	130079	121982	125325
2016	131263	141960	127640	133621
2021	138612	154926	132815	142117
2026	145960	169077	137506	150848
2031	153309	184519	141715	159848

As seen, the population of Pudukottai town could potential go up to more than 1.6 lakh in the next two decades. This growth needs to be factored in planning for urban services. The next two sections detail aspects of the economic development of the town and the status and the gaps in urban service delivery respectively.



# PUDUKKOTTAI TOWN MAP

EXTENT-12.95 Sq. Km.



### 3. Economic status and Town planning

#### 3.1 Economic development

##### 3.1.1 Primary Sector - Agriculture and Mining

Pudukottai does not have exploitable mineral resources. The town serves as the node for commerce and trade for the surrounding villages. The town is the marketing centre for trading of agricultural produce from neighbouring villages. It has a weekly and a daily market, which act as centres for trading of agricultural produce from the contiguous region. Exhibit 2.2 shows the range of agricultural products grown in the region surrounding the town.

**Exhibit 3.1 List of categorised agricultural produce in Pudukottai town**

Category	Produce
Cereals	Paddy, Chola, Varagu, Ragi, Maize, Cumbu
Pulses	Red gram, Cow pea, Horse gram, Black gram, Green gram
Oil seeds	Ground nut, Coconut, Soya bean
Condiments	Chillies, Tamarind
Sugars	Sugarcane, Palmyra
Fibres	Cotton
Fruits	Banana, Mango, Jack fruit, Guava, Acid Lime
Vegetables	Brinjal and Ladies Finger
Plantations	Beetle nuts and Cashew

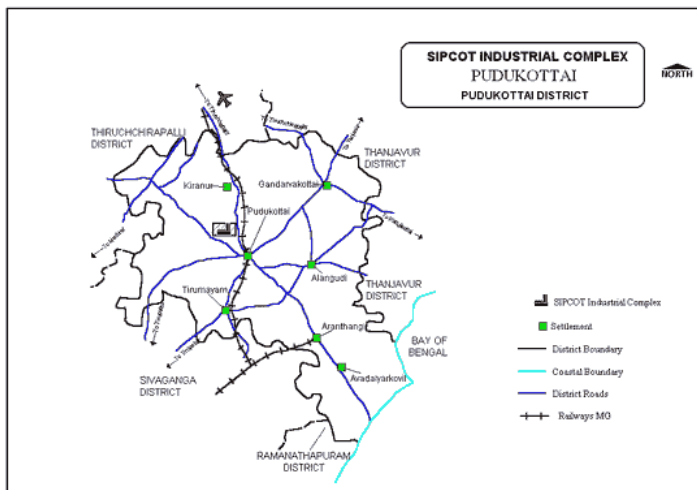
##### 3.1.2 Secondary Sector – Manufacturing Base

There is no significant industrial activity in the town, which is also reflected in the land allocated for industrial usage (1.47% of the developed area of the total town), in the town's approved master plan. Industrial activities in the town comprise of cottage and small-scale industries, such as small processing units of tobacco, automobiles repair shops with automobile bodybuilding and tyre re-treading works.

Besides these activities, other household industrial activities include manufacturing of aloe fiber rope products, fancy and jewellery products, tailoring and embroidery works, plastic wire and art metal manufacturing and dyeing work. All these industrial activities put together, offer employment to only 2964 persons, which indicate small sized units.

A SIPCOT industrial complex, spread over 421 acres, is located outside the town in Kulathur Taluk, 7 Km from Pudukottai on Trichy - Pudukottai Highway. Even though it is located outside the town, this complex offers employment opportunities for residents of Pudukottai and thereby influences the economy of the town. Industries in this complex include automobile and auto ancillaries, general engineering, food processing, iron and steel castings, plastics, textiles, electrical &

electronics, leather finished products and industrial gases. The industrial estate is not doing well and this has resulted in lesser employment opportunities for the residents of the town.



### 3.1.3 Tertiary sector- Commercial Services

Pudukottai serves as an important commercial centre for the district. Agriculture being the main activity in the surrounding region, commercial activities linked to sale of inputs for crop production and harvesting and sale of produce are the major trading activities in the trade. Pudukottai serves as a central market for seeds, fertilizers and farm equipment required by farmers for agricultural production. It also serves as the market for trading harvested agricultural produce. One daily and one weekly market support these activities.

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.

Pudukottai is a heritage town and has historical monuments and religious places. There are number of temple sites in the district.

- Sittannavasal: About 16km from Pudukkottai rock-cut cave temple.
- Kudumiyannalai: 20kms from Pudukkottai rock-cut temple called Melakkoil.
- Kodumbalur: Also known, as Muvarkoil is 36 km. from Pudukkottai.
- Viralimalai: About 40 Km from Pudukkottai. Subramaniam temple
- Narthamalai: Historical importance as the headquarters of the Muthurajia Chieftains.
- Tirumayam: The fort, the Siva and Vishnu temples.

However, tourist arrivals in the town are not significant. This can be largely attributed to the locational disadvantage of the town, as it is neither a part of nor a transit point for any tourist circuit. Pudukottai can serve as a nodal centre for tourists visiting religious sites in the proximity to the town. The scope for development of tourism in the town is limited, as its heritage monuments currently house government offices and are in dilapidated conditions. There lies a potential for development of the heritage sites in the town and promoting tourism. Pudukottai can exploit its proximity to Trichy and Thanjavur to attract tourists from these cities.

### 3.2 Occupational pattern

As per census data of year 2001 on occupational pattern of the town's population, the primary sector employs only 1.47% of the total workers population in the town. This implies low level of agricultural activity inside the town limits.

Household industries employ about 3.31% of the total worker population. This again shows the low level of industrial activity inside the town. Services and trading sector is the single largest employer, employing 95.22% of the total population in the town. This reinforces the fact that services drive the economy of the town.

**Exhibit 3.2 Occupational distribution in Pudukottai town (2001)**

Sector	Employment	Percentage (%)
Primary Sector	483	1.47
Secondary	1084	3.31
Tertiary	31230	95.22
Total	32854	100.00

Source: Census of India

### 3.3 Land use and Growth management

Pudukottai is a single local planning area (LPA) notified under T&CP act 1971. The local planning area consists of only Pudukottai town to the extent of 12.33 square kilometer which coterminous with the municipal jurisdiction comprising of Pudukottai Village No. 21, Natham Pannai Village No. 22 and Kavinadu West Village No. 25 revenue village. The land use pattern for Pudukottai, as per the 1991 master plan (latest revised plan), is given below in exhibit 3.3.

**Exhibit 3.3 Land use distribution in Pudukottai town (1991)**

Land use	Developed area (in Ha)	% to Total developed area	% to Total LPAs area
Residential	599.11	60.10	48.59
Commercial	44.11	4.43	3.58
Industrial	14.69	1.47	1.19
Educational	38.32	3.84	3.11



Land use	Developed area (in Ha)	% to Total developed area	% to Total LPAs area
Public & Semi public	115.33	11.57	9.35
Roads	185.26	18.59	15.03
Total Developed Area	996.82	100	80.85
Agriculture	28.29		2.29
Vacant	98.94		3.97
Water Bodies	108.95		12.89
Total area	1233		100
Source: Master Plan 1991			

The administrative area of Pudukottai town extends over an area of 1233 hectares and the total developed area of the town is 996.82 hectares. The land distribution pattern demonstrates that Pudukottai predominantly serves as head quarters for the district. Almost 72% of the land is under residential / administrative buildings, reiterating its role. There are 85 government offices offering employment to sizable work force in the town. Industrial use occupies an area of 14.69 ha, which accounts for 1.47% of the developed area.

## 4. Rapid Urban Assessment – services, issues and gaps

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

### 4.1 Water Supply

#### 4.1.1 Current requirement

As per municipal norms of 90 litres per capita per day (LPCD), Pudukottai Municipality's requirement was MLD in 2001. (based on Census 2001 population - 93148) to meet its water supply needs completely.

#### 4.1.2 Sources of supply and Transmission

Exhibit 4.1 provides the details of the sources from which water is supplied and the distance of these sources to Pudukottai town.

**Exhibit 4.1 Water supply - sources of supply and distance**

Nos.	Source	Maintained by	Distance from town (km)	Supply (MLD)
I	Cauvery Combined water scheme	TWAD	86	7.6
II	Vellar Water supply scheme	Pud-M	9.03	1.5
III	Local			0.34
	<b>TOTAL</b>			<b>9.44</b>

Major quantity of water to the Pudukottai town is supplied from River Cauvery, 86 km away from the town. A total of 9.44 Million Liters per day (MLD) of water is supplied by the two schemes from Pudukottai head works. While the municipal scheme supplies 1.84 MLD to the Pudukottai Town, the TWAD board scheme supplies 7.6 MLD to the town. Water is pumped through headwork located at Ammayapatti (9 Km) and transmitted to the Over Head Tanks (OHTs) / Ground Level Service Reservoirs (GLSRs), located at various places in the town.

#### 4.1.3 Storage and distribution

Water is then distributed within three water supply zones and areas through localised distribution networks without treatment from the respective OHTs. The total capacity of the reservoir work out to 8.71 ML as shown in exhibit 4.1, that amounts to 67 % of the total water demand (of 10.69 MLD @90 LPCD). Exhibit 4.2 provides the details of the storage and distribution infrastructure for distribution of water within the town.

#### Exhibit 4.2 Water Supply - Storage tanks and capacities

Distribution and storage system	Unit	Particular
Length of distribution line	Km	118
Length of pumping main	Km	92
Overhead Storage tanks (OHT)	No (Total capacity in ML)	7 (7.135)
Ground level Service Reservoir (GLSR)	No (Total capacity in ML)	2 (1.575)
Source: Primary data from municipality		

#### 4.1.4 Connections

As of Aug 2007, Pudukottai has nearly 12267 household connections, 124 commercial connections, 14 industrial connections, 515 public fountains, 381 power pumps/borewells and 95 mini /power pumps. Net water supply in the town is about 79 LPCD.

#### 4.1.5 Issues and gaps

Some of the key issues that needs to be addressed are detailed below:

1. **Access** – Per capita supply at 79 lpcd is below municipal norm of 90 lpcd and needs to be remedied.
2. **Scope for adding water connections** - Water connections account for only 57 % of the assessed properties and indicates scope for increasing the number of water connections within Pud-M.
3. **Collection efficiencies** – Collection efficiency of 68% indicates scope for improvement.
4. **Storage** accounts for 67% of demand while distribution pipe length covers 84% of road length.
5. **Leakages** - There is no formal tracking of the level of water leakage and loss in the system. Pud-M should institutionalize a periodic assessment of the leakages in the system in order to ensure more cost-efficient supply.

## 4.2 Sewerage and Sanitation

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. 65% percent of the total population have resorted to private arrangements, in the form of septic tanks and low cost sanitation units. There are forty-one public conveniences throughout the town, which serves 35% of the total population under various categories detailed below.

Open drains are available in almost all parts of the town. Based on the per capita water supply levels of the town it is estimated that around 5.16 MLD of sewage is generated in Pudukottai town. While the quantum of sewage generated is clearly proportional to the water supplied, the need arises to determine the stress areas in order to provide an underground drainage network. In accordance with the water supply zones, both zones should be given priority in project formulation. Further outward population growth of the town will increase the quantum of sewage generated by the town, which need to be considered in the project design. In order to overcome the problems, municipality has proposed to provide the sewerage system and a plan was prepared by TWAD.

### 4.2.1 UGD network

A new Underground Drainage scheme has been proposed for Pud-M at an outlay of Rs. 32.16 crore and envisages to provide 20,000 connections. The salient features of the proposed UGD scheme is given in Exhibit 4.3 below:

**Exhibit 4.3 Salient features of proposed UGD system**

Particulars	Details
Implementing Agency	<b>TWAD</b>
O & M Agency	<b>Pudukottai Municipality</b>
Estimated Cost-	<b>Rs. 32.16 crore</b>
Total Connections planned	<b>20,000</b>
Ultimate population served (2038)	<b>157,000</b>
Length of Sewer system	<b>159.505 km</b>
STP capacity / process	<b>14.13 MLD / WSP</b>
STP Location	<b>Maruppinkulam road</b>
<b>Funding Pattern (Rs. Crore)</b>	<b>Total tied up</b>
TNUDP-III Grant	9.65
TNUDP-III Loan	12.05
Local body and public contribution	10.46
<b>Total</b>	<b>32.16</b>

Source: Extract of DPR (prepared by TWAD) provided by Pud-M (to be revised)

### 4.2.2 Public conveniences (PC)

Exhibit 4.4 provides details of PCs within Pudukottai municipality.

**Exhibit 4.4 Public Conveniences**

Public Conveniences	Unit	Free	Pay & Use
a. No. of Units	Nos.	15	26
b. Total No. of Seats	Nos.	150	260
Source: Primary data from municipality			

### 4.2.3 Storm water drains

Storm water drains carry the wastewater in addition to storm water generated during rains. With a total length of 116.75 km, the open drainage system covers partial road network of the town. Although pucca drains covers maximum road network there are drains still left uncovered in the town.

#### 4.2.4 Issues and gaps

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

1. **Poor access of household sanitation** –The proposed UGD scheme needs to be implemented on priority
2. **Need for better maintenance of Public conveniences** - Given the high slum population, there is a need for a greater thrust on providing adequate public conveniences and on their upkeep and maintenance.
3. **Poor coverage, inadequacies in design in Storm water drains** - Basic issue of storm water drains is in not preventing of wastewater with rainwater, which effect sanitation. Secondly, even though there are open pucca drains of brickwork and masonry works they are damaged at many places. Moreover interconnections amongst all the drains is not complete and this causes overflowing and blockages. The drains also face overflow problems due to silting at various places.

#### 4.3 Solid Waste Management (SWM)

Exhibit 4.5 summarizes the status of SWM in Pudukottai.

##### 4.3.1 Waste Generation

Pudukottai town generates around 35 MT of waste every day. Other than residential sources, commercial and institutional establishments contribute nearly 15-20% to the total waste generated by the town. Managed by the health department of the local body, waste is collected by 9 vehicles from 48 collection points of the town on a regular basis. On an average 40 MT of waste is being collected from all the health zones and disposed off through dumping by the agency with a collection efficiency of nearly 100%.

