Government of Tamil Nadu
Tamil Nadu Urban Development Fund

City Corporate Cum Business Plan

Kovilpatti Municipality

Final Report

March 2007

Wilbur Smith Associates Private Limited

Abbreviations and Acronyms

BOT	:	Build, Operate and Transfer
BPL	:	Below Poverty Line
BT	:	Black Top
CAA	:	Constitution Amendment Act
CAGR	:	Compounded Annual Growth Rate
CC	:	Cement Concrete
CCP	:	City Corporate Plan
CMA	:	Chennai Metropolitan Area
CMDA	:	Chennai Metropolitan Development Authority
CMWSSB	:	Chennai Metropolitan Water Supply and Sewerage Board
CPHEEO	:	Central Public Health Environmental Engineering Organisation
CSC	:	Community Structure Component
CUA	:	Chennai Urban Agglomeration
DIC	:	District Industries Centre
DPR	:	Detailed Project Report
DWCUA	:	Development of Women and Children in Urban Areas
ELSR	:	Elevated Storage Reservoir
FOP	:	Financial and Operating Plan
FY	:	Financial Year
G.S.T. Road	:	Grand South Trunk Road
gm	:	Grams
GoI	:	Government of India
GoTN	:	Government of Tamil Nadu
gpcd	:	Grams per Capita per Day
GLSR	:	Ground Level Storage Reservoir
ISP	:	Integrated Sanitation Program
Ha	:	Hectares
HH	:	Households
HSC	:	House Service Connection
IPT	:	Intermediate Public Transport
kg	:	Kilograms
LCS	:	Low Cost Sanitation
Lit	:	Litres
LL	:	Lakh Litres
LPA	:	Local Planning Area
lpcd	:	Litres Per Capita Per Day
m	:	Meters
ML	:	Million Litres
MLD	:	Million Litres per Day
MSW	:	Municipal Solid Waste
MT	:	Metric Ton
MTC	:	Metropolitan Transport Corporation
NGO	:	Non-Governmental Organisations
NH	:	National Highway
Nos	:	Numbers
NSDP	:	National Slum Development Program

O&M	:	Operation and Maintenance
OHT	:	Overhead Tanks
PSP	:	Public Stand Post
PWD	:	Public Works Department
SDBC	:	Semi-Dense Bituminous Concrete
SFC	:	Second Finance Commission
SH	:	State Highway
SI	:	Sanitary Inspector
SJSRY	:	Swarna Jayanti Shehari Rozgaar Yojna
SO	:	Sanitary Officer
Sq. km	:	Square Kilometres
STP	:	Sewage Treatment Plant
SWM	:	Solid Waste Management
TCS	:	Thrift & Credit Societies
TNEB	:	Tamil Nadu Electricity Board
TNRDC	:	Tamil Nadu Road Development Corporation
TNSCB	:	Tamil Nadu Slum Clearance Board
TNUDP	:	Tamil Nadu Urban Development Project
TNUIFSL	:	Tamil Nadu Urban Infrastructure Financial Services Limited
tpd	:	Tons per Day
TWAD	:	Tamil Nadu Water Supply and Drainage Board
UGD	:	Underground Drainage
ULB	:	Urban Local Body
USEP	:	Urban Self Employment Program
UST	:	Urban Skill Training
UWEP	:	Urban Wage Employment Program
VAMBAY	:	Valmiki Ambedkar Awas Yojana
W	:	Watts
WBM	:	Water Bound Macadam
NMR		Nominal Muster Roll

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