##### 4.3.2 Collection and transportation

Pud-M is responsible for collection of solid waste in all wards and there has been no privatization of collection in Pudukottai. Door-to-door collection has been implemented in all wards and conservancy staff use pushcarts for primary collection. The mini trucks and lorry are used for removal of waste from collection points to the dumping yard.

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

#### **Exhibit 4.5 Solid Waste Management - Current status**

Particulars	Units	Values
Generation		
Daily Waste Generation	MT	35
Daily Waste Collection	MT	35
Waste generation per capita	gms	294
Collection efficiency	%	100%
Compost Yard / Dumping Yard Particulars		
Dumping / Compost Yard area	acres	13.13
Distance from Town	Km	3
Composting in place?	Yes – 40 MT per month	
Collection / Transfer		
Wards with door-to-door collection	All 39 wards	
Privatisation of collection	All wards by Pud-M	
Primary collection	Door-to-door	
Number of transfer stations / collection points	48	
Vehicles / Equipment Details		
Tractor Trailer	2	
Mini truck	3	
Trucks	4	

#### **4.3.3 Dumping Yard / Composting**

At present, waste is disposed off through dumping in a disposal yard outside the town. The disposal yard is situated at a distance of about 3 kilometers from the town and is spread over an area of 13.13 acres. The disposal area falls marginally short of 16 acres require for meeting the norm of 1 acre per 10,000 population. However, Pud-M has set up composting facilities and does vermi composting which yields about 35-40 tonnes of manure per month.

#### **4.3.4 Issues and Gaps**

Specific issues and gaps in Solid waste management at Pud-M are highlighted below:

- 1. Deficiencies in collection** – Door-to-door collection need to be intensified and implemented in all wards. Additional requirement of pushcarts need to be procured. As against a norm of 1 sanitary worker for every 250 m of road, Pud-M has 1 sanitary worker for 469 m of road only.
- 2. Equipment** – Discussion with Pud-M officials indicate plans to procure dumper placer/bins and a front-end loader. Other than these equipment required for mechanized handling and the dumping yard also needs to be procured
- 3. IEC activities** need to be intensified to implement good practices including source segregation.
- 4. Composting** was being done till recently, but has been suspended. This needs to be activated on priority.

## 4.4 Roads, Bus stands and street lights

### 4.4.1 Road length and type

As per the latest master plan, roads cover 18.59% of the total developed area in Pudukottai. Only 84% of the total road length is surfaced. The total length does not include the length of unauthorised layouts, which have developed in the outer areas of the town. There are 19.9 Km of roads maintained by the State highways Department. Detail of roads inside the town is shown in exhibit 4.6 below.

**Exhibit 4.6 Road network**

Type	Length in km
<b>Municipal Roads</b>	
Cement Concrete	3.92
Bitumen Top roads	97.1
WBM roads	13.08
Earthen roads	6.00
<b>Total</b>	<b>120.1</b>
<b>% of roads surfaced (BT + CC)</b>	<b>84%</b>
<b>Roads maintained by other agencies</b>	
National Highways	
State Highways	19.9
Other Roads	
<b>Total</b>	<b>19.9</b>
<b>Total Length of Road</b>	<b>140.00</b>

The internal road network of the town was developed in a grid iron pattern with the palace in the center. The Perambalur – Manamadurai (SH3) state Highway runs through this town. The town has wide roads and is well connected to other major towns such as Trichy, Thanjavur, Madurai, Karaikudi etc. and small towns like Arimalam, Alangudi and Thirumayam. The important roads within the town are Sesharaya Shastri Road, Satyamoorthi Road,, east main street, north main street, west 4th and 5th street, Annavasal road and Thirumayaram Road. Increase in the number of vehicles and inadequate road networks are the major causes for traffic congestion. Inadequate traffic management measures and parking facilities are major problems of the town. As such there are no dedicated parking lots allocated in important places /nodes. 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 East Main Street, West Main Street and West Fourth Street connecting North Main Street and Sathiyamoorthy road. Many shops along these roads have encroached the road / footpath which creates congestion in the centre of the town.

### 4.4.2 Bus terminus

There is one B grade bus stand (as per state government standards) with CC Pavement, Toilets, Cycle Stand, Shopping Complex and Lodging facilities. There are many shops in the commercial complex still lying vacant owned by municipality. There are 19 bus shelters distributed throughout the town for town buses.

#### 4.4.3 Street Lights

The town has a total of 4004 streetlights of which 86% is tube lights as shown in exhibit 4.7. The town has a spacing of 34 meters between lampposts, which compares favorably with the prevailing norms being adopted in the state.

**Exhibit 4.7 Street Lighting**

Type	Nos	%
Tube lights	3372	84%
Sodium Vapor Lamps	631	16%
Mercury Vapor Lamps	0	0%
High Mast lamps	1	0%
Focus Lamps	0	
<b>Total</b>	<b>4004</b>	<b>100 %</b>
<b>Average distance between street lights</b>		<b>~ 34 m</b>

#### 4.4.4 Issues and gaps

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

- Poor quality of roads** - Inadequate road widths to cater to future traffic in the town in light of its proposed developments. Quality of road is not good in and around trading/ commercial markets in the inner areas of the town. Approximately, 50% of the roads are in bad condition.
- Lack of organised parking facilities** - Currently there are no dedicated parking areas for general vehicles/ trucks in the important nodes of the town. Absence of traffic management measures in the town at nodal points. Encroachments along the major roads lead to congestion
- Bus terminus** - Inadequate facilities at bus stand to cater to increased traffic movement in the town. Lack of public facilities in the bus stand. There is an additional requirement of bays in the bus stand to cater to additional traffic.
- Need for planning restoration post UGD scheme** - With the plans to create an UGD scheme in the city, the entire road network in the town would need to be restored. So it may be appropriate to take up any large scale upgradation of the road network keeping this in consideration.
- Energy efficiency in street lighting** – There appears to be scope for increasing street light coverage (one street light for every 34 m against 30m) and also to accord priority to improve energy efficiency and to reduce power costs incurred on street lighting.

#### 4.5 Urban Services for poor

##### 4.5.1 Slum details

A recent survey by Pudukottai municipality indicates that there are 20 slums in Pud-M with over 7844 households and a population of 39088. Pudukottai has a substantial slum population (estimated at approximately 33 % of estimated 2007 population). Therefore, provision of urban services to poor forms a area of significant importance to Pud-M.

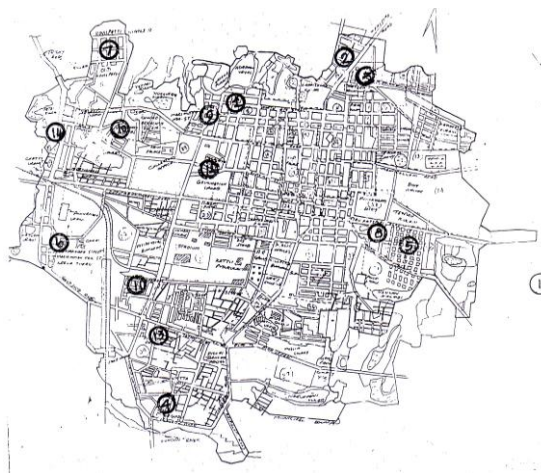


#### 4.5.2 Initiatives planned as part of IHSDP

Pud-M proposes to take up 14 slums (with a population of 18190 across 3636 households) covering both housing component and infrastructure component under the Integrated Housing and Slum Development Program (IHSDP). This project is envisaged to be financed with 80% contribution from Government of India and 20% contribution from GoTN. Exhibit 4.8 provides the details of the proposed scheme.

**Exhibit 4.8 IHSDP scheme at Pud-M – components**

Particulars	Details
Total Project cost	Rs. 2474.23 Lakh
<b>Housing component</b>	<b>Rs. 1624.00 Lakh</b>
Total no. of houses	3636
No. of shelters to be constructed	2030
<b>Other Infrastructure cost</b>	<b>Rs. 850.23 Lakh</b>



##### Approved Slum

1. Adappanvayal
2. Sivanandapuram
3. Machuvadi  
Vandipettai
4. Malaiyeedu
5. Gandhinagar
6. Thiruvappur
7. Kovilpatti

##### UnApproved Slum

8. Ayyanarpuram
9. Samathiveethi
10. P.U. Chinnappa St,
11. Rajagopalapuram
12. Thondaiman nagar
13. Pitchathanpatti
14. Maharajapuram

#### 4.6 Markets and other assets

##### 4.6.1 Markets

Pud-M manages the following markets

- **Daily market:** Existing daily market is located at the cross street of East Main Street and East 2nd Street near Town Bank.
- **Goods vehicle stand market:** Existing goods market is located at lorry stand itself in the town.
- **Weekly market:** Pudukottai is having a Weekly market which function on two days with huge turnover. Near by village people used to come to purchase or sell their commodities like Vegetables, Groceries, Banana, Pumpkin, Leather, Fish, Dry fish, Live stocks such as Cow, Goat, Chilly, Mat, Pots etc., This Market is of whole sale nature. This Market's revenue is major revenue provider for Pudukottai Municipality. But all these markets are in bad

condition and needs to be improved for increasing revenue and conveniences of people. There are various issues related to the markets in the town.

#### 4.6.2 Slaughter house

At present there are 2 slaughter houses in Pud-M limits. There is a treatment plant in Alangudi Road slaughterhouse. The basic issues include lack of adequate facilities including building and treatment facilities. Modernisation of slaughter house is being envisaged at an outlay of Rs. 23 lakh.

#### 4.6.3 Crematorium and burial facilities

There are 7 municipal burial / cremation grounds in the town. These lack basic infrastructure such as fencing, access roads, lighting facilities etc. A Gasifier crematorium is envisaged at an outlay of Rs. 49 lakh.

#### 4.6.4 Issues and gaps

1. **Markets** - Lack of infrastructure facilities like proper parking roads and pavements leading to traffic congestion and public inconvenience and absence of Compound wall
2. **Poor hygiene conditions in slaughter houses** - There is no treatment plant availability in both slaughterhouses. The basic issues include lack of adequate facilities including building and treatment facilities.

### 4.7 Social infrastructure

#### 4.7.1 Schools

Pudukottai serves as a hub for education for surrounding region and thus there are number of institutions both private and public in the town catering to the needs at all levels. Besides 48 noon meal centers, there are 15 municipal schools which occupy a total of 6200 square meters of developed area in the town. In total, they account 38.2 hectares, which is 3.84% of total developed area of the town. The educational infrastructure available in the town is presented in the exhibit 4.9 below.

**Exhibit 4.9 Details of Educational institutions in Pudukottai town**

Nature of Educational Institution	Total	Municipal	Private
Primary Schools	14	7	7
Middle Schools	15	6	9
Higher Secondary Schools	2	2	-
Arts College	2	-	2
Professional College	1	-	1
Total	34	15	19

Source: Primary data from municipality

All the primary schools are located throughout the town, covering all the remote areas.

#### 4.7.2 Hospitals and medical facilities

Healthcare services are amongst the most vital services provided by the municipal bodies. Pudukottai is served by government hospitals with bed strength of 417 as shown in exhibit 4.10

**Exhibit 4.10 Details of Health care institutions in Pudukottai town**

Hospital	Numbers	Beds Strength
General Hospital	1	282
Maternity Centers	7	NA
Private Clinics	11	113
Source: Primary data from municipality		

Supplementing govt. health care facilities, town has a healthy mix of private health care facilities, private nursing homes with consulting and dispensary to cover the needs of the people of the town. As per benchmark, there is one health centre every 2.85 sq. km of the town.

#### 4.7.3 Parks and recreational facilities

Besides providing basic amenities and utilities to its citizens, municipal bodies are also responsible for providing recreational facilities. Recreational facilities include parks, playgrounds, open spaces and cinema theaters. By norms, open spaces including parks and playgrounds should constitute about 10% of the town area.

There are a total of 8 parks and playgrounds in the town. This includes 3 large municipal parks, of which the municipality maintains two parks, Gandhi Park and Kamban Nagar Park, and one of the parks are maintained by private agency. The command area per park is 1.62 square kilometers. In the open spaces, avenue plantation is low and the survival rates of trees decreases during summers due to lack of water. There is a lake maintained by municipality for recreational purposes. This lake serves two purposes (1) as important recreational centre for people of Pudukottai and (2) attracts lot of revenue the municipality. This type of theme based recreational centres should be promoted by the municipality in these small towns where there are very limited options for recreational purposes. There are four cinema theaters in the town with a total seating capacity of 2700. The municipality has also provided one reading room in the town.

#### 4.8 Summary - performance vis-à-vis select indicators

Exhibit 4.11 below captures the status of core urban services of Pudukottai 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.

**Exhibit 4.11 Core urban services - Baseline performance, issues and gaps**

Sl. No	Name of the Indicator	Value	Issues and Gaps / Initiatives
Water Supply			
1	Daily Per Capita Supply (LPCD)	79	<ul style="list-style-type: none"><li>Water supply level is below municipal norms of 90 LPCD.</li><li>Water connections are only 56% of property tax assessments and indicate scope for improvement</li><li>Very large number of public fountains appears to be a deterrent to more house connections.</li></ul>
2	Storage Capacity / Daily Supply (%)	67%	
3	Distribution Network / Road Length (%)	84%	
4	Water connections / Assessed properties (%)	57%	
5	Population per Public Fountain (Nos.)	118	
Sanitation			
6	Presence of UGD network (Yes / No)	Planned	<ul style="list-style-type: none"><li>Planned UGD scheme critical for improving sanitation needs of town</li><li>Large number of water bodies in town (more than 30) . Several in poor condition and need restoration.</li></ul>
7	Septic Tanks / assessed properties (%)	40%	
8	Slum Population per Public convenience seat (nos.)	95	
9	Storm Drain Length / road network (%)	83%	
Roads and Street Lights			
10	BT roads / Total (%)	84%	<ul style="list-style-type: none"><li>Comprehensive road upgradation would be required on completion of UGD scheme</li></ul>
11	Road length per Street Light (m)	35 m	
Solid Waste Management			
11	Waste generation per capital (gms)	294	<ul style="list-style-type: none"><li>Composting facility already partly in place, but suspended in the last few months.</li><li>Proposed actions for equipment purchase need to be taken up on priority</li><li>Disposal land while adequate in the medium term, marginally short of 1 acre per 10000 population for 2027.</li></ul>
12	Collection efficiency (% of waste generated)	100%	
14	Disposal area gap ( in meeting 1 acre per 10,000 population for 2027)	2.15	
15	Average vehicle trips	2	
16	Source Segregation and Composting (Yes/No)	Partial	

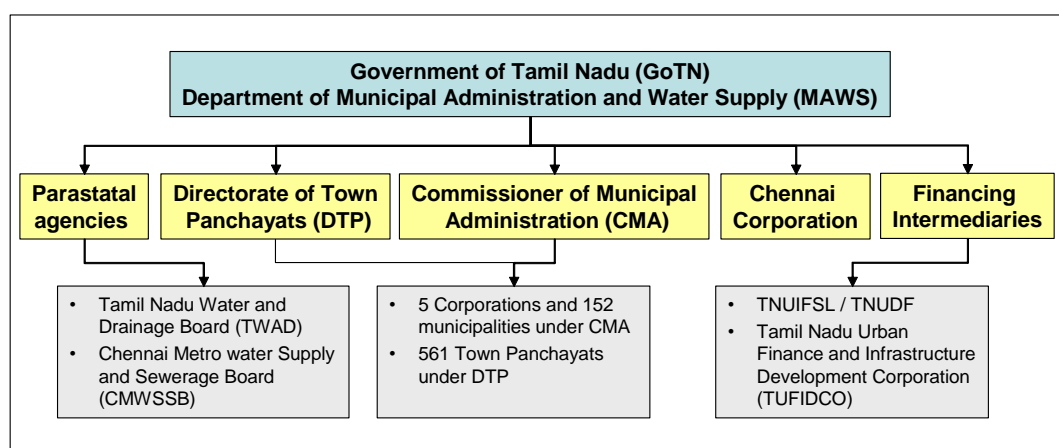
## 5. Urban governance and management

### 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 2.3 below:

**Exhibit 5.1 Urban sector - Institutional framework - State Level**



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

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

#### 5.1.1 Municipal Administration

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

- **Corporations and Municipalities** - There are 6 Municipal Corporations, namely, Chennai, Madurai, Coimbatore, Tiruchirappalli, Salem and Tirunelveli in the State of Tamilnadu. Five Corporations (except Chennai) and 152 Municipalities including 49 Third Grade Municipalities are under the oversight of the Commissioner of Municipal Administration. Recently GoTN has initiated steps to upgrade Erode and Tiruppur municipalities as Corporations.
- **Town Panchayats** - The Town Panchayats are governed by the Tamil Nadu District Municipalities Act, 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 in 1981, to look after the affairs of the Town Panchayats. The Director of Town Panchayats is the Head of the Department and looks after the affairs of 561 Town Panchayats. The District Collector is the controlling authority for the Town Panchayats at the District level. Under the Directorate, the Department has 16 Zonal offices, headed by Assistant Directors of Town Panchayats.

### 5.1.2 Parastatal agencies

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

### 5.1.3 Financial Intermediaries

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

schemes including Jawaharlal Nehru Urban Renewal Mission (JNNURM) and Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT)

## **5.2 Governance structure of Pudukottai municipality**

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

### **5.2.1 Political wing**

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

#### **Appointment Committee**

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

#### **Contract Committee**

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

#### **Tax Appeal Committee**

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

### **5.2.2 Administrative Wing**

The administrative wing is responsible for the day-to-day functioning of the corporation and assists the deliberative wing in the decision-making process. The Municipal Commissioner heads the executive wing of the ULB, and various officers in charge of different departments or sections assist the Commissioner in managing the ULB. Apart from its own employees, the ULB also employs daily wage basis workers or contractual workers for services such as street lighting, and sanitation and water supply.

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

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



### 5.2.3 Departments of municipality

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

- a) Commissioner. The Commissioner is at the apex of this structure and is responsible for all activities carried out by the ULB. The Commissioner is responsible for preparation and certification of all periodical records, returns and furnishes all information as may from time to time be required by the Municipal Council or the Standing committees. He is also responsible for preparation of accounts. At each general meeting, the Commissioner along with some other key officials, discuss various issues with the elected representatives.
- b) General Administration Department. - This department is responsible for establishment, other essential matters relating to office, officers, staff and their welfare like preparation of staff pay bills, maintenance of registers for advances, GPF, pension, PF's etc.
- c) Engineering and Water Supply Department. This department looks after all the works relating to execution and maintenance of basic amenities like Water Supply, Drainage, Sewerage, Storm water drains, Roads, Street lights, etc. The Engineering department is also responsible for ensuring the quality of works and their execution within the time frame.
- d) Revenue Department : The Accounts Section is responsible for supervising all financial transactions related to the CMC, advising the Commissioner on all internal financial matters, updating financial receipts and expenditure details in accordance with the utilization of funds, reporting deviations in expenditure of funds in any of the allocated schemes, assisting preparation of the CMC budget, maintenance of accounts regarding stamp duty, SFC Grants, MP Grants, maintenance of petty cash book and general cash book and attending to audit requirements and other such accounts-related duties.
- e) Accounts Department : Revenue Officer, heading the Revenue Section, is responsible for collecting taxes such as, trade tax, house tax, advertisement tax, and entertainment tax; development charges; transfer of properties; collection of duty; issuing notices for recovery of tax; and monitoring revenue collections of the ULB.
- f) Public Health Department. The is responsible for ULB services such as Solid waste management, public health related works like malaria control, family planning, mother and child health care, birth and death registration etc, and other government assisted programs related to health and poverty reduction and awareness programs. Besides, this department is responsible for the enforcement of the Public Health Act. The department is also involved in promotion of health awareness programs and implements various State and Central assisted schemes like pulse polio project, SJSRY etc.
- g) Town Planning Department. The major function of this department is issue of building license, preparation and implementation of development plans and eviction of encroachments, urban planning and building regulation.



### 5.3 Manpower position

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

**Exhibit 5.2 Manpower status (as of October 2007)**

		No. of posts sanctioned	Staff in position			Posts vacant
			Perma- nent	Consoli- dated Pay	NMRs	
<b>A</b>	<b>General Administration</b>					
1	Commissioner	1	1			
2	Manager	1	1			
3	Assistant	3	2			1
4	Junior Assistant	9	8			1
5	Typist	2	1			1
6	Record clerk	2	2			
7	Office Assistant	5	3			2
8	Asst. Programmer	1	1			
9	Data Entry Operator	1	1			
<b>B</b>	<b>Accounts Department</b>					
1	Accountant	1	1			
2	Assistant	1	1			
3	Cashier	1	1			
4	Junior Assistant	2	2			
5	Office Assistant	1	1			
<b>C</b>	<b>Revenue Section</b>					
1	Revenue Officer	1				1
2	Revenue Inspectors/Market Superintendents	2	2			
3	Bill Collectors	13	9			2
4	Assistant	1				
5	Junior Assistant	7	5			2
6	Office Assistant	2	2			
<b>D</b>	<b>Engineering Wing</b>					
1	Asst. Executive Engineer	1	1			
2	Overseer	1	1			
3	Draughtsmen	1	1			
4	Work Inspector	2	2			2
5	Office Assistant	3	3			2
<b>E</b>	<b>Street Lighting</b>					
1	Wireman	4	4			
2	Helper	4	2			2
<b>F</b>	<b>Water Supply</b>					
1	Junior Engineer	1	1			
2	Electrician	2	2			2
3	Meter Reader	1	1			1
4	Fitters	2	2			1
5	Turn Cock Operator	2	2			2
6	Watchman	7	7			
7	Driver	10	10			1
8	Cleaner	1				1
9	NMR				59	
<b>G</b>	<b>Public Health</b>					

			No. of posts sanctioned	Staff in position			Posts vacant
				Perma- nent	Consoli- dated Pay	NMRs	
	1	Health Officer	1				1
	2	Sanitary Inspector	9	9			1
	3	Supervisor	17	15			2
	4	Conservancy staff	358	298			60
	5	Drivers	11	10			1
	6	Office Assistant	2				2
	7	Watchman	1				1
<b>H</b>		<b>MEDICAL</b>					
	1	Medical Officer	3	1			2
	2	Pharmacist	1				1
	3	Mat. Assistant	8	5			3
	4	Mat. Ayah	8	4			4
	5	Health visitor	2	2			
	6	Computer cum clerk	2	2			
	7	M.P.H. worker	12	9			3
	8	Female attendant	2	2			
	9	Watchman	1				1
<b>I</b>		<b>Town Planning</b>					
	1	Town Planning Officer	1	1			
	2	Town Planning Inspector	3	3			
	3	Junior Assistants	2	2			
	4	Chainman	1	1			
	5	Office Assistant	2	1			1
<b>J</b>		<b>Parks &amp; Gardens</b>					
	1	Gang mazdoor	38	8			30
<b>K</b>		<b>Other Staff</b>					
	1	Community Organiser (NM)	15	9			6
	2	Community Ayah(NM)	17	16			1
	3	Cook	17	16			1
	4	Assistant	1				1
		<b>TOTAL</b>					

As seen from the table, vacancy rate is currently about 23 % vis-à-vis the sanctioned posts.

#### 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:

- Water Supply & Sewerage. The Tamil Nadu Water Supply and Drainage Board (TWAD) is responsible for creation of water and sewerage infrastructure in the state.
- Master Plan. The Department of Town and Country Planning (DTCP) prepares the Master Plan and the mandate for implementing the Master Plan lies with the ULB.
- 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, passed by competent authorities.
- e) Slum Upgradation. The Tamil Nadu Slum Clearance Board (TNSCB) develops improvement schemes for notified/regularized slum settlements in the city/town. Infrastructure provision is financed partly through loans from the Housing and Development Corporation (HUDCO) and partly through grants from GoTN and GoI.

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

### **5.5.2 E-Governance**

E-Governance of Pudukottai Municipality is aimed to provide online citizen services and information to all hierarchies and monitoring performance of Municipality. All Municipal records are computerised and information stored in a central server and linked online on the internet. Property tax, Water Charges, Nontax, Profession Tax and trader license fees and Birth and Death certificate may be obtained from the computerized civic center at the municipal premises. Through the e-governance program, Pudukottai 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 Pudukottai Municipality has published its 'Citizen's Charter' during 1998 to bring ULBs function closer to the people. The main focus of this charter is to introduce transparency, responsibility and user friendliness in its service provision and maintenance. Its basic objectives were:

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

This publication of citizen's charter brings people and administration closer and to let people know how much time is required to get works done. If the work is not attended to even after stipulated time, they can approach the Commissioner/ Chairperson. Thus, people's rights are made known to them. This also reduces time on the part of public, as they need not follow the movement of their applications at the municipal office. Further, through this charter, they also create awareness about sanitation, town improvement, tax payment and the like. Based on the time frame given for understanding / compliance, various works/ activities can be evaluated either by citizens or by Pud-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 Pudukottai Municipality.

### 6.1 Income and Expenditure summary of Pudukottai Municipality

Exhibit 6.1 provides a summary of the income and expenditure of Pudukottai Municipality. This summary has been prepared based on information provided by Pudukottai Municipality including audited accounts of 2002-03, 2003-04, 2004-05 and unaudited accounts of 2005-06. Details are enclosed in Annexure V and VI.

**Exhibit 6.1 Income and Expenditure of Pudukottai Municipality – 2003-06**

**Rs. In lacks**

INCOME	2002-03	2003-04	2004-05	2005-06	CAGR %
<b>OWN INCOME</b>	<b>533</b>	<b>526</b>	<b>572</b>	<b>578</b>	3%
Property tax	207	216	224	229	3%
Profession tax	35	37	47	53	15%
Water & Sewerage Charges	112	103	129	131	5%
Other Service Charges & Fees	28	33	32	30	2%
Other Income	151	137	140	135	-4%
<b>ASSIGNED REVENUE</b>	<b>180</b>	<b>136</b>	<b>71</b>	<b>70</b>	-27%
<b>DEVOLUTION FUND</b>	<b>182</b>	<b>257</b>	<b>227</b>	<b>322</b>	21%
<b>GRANTS &amp; CONTRIBUTIONS</b>	<b>10</b>	<b>19</b>	<b>0</b>	<b>10</b>	0%
<b>PRIOR PERIOD INCOME</b>	<b>5</b>	<b>3</b>	<b>16</b>	<b>8</b>	18%
<b>TOTAL</b>	<b>909</b>	<b>942</b>	<b>886</b>	<b>987</b>	<b>3%</b>
EXPENDITURE	2002-03	2003-04	2004-05	2005-06	CAGR %
Salaries	415	399	391	438	2%
Operating Expenses	265	456	266	274	1%
Programme Expenses	0	0	0	0	-40%
Administrative Expenses	42	40	68	24	-17%
Finance Expenses	60	16	57	79	10%
Depreciation	112	107	169	28	-37%
Prior Period Expenses	0	0	0	0	55%
<b>TOTAL</b>	<b>782</b>	<b>912</b>	<b>782</b>	<b>815</b>	<b>1%</b>
<b>SURPLUS - (Excl.Depr)</b>	<b>127</b>	<b>30</b>	<b>104</b>	<b>171</b>	<b>10%</b>
<b>Operating Ratio (Total Exp/ Total inc) All figures in Percentage</b>					
Excluding depreciation	86%	97%	88%	83%	<b>89%</b>
Including depreciation	98%	108%	107%	85%	<b>101%</b>
<b>Debt Servicing</b>					
<b>Rs, in lacks</b>					
Loan Interest	38.09	5.76	48.91	60.89	<b>153.65</b>
Loan Repayment	66.56	16.98	24.21	42.34	<b>150.09</b>
<b>Percentage of Income</b>	<b>12%</b>	<b>2%</b>	<b>8%</b>	<b>10%</b>	<b>8%</b>

Source: Pud – M & iMaCS analysis

Overall, income of Pud-M grew by 3% during the period, primarily boosted by a 21% growth in devolution income. Own income grew by 3% with professional tax growing by 15% annually during this period. Assigned revenue and other income declined. Expenditure showed a decline largely on account of decline in administrative expenditure, which offset the 10% increase in finance expenditure. Overall the municipality reported a fairly good growth in cash surplus during the period inspite of a fairly slow rate of growth of 3% CAGR in income.

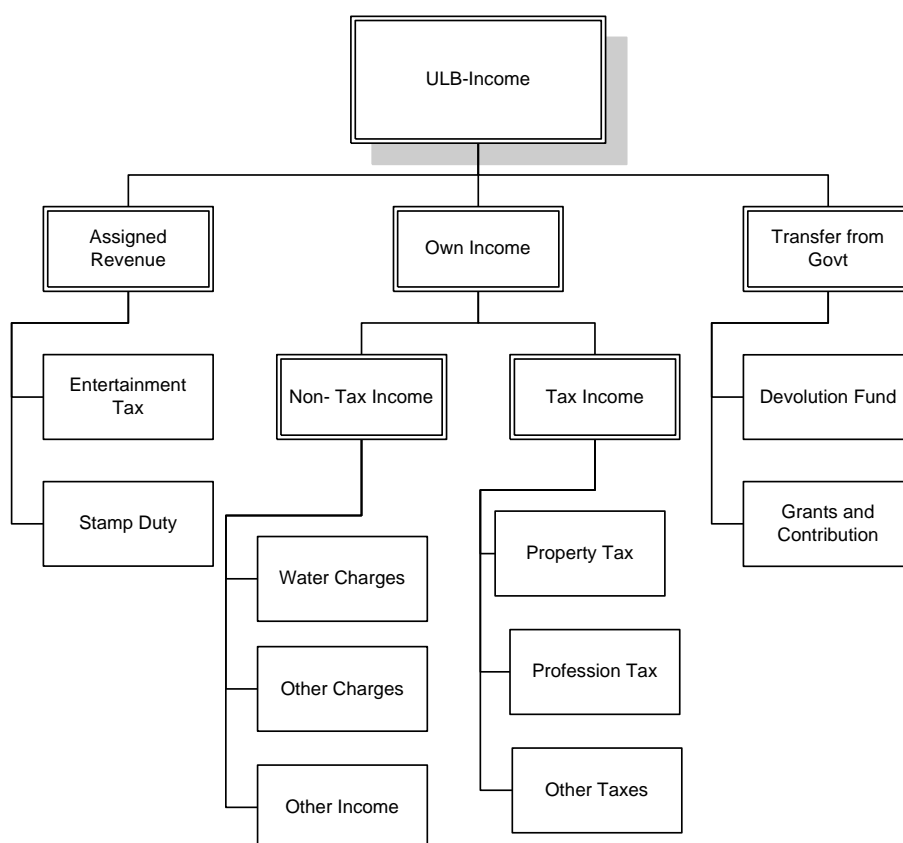
## 6.2 Revenue streams of ULB in Tamil Nadu

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 4.2 provides a detailed classification of the revenue streams.

Exhibit 6.2 Revenue streams - ULBs in Tamil Nadu



## 6.3 Revenues

Exhibit 6.1 also provides the composition of revenue of Pud-M along various heads between FY 2003 and FY 2006. While other income streams have largely maintained their contribution to total income, assigned revenue has fallen sharply during this period from 20% of income to 7% of income. Devolution income has meanwhile gone up from 20% of income to 33% of income during this period.

### 6.3.1 Tax Income

#### Property Tax

Property tax alone accounted for almost a quarter of income of Pudukottai Municipality in FY 2006 and is an important contributor of revenues to Pudukottai Municipality. Following are the key issues / observations with respect to property tax. Exhibit 6.5 provides an analysis of the DCB statement for property tax.



**Exhibit 6.3 Property tax - analysis of DCB statement**

Year	Collection Efficiency			Properties		Growth Rate Of properties	Growth Rate of Current Demand
	Arrears	Current	Total	Numbers	Tax/property		
2002-03	54%	82%	75%	19527	1153	NA	NA
2003-04	48%	76%	70%	20453	1144	5%	4%
2004-05	56%	74%	69%	21312	1141	4%	4%
2005-06	70%	80%	77%	21535	1158	1%	3%
2006-07	68%	88%	83%	21623	1202	0%	4%

Source: Pud-M

- Collection efficiency** – Current collection efficiency has been in the range of 74% to 88% during 2003-07 and is relatively good. Pud-M should strive to bring the collection efficiency above 90% on a consistent basis. Arrears collection efficiency also appears to have improved in the last couple of years and is a positive sign.
- Assessments growth** – Assessments have shown a 2.6% CAGR
- Growth in demand and demand per property** - Current demand has grown faster than assessment growth at 3.6% CAGR reflecting the increase in demand per property
- Break-up of assesseees** – Exhibit 6.4 shows the break-up of property tax assesseees (This analysis is based on property tax data for 2005 from SFC questionnaire). Residential assessments account for 90% of the assessments and 54% of demand, while commercial properties account for 8% of assessments and 33% of demand.

**Exhibit 6.4 Property tax – break up of assesseees and demand**

Category	Assessments	%	Demand (Rs. Lakh)	%
Residential	19635	90.3%	130	54%
Commercial	1786	8.2%	80	33%
Industrial	14	0.1%	2	1%
State Government	62	0.3%	15	6%
Public Sector	48	0.2%	13	5%
Exempted Properties	206	0.9%		0
<b>TOTAL</b>	<b>21751</b>		<b>240</b>	

Source: SFC Questionnaire Pud-M 2005



## Professional tax

Exhibit 6.5 provides an analysis of key drivers for professional tax revenue.

### Exhibit 6.5 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	32%	94%	77%	1425	2436	NA	NA
2003-04	15%	88%	71%	1695	2173	19%	6%
2004-05	38%	90%	73%	1727	2724	2%	28%
2005-06	47%	92%	77%	2203	2356	28%	10%
2006-07	37%	91%	78%	2550	2178	16%	7%

- Collection efficiency** – Current collection efficiency has been in the range of 88% to 94% during 2003-07 and is relatively good. Pud-M should strive to bring the collection efficiency above 95 % on a consistent basis. However, arrears collection efficiency is very low and is a cause for concern
- Assessments and assessment growth** – Assessments have shown a `15 % CAGR during this period.
- Growth in demand and demand per property** - Current demand has grown at a CAGR of 12.5% and has lagged assessments growth. This is reflecting the decrease in demand per assessment.
- Break-up of assesseees** – Exhibit 6.6 provides a break up of assesseees. Government employees account for 84% of the assessments and nearly 89% of the demand. Traders account for only 14% of the assessments and 8% of the demand.

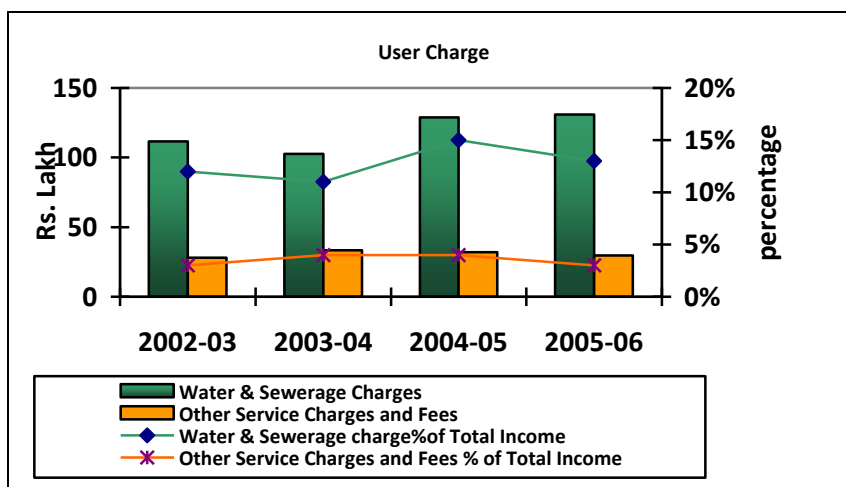
### Exhibit 6.6 Professional tax – break up of assesseees and demand

Category	Assessments	%	Demand (Rs. Lakh)	%
State/Central/Quasi Govt. Employees	11240	84%	42.0	89%
Traders	1875	14%	4.0	8%
Self-employed professionals	95	1%	0.5	1%
Private employers / Companies	2	0%	0.0	0%
Private employees	240	2%	0.8	2%
<b>TOTAL</b>	<b>13452</b>		<b>47.4</b>	

## 6.3.2 User Charges / Fees

User charges have grown at a CAGR of 5%, though as a share of income has remaining largely stagnant. Exhibit 6.7 captures the trend.

**Exhibit 6.7 Water charges and other service charges – 2003-06**



### **Water charges**

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

**Exhibit 6.8 Water charges - revenue drivers**

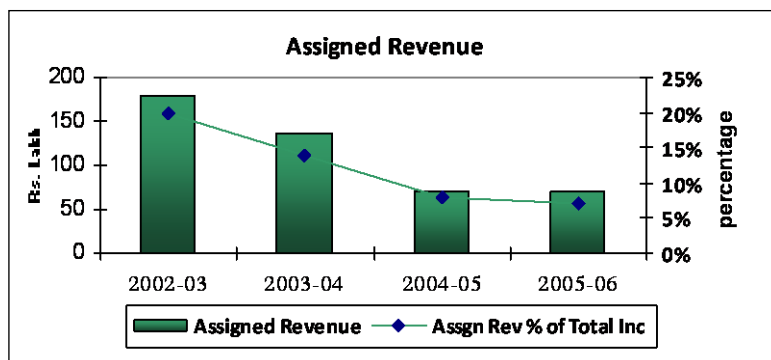
Year	Collection Efficiency			Connections		Growth rate of Connections	Growth Rate of Current Demand
	Arrears	Current	Total	Numbers	water charges per assessee		
2002-03	64%	72%	69%	10952	751	NA	NA
2003-04	50%	61%	58%	10981	783	0%	5%
2004-05	58%	61%	61%	10997	1020	0%	30%
2005-06	60%	73%	68%	10941	1026	-1%	0%
2006--07	68%	72%	71%	11027	1046	1%	3%

Source :Pud- M

- Collection efficiency** – Current collection efficiency has been in the range of 61% to 72% during 2003-07 and has shown an improving trend in the last 3 years. Pud-M should strive to bring the collection efficiency above 85 on a consistent basis. Arrears collection has also shown improvement and this needs to be sustained.
- Assessments and assessment growth** – Assessments have been stagnant and more water connections should be targeted given that water connections account for only around 56% of assessed properties.
- Water tariff** - The average revenue per connection has increased reflecting the increase in tariffs during the period.

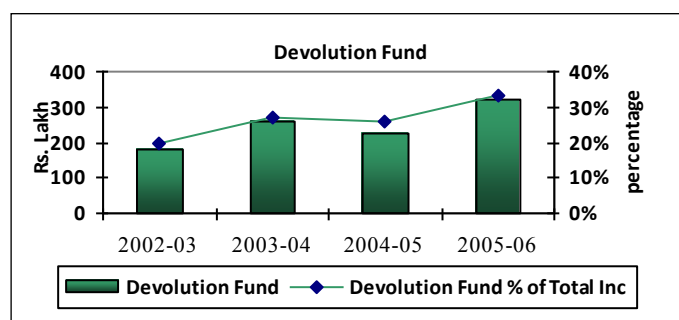
### 6.3.3 Assigned Revenue

Assigned Revenue (which includes transfers of stamp duty and entertainment tax) decreased from Rs 179 lakh in FY2003 to Rs 70 lakh in FY2006. Share of assigned revenue in total income declined from 20 % of revenue in FY 2003 to 7 % of revenue in FY 2006.



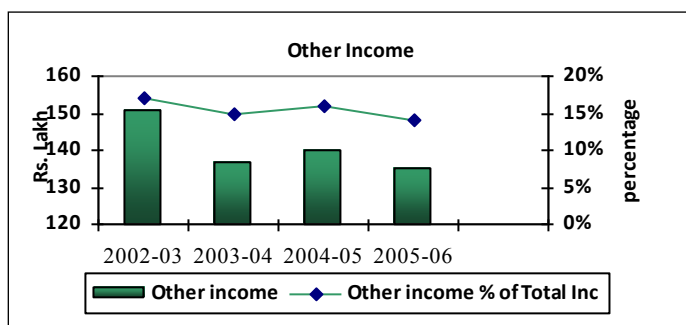
### 6.3.4 Devolution Fund

Devolution fund has increased from Rs 182 lakh in FY2003 to nearly Rs 322 lakh in FY2006 and its share in total revenue of the municipality has increased from 20 % to 33 % in respective years.



### 6.3.5 Other Income

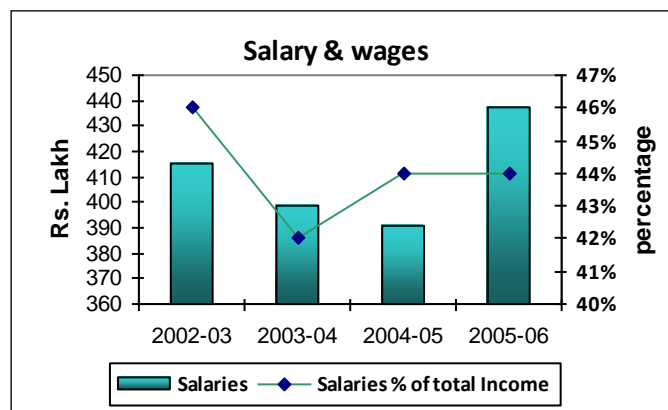
Other Income has decreased from Rs 151 lakh in FY2003 to Rs 135 lakh in FY2006. Its share in total income of the municipality has decreased from 17 % in FY2003 to around 14% in FY2006.



## 6.4 Costs

### 6.4.1 Salary and wages

Salary and wages account for nearly 44 % of the income of the municipality. It has increased from Rs. 415 lakh to Rs. 437 lakh over this period.



## 6.4.2 Operations and Maintenance

O&M expenditure 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 264 lakh in FY2003 to Rs 274 lakh in FY2006. Its share in total expenditure has decreased from 29 % in FY2003 to 28 % of income in FY2006.

Exhibit 6.9 provides details of sector wise composition. Water and sewerage account for the major proportion of operating expenses and has more than doubled during FY 2003-06. Overall repairs and maintenance has grown at a CAGR of 22% over the period.

**Exhibit 6.9 Repair and maintenance expenditure - Sector wise break up**

Item	FY2002	%	FY2003	%	FY2004	%	FY2005	%
Roads	30.71	12%	47.23	10%	57.67	22%	50.00	18%
Water & Sewerage	15.42	6%	174.46	38%	17.10	6%	18.36	7%
Street Lights	7.40	3%	7.65	2%	3.55	1%	12.37	5%
Others	211.09	80%	226.61	50%	187.37	71%	193.39	71%
<b>Total</b>	<b>265</b>	<b>100%</b>	<b>455.94</b>	<b>100%</b>	<b>265.70</b>	<b>100%</b>	<b>274.12</b>	<b>100%</b>

## 6.4.3 Power costs

Exhibit 6.10 gives the details of power costs out of the total repair and maintenance expenditure relating to Water & Sewerage and Street lights.

**Exhibit 6.10 Power costs - Water & Sewerage and Street Lights (Rs in Lakh)**

Item	FY2002	%	FY2003	%	FY2004	%	FY2005	%
<b>Water</b>	<b>144</b>	<b>100%</b>	<b>298</b>	<b>100%</b>	<b>139</b>	<b>100%</b>	<b>139</b>	<b>100%</b>
Power	129	89%	123	41%	122	88%	121	87%
Non Power	15.42	11%	174.46	59%	17.10	12%	18.36	13%
<b>Street Lights</b>	<b>44</b>	<b>100%</b>	<b>69</b>	<b>100%</b>	<b>19</b>	<b>100%</b>	<b>31</b>	<b>100%</b>
Power	36	83%	61	89%	15	81%	19	61%
Non Power	7.40	17%	7.65	11%	3.55	19%	12.37	39%
<b>Total</b>	<b>188</b>		<b>366</b>		<b>157</b>		<b>171</b>	

## 6.5 Loans and Finance charges

Exhibit 6.11 gives the details of outstanding loans of Pudukottai Municipality at the end of year 2006.

**Exhibit 6.11 Loan Statement (as of March 2006)**

Lending Agency	Loan Rs. Lakh	Year of drawal	Interest Rate %	Repayment (years)	Purpose / Scheme	Moratorium Years	Outstanding loan amount
TUFIDCO-IDSMT	275.00	2002	9%	10	Various	-	145.71
TUFIDCO	103.8	2000	9%	10	Roads	5	103.57
TUFIDCO- DTCP	79.54	1985	8%	25	Bus stand/ shopping complex	5	64.01
TNUDF	139.24	1992	9%	10	Services - roads/storm water	5	49.77
TNUDF	1205.00	2006	8%	15	Under ground drainage	5	1,205.00
Government Loan*	2370.79	1980	9%	20	Various		2,342.50*
<b>TOTAL</b>	<b>4173.37</b>						<b>3,910.56</b>

Source: Pud- M

\*Government Loan is expected to be written off

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

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*This section articulates a strategic plan for urban development in Pudukottai 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 Pudukottai town are articulated below:

#### 7.1.1 Promote and develop Agri-processing industry and terminal market infrastructure

The agricultural produce in Pudukottai district is dominated by 3 crops accounting for 82% of total sown area, namely, paddy (60% of sown area), ground nut (16% of sown area) and sugarcane (6% of sown area). Paddy is cultivated in 90000 to 100000 Ha annually. Dry straw production of this district is estimated at 5 Lakh MT, of which about 2 Lakh MT. of dry straw is available as surplus in this district. Hence straw boards industries can be developed in this district by using Paddy straw as raw material. There is potential for setting up processing facilities for cashew and banana as well.

#### 7.1.2 Incentivise investments<sup>4</sup> in granite, fisheries and related industries

There are an estimated 500 small scale industries in the whole of the district. The district is rich in granite deposits and recently an initiative has been mooted to form a granite industry cluster in the district<sup>5</sup>. The main products of Rough Stone Quarries are Aralai, Kambikal, Thagadu (Sheets), Chakkai for Stone Crusher and Jally. Rough Stone, Sand and Granite Quarries are mainly concentrated in Thirumayam, Illupur and Kulathur taluks of the district. Over 140 mining leases are in operation.

Fisheries is another potential area. Pudukottai district has a 42 km coastline in Avudayarkoil and Aranthangi Taluk. There are more than 600 mechanised boats and 400 country boats operating from Kottaipattinam and Jagathapattinam. The present annual catch is around 50,000 MT, which are being taken away to the freezing plants in Kerala and Andhra for export purposes. While there are some units for processing crabs and prawns in this coastal area, there is no fish feed production unit. There are more than 10 Ice factories. Freezing Plants and other opportunities including dried fish mass, smoking process plant, fish oil extraction plant, water skating and manufacturing of fishing boats are the possible ventures suggested by the District Industries Centre. Government of Tamil Nadu extends subsidy assistance of 30% for fresh water fish or prawn farms.

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<sup>4</sup> Based on a review of secondary research and information provided in <http://pudukkottai.nic.in/industry.htm>

<sup>5</sup> <http://www.hindu.com/2007/10/18/stories/2007101858500600.htm>

### 7.1.3 Promotion as a Heritage site / town - Impetus to Tourism<sup>6</sup>

Pudukottai is considered an heritage town. There is potential for promoting tourism leveraging the heritage sites in the town's vicinity. Pudukottai's proximity to Trichy and Thanjavur, other fairly important tourist destinations in the state can also be turned to an advantage. Initiatives to create tourist amenities and recreation activities would enable attract and handle larger number of tourists and provide an avenue for incremental economic opportunities.

### 7.1.4 Address the gaps in road and rail connectivity

Improvement in rail connectivity to Pudukottai figured high on the list of priorities and the completion of Pudukottai-Thanjavur railway link emerged as a key local felt need during our consultations. Of the approximately 71 km Thanjavur-Pudukottai linke, Thanjavur-Sengipatti (22 km) and Kiranur - Pudukottai (25 km) are existing railway links. Only the Sengipatti to Kiranur (24 km) link needs to be developed for the Thanjavur –Pudukottai link to be established. Development of this rail link could provide the connectivity transportation of passengers, agri-produce and granite from the region. As a next step, citizens want the Pudukottai-Kallal link to be extended to have a direct train link to Madurai (42 km). Establishing a bypass / ring road around Pudukottai town is another long standing felt need of the stakeholders of the town.

## 7.2 SWOT analysis

A brief SWOT analysis of the town is presented below:

<b>Strengths</b> <ul style="list-style-type: none"> <li>• District Headquarters</li> <li>• Commercial / trading hub for surrounding areas</li> <li>• Heritage town with tourist attractions in vicinity</li> <li>• Proximity to other important tourism centres including Trichy and Thanjavur</li> </ul>	<b>Weakness</b> <ul style="list-style-type: none"> <li>• Limited industrial activity and employment generation potential</li> <li>• Poor infrastructure and connectivity</li> <li>• Weak municipal finances</li> </ul>
<b>Opportunities</b> <ul style="list-style-type: none"> <li>• Heritage / Religious tourism</li> <li>• Economic, Trade and Education hub for nearby villages</li> <li>• Potential for enhancing value-add and processing facilities given strengths in granite deposits and fisheries</li> <li>• Trade hub for agri produce</li> </ul>	<b>Threats</b> <ul style="list-style-type: none"> <li>• Outward migration of skilled workforce</li> <li>• Continued constraints on ability and willingness to pay for urban services.</li> </ul>

<sup>6</sup> <http://www.tamilnadu-tourism.com/tamilnadu-cities/pudukottai-tourism.html>



### 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 Pudukottai 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 - Pudukottai town**

	Unit	Baseline	Projected			
		2007	2012	2017	2027	
<b>Population</b>	nos	118882	127,004	135,400	152,756	
<b>Households (Estd.)</b>	nos	25398	28,223	30,089	33,946	
<b>Assessed Properties</b>	nos	21623	22,861	27,080	33,606	
<b>Road length</b>	km	140	142	155	181	

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 4.5 is assumed (in line with Census 2001), while property tax assessments are assumed to be 18% of population by 2012, gradually going up to 22 % of population by 2027. This reflects a 2.3 % annual growth in number of properties during 2008-27 against a projected population growth of 1.3 %.

### 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
<b>Service Goals</b>					
Per capita supply at doorstep	LPCD	79	90	120	135
Storage capacity / Total demand	%	67%	65%	85%	100%
Distribution network / Road length	%	84%	90%	100%	100%
Frequency of supply	hours/day	2	4	4	24X7
<b>Reform targets</b>					
Current collection efficiency	%	68%	90%	90%	100%
House Service Connections / Assessed Properties	%	57%	65%	70%	80%
Population per water fountain	nos.	118	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	50%	80%	100%

As observed, Pud-M appears well placed to meet its short term targets with the recently completed Combined Water Scheme by TWAD in terms of supply, storage and frequency of supply and distribution network. On the reform agenda, however, at 68% the current collection efficiency requires improvement. Connection efficiency (as measured by connections / assessed properties) is relatively better at 57% but indicates scope for improvement. Pud-M appears to have a high level of public fountain access which would require some level of rationalization. While user charges are already being collected, the same need to get progressively linked to usage through implementation of metering / graded tariffs.

### **7.5.2 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	9	11	16	21	2	5	4
Storage Capacity	ML	9	7	14	21	-	5	7
Distribution network length	km	118	128	155	181	10	27	26
HSCs	nos	12,405	18,345	21,062	27,157	5,940	2,717	6,094
Public fountains	nos	991	635	677	764	-	42	87

As can be seen, there are a surplus of public fountains in the short term and potential for adding significantly to House service connections in the short term. While we understand that the TWAD combined water supply scheme is envisaged to take care of the future requirements, we have nevertheless factored a capital expenditure budget based on normative gaps.

### **7.5.3 Interventions - short term**

Exhibit 7.4 lists out the identified set of interventions and project components in the short term over the next 3-5 years based on ongoing initiatives and proposals of Pud-M.

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

ONGOING / PLANNED INTERVENTIONS - Status and Outlay	2008	2009	2010	2011	2012	TOTAL
Improvements in Vellar source and replacement of transmission line		200				200
Construction of OHTs - 3 OHTs 5 lakh x 3 nos. - <b>machivadi, kamarajapuram, gandhi nagar</b>	70	70				140
Replacement of distribution network - 40 kms out of the 120 km to be replaced in 10 years			50	50	100	200
<b>TOTAL</b>	<b>70</b>	<b>270</b>	<b>50</b>	<b>50</b>	<b>100</b>	<b>540</b>

Pud-M plans to construct 3 Over Head Tanks to improve its storage infrastructure. Further there is also a proposal to undertake improvements to the Vellar source and replace the transmission line from this source to the town. There is also a need to replace about 40 km of the distribution line that is very old and in poor condition.

#### **7.5.4 Interventions - long term**

Supply augmentation has been assumed at 11.8 MLD in a phased manner over 20 years to meet the municipal norm of 135 LPCD. We have provided for replacement (40 km) and addition (63 km) of distribution network during the projection period. Based on normative gaps, we have provided for storage capacity augmentation which is marginal and is required only towards the end of the projection period. Pud-M should strive towards 24x7 water supply in the medium to long term. This would require comprehensive metering of all HSC connections and implementing user charges on the basis of consumption. Given that Pud-M is yet to even meet access targets, we have provided for investments in metering only during 2018-27.

#### **7.5.5 Project components and Capital Investment**

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

#### Exhibit 7.5 Water Supply - Capital Investment outlay and phasing

Rs. Lakh									
CAPEX PLAN AND PHASING	2008	2009	2010	2011	2012	2008-12	2013-17	2018-27	TOTAL
ONGOING / PROPOSED PROJECTS									
Improvements in Vellar source and replacement of transmission line	-	200	-	-	-	200			200
Construction of 3 OHTs 5 lakh	70	70	-	-	-	140			140
Replacement of distribution network	-	-	50	50	100	200			200
NEW									
Gross Water Supply					498	498	1,204	1,093	2,795
Storage Capacity	-	-	-	-	-	-	-	84	84
Distribution network length			10	10	10	31	82	78	190
HSCs	-	-	-	-	-	-	-	272	272
Public fountains	-	-	-	-	-	-	10	22	32
TOTAL CAPEX - Water supply	70	270	60	60	608	1,068	1,296	1,548	3,913

## 7.6 Sanitation

### 7.6.1 Service Goals and Reform targets

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

**Exhibit 7.6 Sanitation - Service Goals and Reform Targets**

	Unit	Baseline	Target		
		2007	2012	2017	2027
<b>Service Goals</b>					
<b>UGD Network</b>					
Availability	Yes/no	No	Yes	Yes	Yes
Design capacity per capita (treatment and pumping)	LPCD		120	120	120
Sewer network - % of road length			80%	80%	80%
<b>Storm Water Drains</b>					
Drain length / Road length	%	83%	90%	95%	100%
<b>Public Conveniences</b>					
Slum population per PC seat	%	95	100	150	200
<b>Reform targets</b>					
Sanitation coverage - % of population	%		100%	100%	100%
<b>User charges - Current collection efficiency</b>	%	n.a	70%	90%	90%
<b>Household connections / Assessed Properties</b>	%	n.a	40%	60%	75%

As seen Pud-M has does not yet have a UGD network. A DPR for UGD scheme has been prepared and the project is expected to be implemented shortly. There is a need for rehabilitation of storm water drains and water bodies

### 7.6.2 Ongoing / Proposed projects

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

**Exhibit 7.7 Sanitation – Ongoing/proposed projects**

ONGOING / PLANNED INTERVENTIONS	2008	2009	2010	2011	2012	Outlay
Proposed Underground Drainage scheme	4,000		1,333	1,333	1,333	
Restoration of water bodies - for 15 water bodies	138	46	46	46		
Storm Drain restoration (80 km)	800		80	80	80	80
<b>TOTAL</b>	4,938	46	1,459	1,459	1,413	80

#### UGD scheme

An UGD scheme is being proposed for Pud-M at an outlay of Rs. 32.16 crore. However, since the estimate for phase I tender has been revised to Rs. 30 crore, Pud-M expects the total cost of the UGD Scheme to be nearly Rs. 40 crore. The Detailed Project Report for the same has been prepared by TWAD and the project is to be taken up shortly.

### **Storm water drains and water bodies**

Pudukottai has a fairly extensive storm drain network, but this network is in need of urgent repairs and rehabilitation. Further, the municipality has a proposal to take up restoration of 15 water bodies in the short term.

#### **7.6.3 Baseline status and gaps**

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

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

INFRASTRUCTURE - Baseline and Gaps	Unit	Baseline + Ongoing	Required			Gap		
			2012	2017	2027	2012	2017	2027
Additional Sewer length	km	114	114	124	145	-	10	21
Storm Water Drains	km	117	128	148	181	11	19	34
Public convenience seats	nos	410	209	217	230	-	-	-
Household sewerage connections	nos	-	11,289	18,053	25,459	11,289	6,764	7,406

The proposed UGD project is likely to address the sewerage disposal needs of the town within the next 5 years. Apart from this the storm water drains development and the water bodies restoration would take care of significant requirements in the short term.

#### **7.6.4 Interventions – Long term**

The proposed investments in UGD and storm water drains recommended in Exhibit 7.7 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 in addition to sewer and storm drain network. There is also a need to undertake restoration of other water bodies in the town in a phased manner. We have provided for investments in these areas on a normative basis, depending on the demand emerging from Exhibit 7.8 above.

#### **7.6.5 Project components and Capital Investment**

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

**Exhibit 7.9 Sanitation - Capital Investment outlay and phasing**

*Rs. Lakh*

CAPEX PLAN AND PHASING	2008	2009	2010	2011	2012	2008-12	2013-17	2018-27	TOTAL
<b>ONGOING / PROPOSED PROJECTS</b>									
Proposed Underground Drainage scheme	-	1,333	1,333	1,333	-	4,000	-	-	4,000
Restoration of 15 water bodies	46	46	46	-	-	138	-	-	138
Storm Drain restoration		80	80	80	80	320	-	-	320
<b>NEW PROJECTS</b>									
Additional Sewer length						-	62	124	186
Storm water drain construction	34	34	34	34	34	172	480	505	1,157
Restoration of 18 water bodies							135	135	270
<b>TOTAL</b>	<b>1,152</b>	<b>1,232</b>	<b>1,232</b>	<b>114</b>	<b>114</b>	<b>3,846</b>	<b>677</b>	<b>764</b>	<b>5,287</b>

## 7.7 Solid Waste Management

### 7.7.1 Service goals and reform targets

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

**Exhibit 7.10 Solid Waste Management - Service Goals and Reform Targets**

	Unit	Baseline	Target		
		2007	2012	2017	2027
Collection efficiency	%	100%	100%	100%	100%
Door-to-door collection	%	100%	100%	100%	100%
Source Segregation	%	30%	90%	100%	100%
Mode of disposal	%	n.a	50%	100%	100%
Conservancy fee	Yes / no		yes	yes	yes

### 7.7.2 Baseline status and gaps – short term & long term

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

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

	Unit	Baseline	Required			Incremental gap		
		+ Ongoing	2012	2017	2027	2012	2017	2027
<b>Waste Generated</b>	<b>MT</b>	<b>35</b>	<b>76</b>	<b>81</b>	<b>99</b>			
<b>Primary collection</b>								
Number of trips	Nos.	2	4	4	4	2	-	-
Vehicle capacity	Kg	150	150	150	150			
Number of Tricycle equivalent	Nos.	140	127	135	165	-	8	30
Replacement - Tricycle equivalents	Nos			140	127		140	127
<b>Secondary collection / Transfer</b>								
Number of trips	Nos.	2	3	3	3			
Vehicle capacity	MT	26	25	27	33	-	1	6
Equipment replacement	MT			26	25	-	26	25
<b>Disposal</b>								
Land	Acres	13			15			2

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

### 7.7.3 Ongoing / Proposed projects

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

- Procurement of 2 compactors at Rs. 40 lakh
- Procurement of 15 dumper bins at Rs. 6 lakh

#### 7.7.4 Interventions required - immediate priorities

- a) Compost yard improvements @ an outlay of Rs. 20 lakh

#### 7.7.5 Interventions required - Medium / Long term priorities

Long term requirements covering acquisition of additional land of 2 acres arrived and procurement of equipment based on a normative gap shown in Exhibit 7.11 have been provided for in the CIP.

#### 7.7.6 Project components and Capital Investment

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

**Exhibit 7.12 Solid Waste Management - Capital Investment outlay and phasing**

CAPEX PLAN AND PHASING	2008	2009	2010	2011	2012	2008-12	2013-17	2018-27	TOTAL
<b>ONGOING PROJECTS</b>						-			
2 compactors @ Rs.20 lakhs	20	20	-	-		40			
15 dumper bins @ Rs.40,000/- per bin	6	-	-	-		6			
<b>NEW</b>						-			
Primary collection	-		-	-	-	-	35	32	67
Secondary collection	-		-	-	-	-	103	102	204
Land acquisition	-					-			-
Development cost - Compost Yard	20					20			20
<b>SOLID WASTE MANAGEMENT</b>	<b>46</b>	<b>20</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>66</b>	<b>138</b>	<b>133</b>	<b>291</b>

### 7.8 Roads, Transportation and Streetlights

#### 7.8.1 Service goals and reform targets

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

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

SERVICE LEVEL GOALS AND OUTCOMES	Unit	Baseline	Target			
		2007	2012	2017	2027	
Municipal roads as % of Total Area	%	11	11	12	14	
Surfaced roads to Total roads	%	84%	100%	100%	100%	
Pedestrian walkways to Total road length	%	n.a	20%	40%	40%	
Street Lights - Distance between streetlights	metres	35	30	30	30	
Street Lights - Proportion of high power lamps	%	100%	25%	30%	30%	
Street Lights - Proportion of lights with energy saving devices	%	n.a	25%	30%	30%	

#### 7.8.2 Baseline status and gaps

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



#### Exhibit 7.14 Transportation and street lights - Interventions - Physical

	Unit	Phasing (outcome)		
		upto 2012	2013-17	2018-27
<b>Municipal road network</b>				
Non-surfaced roads to BT roads	km	19.08		
Re-surfacing of roads	km	120.92		
New road formation / Surfacing	km	2	13	26
Re-laying all roads between 2018-27	km			140
<b>Road facilities</b>				
New bus stand	nos	1		
Pedestrian walkways		28	62	73
Bus shelters		14		

	Baseline	Required			Gap		
		upto 2012	2013-17	2018-27	upto 2012	2013-17	2018-27
<b>Street lights</b>	4004	4,748	5,180	6,043	744	1,176	863
High power lamps	632	1,187	1,554	1,813	555	367	259
Tube lights	3372	3,561	3,626	4,230	189	65	604
Lights with Energy savers		1,187	1,554	1,813	1,187	367	259

84 % of the total road network is surfaced. However, there is a need for substantial investment in the road network even in the short term given the ongoing and proposed underground sewerage projects in the town. Pud-M maintains 1 bus stand and requires a new modernized bus stand. Gaps in other road facilities that have been considered in the CIP are also indicated in the table above.

### 7.8.3 Interventions required – immediate term

#### Investment / Project components

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

- Road upgradation, surfacing and restoration** – Pud-M has nearly 120 km of roads of which 101 km are BT/CC roads. Most of this network would need to be restored and upgraded with new BT surface at an outlay of Rs. 1451 lakh. Records provided by Pud-M indicate that there is only 20 km of non-BT roads that need to be upgraded to BT surface at an estimated outlay of Rs. 286 lakh.
- Bus stand** – New bus stand development at an outlay of Rs.100 lakh.
- Street lights** – based on normative gaps shown in table 7.14

### 7.8.4 Capital outlay and phasing

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

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

	Phasing (Outlay)			Total
	upto 2012	2013-17	2018-27	
ROADS				
Municipal road network				
Upgrading non-surfaced roads to BT roads	286	-	-	286
Re-surfacing after UGD implementation	1,451	-	-	1,451
New road formation / Surfacing	49	259	518	826
Re-laying all roads once between 2018-27	-	-	2,100	2,100
Road facilities				-
New bus stand	100			100
Bus shelters upgradation				
Pedestrian walkways	85	186	218	
SUB –TOTAL – Transportation	1,972	445	2,836	5,253
STREET LIGHTS				
High power lamps	167	110	78	354
Tube lights	14	5	45	64
Lights with Energy savers	36	11	8	54
SUB –TOTAL – Street lights	216	126	131	473
TOTAL	2,188	571	2,966	5,726

## 7.9 Urban services for the poor

In Pudukottai Municipality there are 20 slums. As per a presentation made by Pud-M for funds access under IHSDP, the population of the slums is 39088 with 7844 households.

### 7.9.1 Service levels goals and outcomes

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

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

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

### 7.9.2 Capital outlay and phasing

Pud-M has taken up a comprehensive proposal for upgradation of 20 slums at an outlay of Rs.77.5 lakh. Exhibit 7.17 provides the summary of capital outlay and phasing of investments for provision of urban services for the poor.

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

CAPEX PLAN AND PHASING	2008	2009	2010	2011	2012	2008-12	2013-17	2018-27	TOTAL
Ongoing	800	400	400	400	400	2,400			2,400
Provision for future slum rehabilitation	-	-	711	711	711	2,133	1,778	1,778	5,689
<b>TOTAL</b>	<b>800</b>	<b>400</b>	<b>1,111</b>	<b>1,111</b>	<b>1,111</b>	<b>4,533</b>	<b>1,778</b>	<b>1,778</b>	<b>8,089</b>

### 7.10 Social infrastructure and other urban amenities

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

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

	2008	2009	2010	2011	2012	2008-12	2013-17	2018-27	TOTAL
<b>Healthcare</b>		5	5			10	10	20	40
Hospitals									
Health centres									
Child Care Maternity centres									
<b>Schools</b>		30	20			50	50	100	200
High Schools									
Primary and Nursery schools									
Middle Schools									
<b>Remunerative/other assets</b>									
Slaughter House modernisation						0	10	10	20
New gasifier crematorium	10	30				40			40
New municipal office complex							150		150
<b>Markets</b>									0
New market / shops development							150		150
Development of existing markets			15			15	0	0	15
<b>Tourism and Beautification</b>									0
Parks		15	15	15		45	90		135
Heritage town development						100	200	200	500
<b>TOTAL</b>	<b>10</b>	<b>80</b>	<b>55</b>	<b>15</b>	<b>0</b>	<b>260</b>	<b>660</b>	<b>330</b>	<b>1250</b>

Development of remunerative assets account for an estimated Rs.375 lakh. This includes development of a new municipal office complex and a new market complex to partly decongest the existing market areas, apart from providing concrete roofing for existing market area. The ongoing projects relating to slaughter house and gasifier crematorium have also been included as part of the capital investment plan.

Improvements to building assets of healthcare centres and government schools account for nearly a fifth of investment in other urban assets and social infrastructure. Development of parks and heritage town development is estimated at Rs. 635 lakh.

## 7.11 Capital Investment Plan – summary

### 7.11.1 Priority projects

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

**Exhibit 7.19 Priority projects - FY 2008-12**

Sl. No	Sector	Project	Cost Rs. Lakh	Status
1	Water Supply	Replacement of Transmission line and pumping equipment - Vellar source	200	Proposal stage. DPR required.
2	Water Supply	Construction of OHTs at Machuvadi, Kamarajpuram and Gandhi nagar	140	Proposal stage
3	Sanitation	Implementation of UGD scheme	4000	Under implementation
4	Sanitation	Storm water drains restoration (80 km)	320	Proposal stage
5	Sanitation	Desilting of 15 water bodies	138	Proposal stage
6	Transportation	Upgradation of roads	1786	Proposal stage. To be taken up after UGD implementation
7	SWM	Equipment – procurement of 2 compactors and dumper bins and modernisation of compost yard	66	Under implementation
8	Remunerative enterprises	Municipal office complex	150	Proposal stage. DPR required.
9	Remunerative enterprises	New market complex	150	Proposal stage. DPR required.
10	Urban services for poor	Provision of services in 14 slums	2400	Under implementation

### 7.11.2 CIP summary

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

**Exhibit 7.20 Capital Investment Plan summary**

Segment	2008	2009	2010	2011	2012	2008-12	2013-17	2018-27	TOTAL
Water Supply	70	270	60	60	608	1068	1296	1548	3913
Sanitation	46	1502	1502	1456	123	4630	677	764	6071
Solid Waste Management	46	20	0	0	0	66	138	133	337
Transportation and street lights	43	43	701	701	701	2188	571	2966	5726
Urban Services for the poor	800	400	1111	1111	1111	4533	1778	1778	8089
Others	10	80	55	15	100	260	660	330	1250
<b>TOTAL</b>	<b>1015</b>	<b>2316</b>	<b>3429</b>	<b>3343</b>	<b>2642</b>	<b>12746</b>	<b>5121</b>	<b>7520</b>	<b>25387</b>

## 7.12 Technical assistance requirements

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

1. Development of a comprehensive GIS for the town with updated information on all urban assets including roads, water supply, sanitation etc.
2. DPR on comprehensive water supply covering a) need and feasibility evaluation for improvements of Vellar source, b) Bulk metering and independent audit of leakage and losses in water supply and c) roadmap for achieving 135 LPCD water and 24x7 supply
3. DPR to comprehensively identify flood mitigation covering drain networks and interlinking/restoration of water bodies.
4. DPR and assistance in project structuring on PPP for development of proposed municipal markets along with development of municipal office complex.

## 7.13 Interventions required from other agencies/departments of GoTN

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

1. **Industries department** - Evaluate feasibility for incentivising fish processing industry and granite industries apart from straw based and other agro-processing industries in the region.
2. **PWD** – Develop a plan for restoration and rehabilitation of all the water bodies coming under its jurisdiction. We understand from information with Pud-M that there are 36 water bodies in Pudukottai and 7 ooranies
3. **State Highways / NH / NHAI**– Implement the proposed strengthening / widening arterial roads passing through Pudukottai and explore feasibility for developing a bypass road for the town. Prepare and implement a traffic improvement plan for arterial roads maintained by the State Highways department.
4. **Railways** - Expedite project for providing railway links between Pudukottai-Thanjavur and subsequently to Madurai.

## 7.14 Reform targets

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

**Exhibit 7.21 Service level and reform targets – a summary**

FACTOR	Unit	Baseline	Target		
		2007	2012	2017	2027
WATER SUPPLY					
<b><u>Service Goals</u></b>					
Per capita supply at doorstep	LPCD	79	90	120	135
Storage capacity / Total demand	%	67%	65%	85%	100%
Distribution network / Road length	%	84%	90%	100%	100%
Frequency of supply	hours/day	2	4	4	24X7
<b><u>Reform targets</u></b>					
Current collection efficiency	%	68%	90%	90%	100%

FACTOR	Unit	Baseline	Target		
		2007	2012	2017	2027
House Service Connections / Assessed Properties	%	57%	65%	70%	80%
Population per water fountain	nos.	118	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	50%	80%	100%
<b>SANITATOIN</b>					
<b><u>Service Goals</u></b>					
<b><i>UGD Network</i></b>					
Availability	Yes/no	No	Yes	Yes	Yes
Design treatment capacity per capita	LPCD		120	120	120
Sewer network - % of road length			80%	80%	80%
<b><i>Storm Water Drains</i></b>					
Drain length / Road length	%	83%	90%	95%	100%
<b><i>Public Conveniences</i></b>					
Slum population per PC seat	%	95	100	150	200
<b><u>Reform targets</u></b>					
Sanitation coverage - % of population	%		100%	100%	100%
User charges - Current collection efficiency	%	n.a	70%	90%	90%
Household connections / Assessed Properties	%	n.a	40%	60%	75%
Collection efficiency	%	100%	100%	100%	100%
Door-to-door collection	%	100%	100%	100%	100%
Source Segregation	%	30%	90%	100%	100%
Mode of disposal	%	n.a	50%	100%	100%
Conservancy fee	Yes / no	no	yes	yes	yes
Municipal roads as % of Total Area	%	11	11	12	14
Surfaced roads to Total roads	%	84%	100%	100%	100%
Pedestrian walkways to Total road length	%	n.a	20%	40%	40%
Street Lights - Distance between streetlights	M	35	30	30	30
Street Lights - Proportion of high power lamps	%	100%	25%	30%	30%
Street Lights - Proportion of lights with energy savers	%	n.a	25%	30%	30%
<b>URBAN SERVICES FOR POOR</b>					
Road Coverage for slum household	%		100%	100%	100%
Sanitation coverage for slum households	%		100%	100%	100%
Streetlights	%		100%	100%	100%
Pucca houses for all slum households	%		100%	100%	100%

## 7.15 Asset Management Plan

This section details the asset management plan for various urban service areas and assets owned by Pud-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 Pud-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 7.24.

### 7.15.1 Land and building assets of Pud-M

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

- Annexure VII – List of Water bodies List of parks
- Annexure VIII – Land details as per Schedule I of asset register
- Annexure IX – Building details as per Schedule II of asset register
- Annexure X – Ward wise details of road assets

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

**Exhibit 7.22 Land assets summary**

Particulars	No of sites	Area in SM
<b>Social</b>	<b>24</b>	<b>282198</b>
Community Hall	3	9595
Burial ground	3	58839
Santhai	12	179396
Hospital/Maternity centre	6	34368
<b>Basic amenities</b>	<b>48</b>	<b>698109</b>
Water bodies	31	494918
Toilets	4	1349
Sewerage farm	13	201842
Parks	40	75405
Play grounds	10	92936
Schools	25	38337
Office	36	85398
Open space/ Vacant	32	57657
Others	7	135337
<b>Over all total</b>	<b>222</b>	<b>1465377</b>



**Exhibit 7.23 Building assets summary**

Particulars	No of Buildings	Total area	Plinth area of Building	Utilization %
		Area in SM		
Office Building	24	79081	2613	3%
Health /Maternity centre	12	6812	826	12%
Noon Meal centre	27	492	492	100%
Schools	31	62815	10727	17%
Basic amenities (Water& toilets)	84	130688	7869	6%
Social	20	1848	1848	100%
Remunerative	24	176805	11425	6%
Others	6	129	129	100%
<b>Total</b>	<b>228</b>	<b>458670</b>	<b>35929</b>	<b>8%</b>

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

1. There are several discrepancies between the land details shown in land schedule and in the buildings schedule. We therefore strongly suggest a zero base validation and updation exercise covering the asset register be taken up on priority.
2. Pud-M should prepare and implement an annual maintenance plan (along with an assessment of cost implications) for all land and building assets. This maintenance plan should precede budget preparation process and should feed into the budget, so that the plan is adequately funded.
3. Pud-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

### 7.15.2 Water Supply

#### Short term

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

### **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.

### **7.15.3 Sanitation**

- a) Create baseline information database on sanitation assets and performance of the municipality. Establish processes and accountability for periodic updation and dissemination.
- b) Conduct IEC campaigns and public consultations to educate citizens on the benefits of Underground drainage scheme.
- c) Ensure adequate upkeep of sanitation assets including public conveniences and storm water drains through encouraging community level participation and feedback
- d) Disseminate information on tariffs a transparent manner and undertake a focused program to mobilise connection deposits
- e) Use a combination of incentives and penalties to encourage timely payment of user charges.

It would be prudent in the medium term for Pud-M to 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.

### **7.15.4 Solid waste management**

#### **Short term**

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

#### **Long term**

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

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


#### **7.15.5 Solid waste management**

- 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 Pud-M's website.
- c) Clarify policy on road digging and repair and communicate the same to all agencies. Take stern action on agencies digging without prior permission from the ULB.
- d) Create a coordination committee comprising 'right of way' users including telecom companies, Tamil Nadu Electricity Board, TV cable operators, Traffic police and ULB officials to plan development and maintenance of road assets in a synchronised manner.
- e) Provide ducts for cables and other utilities along all arterial and major roads to minimise digging.
- f) Adopt energy saving measures including implementation of energy savers in high power lights.

**Exhibit 7.24 Asset Management Plan and timeline – summary**

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

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

 Interventions requiring technical assistance/support in DPR preparation

## 8. Project profiles including analysis of risks and ESA considerations

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

### 8.1 Project profiles of select priority projects

#### 8.1.1 Water supply

<b>Project Description</b>	Replacement of Transmission line and pumpset improvement – Vellar source
<b>Project Status</b>	<b>Concept stage</b>
<b>Need for the project</b>	The project is required to restore and rehabilitate the existing own source of Pud-M. Pud-M council believes that having this source developed would enable it to augment supply and to complement and provide back up in case of any break-down in supply from the TWAD CWSS scheme that is operational currently
<b>Technical assistance</b>	DPR preparation assistance is required from CMA / TNUFSL.
<b>Project Cost</b>	~ Rs. 200 lakh. Detailed break-up of components and costs not available and have been arrived based on discussions with Pud-M and normative assessments. The same needs to be confirmed through a Detailed Feasibility Study
<b>Revenue impact</b>	Direct incremental revenue impact unlikely as Pud-M already levies user charges. However, it could enable Pud-M to improve service levels and hence could have an indirect effect.
<b>Financing mix</b>	Loan – 50%, Grant -30% and own funds – 20%
<b>Remarks</b>	The TWAD CWSS scheme is already functional and has taken into account ultimate population requirements. Hence the extent of supply and reliability of the same may need to be evaluated before making this investment decision. However, since the scheme is already in existence, it maybe useful to have a local source to augment supply. Pud-M's revenue realisation from water supply is poor given the low connection efficiency and collection efficiencies. Implementation of the project could be against some commitment from the municipality to improve performance on the same.
<b>ESA analysis and tentative rating</b>	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

<b>Project Description</b>	Construction of 3 OHTs at Machuvadi, Kamarajpuram and Gandhi nagar
<b>Project Status</b>	<b>Concept stage</b>
<b>Need for the project</b>	The project is required considering the poor condition of the existing GLRs/OHTs The OHTs are envisaged to provide 15 lakh litres of additional capacity
<b>Project Cost</b>	~ Rs. 140 lakh. To be confirmed through a detailed feasibility study
<b>Revenue impact</b>	Direct incremental revenue impact unlikely as Pud-M already levies user charges. However, it could enable Pud-M to improve service levels and hence could have an indirect effect.

<b>Financing mix</b>	Loan – 50%, Grant -30% and own funds – 20%
<b>Technical assistance</b>	It may be useful to prepare a DPR taking into account the water supply needs of town comprehensively including provision of 135 LPCD water and the OHT capacities maybe reviewed in line with these norms.
<b>ESA analysis and tentative rating</b>	E2 -Expected to have only moderate environmental issues. Mostly generic impacts in nature S3 - No social issues expected. Hence socially benign no social mitigation measures required, need to submit SSR

### 8.1.2 Sanitation

<b>Project Description</b>	Implementation of Underground Drainage (UGD) Scheme
<b>Project Status</b>	Concept stage / DPR preparation / Sanctioning and appraisal / <b>Implementation</b>
<b>Need for the project</b>	Pud-M does not have a UGD scheme yet. The town faces significant pollution due to release of untreated sullage.
<b>Technical assistance</b>	The DPR for the project is already ready and the project is under implementation.
<b>Project Cost</b>	Initial estimate provided to Pud-M is Rs. 3216 Lakh
<b>Revenue impact</b>	Pud-M intends to levy user charges for connections.
<b>Financing mix</b>	Loans, own funds, Grant and public deposits.
<b>Remarks</b>	UGD schemes require significant pre-construction development work including acquisition of land for pumping stations and STP. Further design considerations are critical. Several UGD schemes faces delay risk.
<b>ESA analysis and tentative rating</b>	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.

<b>Sector</b>	Sanitation
<b>Project Description</b>	Desilting and restoration of 15 water bodies in first phase
<b>Project Status</b>	<b>Sanctioning and appraisal</b>
<b>Need for the project</b>	Pud-M has identified 15 water bodies in the town that need to be desilted and rehabilitated.
<b>Project Cost</b>	Rs. 138 lakh
<b>Revenue impact</b>	Non-remunerative project
<b>Financing mix</b>	Given the size of the project and the non-remunerative of the project proposals, implementation of the project would require significant grant support.
<b>Remarks</b>	There is a need for a clear O&M strategy involving local community participation at the project implementation stage itself.
<b>ESA analysis and tentative rating</b>	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.

<b>Sector</b>	Sanitation
<b>Project Description</b>	Storm water drains
<b>Project Status</b>	<b>Concept stage</b>
<b>Need for the project</b>	While there is a fairly extensive storm water drain network, there is a need for strengthening and restoring about 80 km of storm water drains
<b>Project Cost</b>	Rs. 800 lakh

<b>Revenue impact</b>	Non-remunerative project.
<b>Financing mix</b>	Given the size of the project and the non-remunerative of the project proposals, implementation of the project would require significant grant support.
<b>Remarks</b>	Storm drains have often tended to fail due to poor maintenance. There is a need for a pre-construction DPR for comprehensive design and guidelines for ward level storm drains. This should be backed by a clear O&M strategy involving local community participation at the project implementation stage itself.
<b>ESA analysis and tentative rating</b>	E2 -Expected to have only moderate environmental issues. Mostly generic impacts in nature S3 - No social issues expected. Hence socially benign no social mitigation measures required, need to submit SSR

### 8.1.3 Transportation and roads

<b>Project Description</b>	Upgradation of road network post UGD implementation
<b>Project Status</b>	<b>Concept stage</b> / DPR preparation / Sanctioning and appraisal / Implementation
<b>Need for the project</b>	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
<b>Project Cost</b>	Rs. 1786 lakh for about 140 km of road upgradation
<b>Revenue impact</b>	Non-remunerative project
<b>Financing mix</b>	Combination of loans (30%), grant (50%) and own funds
<b>Remarks</b>	The road network upgradation should comprehensively take into account storm water drain design and other road assets including pedestrian foot paths, signages and road medians as appropriate.
<b>ESA analysis and tentative rating</b>	E2 -Expected to have only moderate environmental issues. Mostly generic impacts in nature S3 - No social issues expected. Hence socially benign no social mitigation measures required, need to submit SSR

### 8.1.4 Land development and recreation amenities

<b>Project Description</b>	Development of municipal market and municipal office complex.
<b>Project Status</b>	<b>Concept stage</b>
<b>Need for the project</b>	The project involves renovation and beautification of a dilapidated water body and providing amenities including boating, jogging path and other recreational activities
<b>Project Cost</b>	Rs. 300 lakh
<b>Revenue impact</b>	Can be structured as a remunerative project on PPP mode with a revenue share or a lease component.
<b>Financing mix</b>	Can be potentially implemented on a PPP mode with private participation
<b>Remarks</b>	Need for support in project structuring, contracting and technical development. Pre-construction feasibility studies and stringent selection criteria for development is critical.
<b>ESA analysis and tentative rating</b>	E1 – Project could have major environmental impacts thus necessitating Environmental Assessment Reports (EAR), S2 – is likely to have PAPs and hence need fairly detailed assessment.



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## 9. Reform agenda and Technical assistance

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

### 9.1 Urban sector reform in Tamil Nadu – an overview

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

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

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

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

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

While not mandatory, the provisions direct state governments to decide the powers and functions to be devolved to local bodies. Tamil Nadu has delegated functions 2 to 6 and 8 to 18 to ULBs<sup>7</sup>. 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 74<sup>th</sup> 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 be 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 Pud-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:

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<sup>7</sup> 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 Pud-M and is under operation for more than 5 years. Computerised Financial and Administrative systems are in place or are in various stage of implementation/upgradation. There is a therefore a need for continued emphasis on training to bring the accounting and finance staff upto speed on these developments.
  - **Use of CAD/GIS applications in Town Planning/Engineering** – Town planning and engineering officials in Pud-M were provided training in CAD and GIS as part of the USAID-ICMA organised City Links initiative in Pudukottai town. As part of the USAID program, a GIS map for the town was developed. CMA and GoTN should initiate a state-wide program to train Town planning and engineering staff on CAD and GIS applications.
- 5. Build on GoTN's pioneering position in implementing accrual accounting by launching a drive improve the timeliness and quality of information dissemination** - While all ULBs in Tamil Nadu have implemented a double entry accounting system, there is scope for improvement in the quality of accounting in the areas of classification and recording, consolidation and dissemination of information. Several ULBs have redundant systems involving manual and computerised book keeping and errors often creep into MIS. Often, the DCB statements and accounting statements are not reconciled. The recent initiative of the setting up of the Debt Monitoring Cell at the CMA level is a positive step in getting the loan records at the ULB right. It still takes significantly long time for accounts to be closed and this need to be remedied. GoTN and CMA should continue its thrust in this area to ensure that the real advantages of accrual accounting is realised. In this regard, we recommend that
- CMA, GoTN should continue its focus **on technical assistance to ULBs to improve their accounting systems and practices**. Proper training should be given to the staff on the concepts of double entry book keeping. Apart from the municipal staff, the LFA should also be given training in auditing the new computerised systems being implemented. Currently there is a dual system in operation and this seems to be creating significant reconciliation issues.
  - CMA, GoTN should **insist and implement closing of accounts and audit of the same within a fixed time period** subsequent to the completion of financial year.
  - TNUDF could consider a **grading system to categorise ULBs** on the basis of quality of accounting and reporting practices.
- 6. Create technical standards with specific applicability to municipal projects construction and execution. These are particularly required in 2 areas:**

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

- ULBs should be required to establish the practices of an independent system audit to be conducted annually. This would enable ULBs to establish greater accountability and build in robust processes for disaster recovery and security of the IT architecture of the ULB

**9. Facilitate creation of a formal institutional mechanism to manage functional overlaps among nodal agencies/state level agencies and the ULB –** As described earlier in section 5.4 – role of other agencies, ULBs shares responsibility for a number of service delivery areas with other agencies/departments of the state including Department of Town Planning, Department of Highway, Tamil Nadu Electricity Board, Tamil Nadu Water and Drainage Board, Road Transport Corporations etc.

- In order to overcome the limitations of these overlaps and to enable operation of these various organs of the state in a coordinated manner, each ULB should be mandated to facilitate creation of a formal steering committee at the city level comprising of 8-10 officials from all government departments/agencies. This committee could meet regularly (once every 2-3 months) to discuss and share information on respective projects/areas and could pave the way for better communication and effective service delivery.

### **9.3 Measures for improving financial performance**

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

Pud-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
<b>Rate of taxation and monitoring</b>	<ol style="list-style-type: none"> <li>1. Implementation of quinquennial ARV revision as recommend by SFC and removal of distortions in rates wherever existent.</li> <li>2. <b>Apart from collection efficiency, the ratio of assessments to population and growth of assessments should also be tracked and monitored at the highest level.</b></li> <li>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.</li> <li>4. Property tax information of various residential units should be published online in the same manner as the guideline values that are published</li> </ol>
<b>Increasing assessments</b>	<ol style="list-style-type: none"> <li>5. Move to <b>GIS-based database</b> to track, update and retrieve property tax information</li> <li>6. <b>It should be made compulsory for all new building constructions to display the building permission details obtained from the municipality for construction.</b> 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.</li> <li>7. Conduct a one-time survey to compile database of properties and initiate sample checks in all wards on an ongoing basis. <b>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.</b></li> <li>8. <b>Reconcile and link assessment information with building permissions issued and initiate a drive to bring unassessed properties under the tax net.</b></li> <li>9. <b>Reconcile manual and computerised registers to identify and bring in left-out assessments into the tax net.</b></li> <li>10. Blanket exemptions should be reviewed. Revenue loss due to exemptions should be compensated by GoTN.</li> <li>11. <b>A strong coordination between departments within the municipality by itself bring significant increase in assessment base and collection efficiency.</b> 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: <ul style="list-style-type: none"> <li>o The Property tax database should be regularly updated based on the status of Building permissions issued by <b>Town Planning department</b></li> <li>o Whenever the <b>Engineering department</b> provides water and sewage</li> </ul> </li> </ol>



Issues	Recommended Interventions
	<p>connections, it should check with the Revenue department for compliance of those assesses with respect to property tax dues. The <b>water and sewage assesses databases</b> should be regularly updated and reconciled with the property tax database.</p> <ul style="list-style-type: none"> <li>○ Whenever, the <b>Health Department</b> issues D&amp;O and Trade licenses, they should check on the status of property tax assessment and professional tax assessment status for these license.</li> <li>○ The D&amp;O licenses and Trade licenses should only be provided for applicants with a clear property tax assessment status and compliance.</li> </ul> <p>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.</p> <p>13. Along with the above internal coordination, Pud-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.</p> <p><b>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.</b></p> <p><b>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.</b></p>
Improving collection efficiency	<p><b>16. Draw a systematic plan for sending demand notices and ensure despatch of demand notices on time.</b></p> <p><b>17. Conducts ward wise analysis of collection efficiency to focus more on troublesome wards/ areas.</b></p> <p><b>18. Involve council members and resident welfare associations / NGOs as pressure groups to act against wilful defaulters.</b></p> <p>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.</p> <p><b>20. Make it compulsory for clearing property tax dues for provision of water and sewerage connections.</b></p> <p><b>21. Initiate a One-time drive and settlement scheme for arrears.</b></p> <p><b>22. Prepare a list of top100 defaulters and disseminate the information online and through other media to put pressure on such defaulters.</b></p>

Issues	Recommended Interventions
	<p>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.</p> <p>24. Moot creation of a special tribunal for speedy completion of litigation cases.</p> <p><b>25. Wherever possible initiate steps for out-of-court settlement to facilitate speedy clearance of such cases.</b></p> <p>26. Make provisions and take steps for writing off bad debts to clear up arrears history and database</p> <p><b>27. Encourage greater accountability among bill collection staff by introducing targets and incentivise the same by recognition of top performers.</b></p> <p>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.</p>
<b>Incentivise on-time payment</b>	<p>29. Implement Payment Due Date and penalties to incentivise on-time payment</p> <p>30. Encourage self-disclosure and payment.</p>

### **Professional Tax**

Professional tax has grown at 15% over the last four years and is becoming an important revenue stream. It is also a visible revenue stream and hence collection efficiency (especially on current demand) of 91% achieved in FY 2007 should be sustained and improved upon. In this regard,

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



<ul style="list-style-type: none"> <li>• Banks (Commercial and Cooperative)</li> <li>• Government Staff</li> <li>• Doctors</li> <li>• Engineers</li> <li>• Surveyors</li> <li>• Contractors</li> <li>• Advocates</li> <li>• Architects</li> <li>• Chartered Accountants (Firms)</li> <li>• Income Tax Practitioners</li> </ul>	<ul style="list-style-type: none"> <li>• Computer Hardware Shops</li> <li>• Computer Education Institutes</li> <li>• Medical Shops</li> <li>• Private Companies</li> <li>• Business Entities (other than companies)</li> <li>• Stock Broking concerns</li> <li>• Hospitals</li> <li>• Schools and other educational institutions</li> <li>• Cinema Theatres</li> <li>• Clubs</li> </ul>
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### **User charges**

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

33. **Increase penetration of connections for water supply.** As of FY 2007, Pud-M has about 11027 connections, which accounts for only 56 % of the properties assessed. Pud-M should target to increase this to at least 65 % in the next 5 years progressively going up to 70% within a decade.
34. **Providing water fountains only in areas with a predominantly low income population** to minimise revenue loss.
35. **Improve revenue per connection** through implementation of either a graded water tariff scheme (as is being considered by CMA, GoTN) or a metering based tariff. While the metering based system would a better system in principle (charges on the basis of usage) and in terms of incentivising water conservation, ULBs have faced resistance in implementation of metered tariffs. Pud-M could also consider implementation of meter based tariffs through involvement of Self Help Groups as meter readers.
36. **Adopt measures to improve collection efficiency.** Overall collection efficiency at 68% needs to be improved. PUD-M should consider stiff penalties for non-payment of user charges. Specifically PUD-M should consider implementation of late payment fines and in case of extreme overdue situations, disconnecting supply.

### **Public private partnerships (PPP)**

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

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

### **9.3.2 Measures for cost management**

#### **Energy efficiency**

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

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

## 10. Sustainable financial and operating plan

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

#### 10.1.1 Time-horizon

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

#### 10.1.2 Demographic projections

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

**Exhibit 10.1 Population projections and related estimates - Pudukottai town**

	Unit	Baseline	Projected		
		2007	2012	2017	2027
<b>Population</b>	nos	118,882	127,004	135,400	152,756
<b>Households</b>	nos	25,398	28,223	30,089	33,946
<b>Slum population</b>	nos	39,088	39,371	40,620	42,772
<b>Slum households</b>	nos	7,844	7,901	8,151	8,583
<b>Assessed Properties</b>	nos	21,623	22,861	27,080	33,606
<b>Road length</b>	km	140	142	155	181

#### 10.1.3 Revenues

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

**Exhibit 10.2 Revenue related assumptions**

Segment	Revenue driver	Basis / Assumptions
<b>Property Tax</b>	Baseline property tax / property (2006)	Rs. 1158 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
<b>Professional Tax</b>	Baseline tax / assessee (2006)	Rs. 2356 per year
	Growth in tax rate -	30% every 5 years from 2008
	Growth in assessments -	Population growth
<b>Water charges</b>	Penetration (Connections / properties)	Baseline – 57%. Connections growth assumed to reach 65% by 2012 and 80% by 2027.
	Deposit and user charges	Connection deposit assumed at Rs. 5000 and Rs. 9000 for household and commercial connections respectively and user charges assumed at Rs. 100 per month and Rs. 250 per month for residential and commercial connections respectively. Tariffs are

Segment	Revenue driver	Basis / Assumptions
		escalated at 5% annually
<b>Sewerage charges</b>	Penetration (Connections / properties)	Connections growth assumed to reach 40% by 2012 and 75% by 2027.
	Deposit and user charges	Connection deposit assumed at Rs. 5000 and Rs. 9000 for household and commercial connections respectively and user charges assumed at Rs. 100 per month and Rs. 250 per month for residential and commercial connections respectively. Tariffs are escalated at 5% annually
<b>Devolution Income</b>	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.
<b>Assigned revenue and other income</b>	Growth over baseline income (2006)	5% growth during projection period

#### 10.1.4 Expenditure

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

**Exhibit 10.3 Expenditure related assumptions**

Segment	Revenue driver	Basis / Assumptions
<b>Staff Costs</b>	Growth over base salary	8% annually
<b>Operating Expenditure</b>	<b>Existing asset base</b> – Growth on base O&M expenditure of 2006	Assumed to grow at 5% annually
	<b>For new capital investments – O&amp;M has been assumed as a % of capital costs given in Exhibit 10.4 CIP</b>	
	Water Supply	2.00%
	Sewerage and Sanitation	2.00%
	Solid Waste Management	8.00%
	Transportation & Street lighting	20.00%
	Urban services for poor	2.00%
	Others	2.00%
<b>Administrative expenditure</b>	Growth over average base expenditure during 2002-06	4%
<b>Interest expenditure</b>	Refer section 10.1.6 below.	

### 10.1.5 Assets

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

**Exhibit 10.4 Capital Investment Plan**

Segment	2008	2009	2010	2011	2012	2008-12	2013-17	2018-27	TOTAL
Water Supply	70	270	60	60	608	1068	1296	1548	3913
Sanitation	46	1502	1502	1456	123	4630	677	764	6071
Solid Waste Management	46	20	0	0	0	66	138	133	337
Transportation and street lights	43	43	701	701	701	2188	571	2966	5726
Urban Services for the poor	800	400	1111	1111	1111	4533	1778	1778	8089
Others	10	80	55	15	100	260	660	330	1250
<b>TOTAL</b>	<b>1015</b>	<b>2316</b>	<b>3429</b>	<b>3343</b>	<b>2642</b>	<b>12746</b>	<b>5121</b>	<b>7520</b>	<b>25387</b>

### 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 Pudukottai 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 underground drainage project, apart from consolidated financial projections. A summary of the assumptions and the computations for Underground drainage scheme is enclosed below:

#### 10.3.1 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 Pud-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. 40 crore. This is based on the estimates provided by Pud-M. **Capital** structure is assumed at 50% debt, 20% Equity and 30% Grant (under JNNURM). 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. 100 per month and Rs. 5000 initially escalated at 5 % annually respectively. **Commercial user charge realization and connection deposits** assumed at Rs. 250 per month and Rs. 9000 initially escalated at 5% and 2% annually respectively. In addition, 50% of the property tax allocated to water supply and drainage account (30% 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 9144 by 2012 and to 25,205 by 2027.
- 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 1.13. However, Pud-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 Pudukottai works out to Rs. **4521** lakh. At an aggregate level, assuming loans to be equivalent to **50%** of investment, sustainable investment

capacity works out to Rs. **9043 lakh**, which translates to about 36 % 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 **52 %** of the total investment requirement. Hence Pud-M is constrained in meeting its capital investment requirements and would need additional grant support to fully fund its capital investment program.

## 10.5 Financial and Operating Plan

Exhibit 10.6 below provides a summary of the financial projections for 10 years.

**Exhibit 10.6 FOP projections**

	Actual	Estd.	Projections									
Income	2006	2007	2008	2009	2010	2011	2012	2012	2014	2015	2016	2017
Own income	578	602	720	748	778	1,345	1,153	1,665	1,735	1,865	1,788	1,864
Property Tax	249	253	333	338	342	346	351	504	510	517	523	530
Profession Tax	52	53	69	70	71	72	73	96	98	99	100	101
Water Charges	112	124	136	149	164	345	306	445	495	450	479	508
Sewerage Charges	-	-	-	-	-	371	202	388	389	543	418	443
Service Charges & Fees	30	31	33	34	36	38	40	42	44	46	48	51
Other Income	135	142	149	157	164	173	181	190	200	210	220	231
Assigned Revenue	114	121	128	136	144	153	162	171	182	193	204	216
Devolution Fund	387	424	466	511	557	607	664	726	795	870	952	1,042
<b>Total Income</b>	<b>1,079</b>	<b>1,146</b>	<b>1,314</b>	<b>1,395</b>	<b>1,479</b>	<b>2,104</b>	<b>1,979</b>	<b>2,563</b>	<b>2,712</b>	<b>2,927</b>	<b>2,945</b>	<b>3,122</b>
<b>Expenditure</b>												
Salaries	438	473	510	551	595	643	694	750	810	875	945	1,020
Operating Expenses	274	288	335	350	515	653	695	584	620	659	702	751
Administrative Expenses	174	83	87	92	96	101	106	111	117	123	129	135
Finance charges	79	28	45	129	241	358	430	470	510	536	551	555
<b>Total Expenditure</b>	<b>965</b>	<b>871</b>	<b>978</b>	<b>1,121</b>	<b>1,447</b>	<b>1,755</b>	<b>1,926</b>	<b>1,915</b>	<b>2,056</b>	<b>2,192</b>	<b>2,327</b>	<b>2,461</b>
<b>Surplus</b>	<b>142</b>	<b>628</b>	<b>720</b>	<b>731</b>	<b>597</b>	<b>1,019</b>	<b>807</b>	<b>1,434</b>	<b>1,474</b>	<b>1,586</b>	<b>1,500</b>	<b>1,576</b>

### 10.5.1 Summary

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

**Exhibit 10.7 FOP summary**

Estd. Revenues – FY 2008 (Rs. Lakh)	1,324
Estd. Revenues – FY 2016 (Rs. Lakh)	2,958
Estd. Revenues - FY 2027 (Rs. Lakh)	6,796
Revenue CAGR % - FY 2008-17	10.1%
Revenue CAGR % - FY 2008-27	9.0%
Average TE (excluding depreciation)/TR (%)	71%
Average DS/TR (%)	20%
Average DSCR	2.50
Borrowing Capacity	4521
Investment Requirement	25,387
Investment Capacity (at 50% loan)	9,043
IC/IR (including Urban Service for Poor)	36%

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

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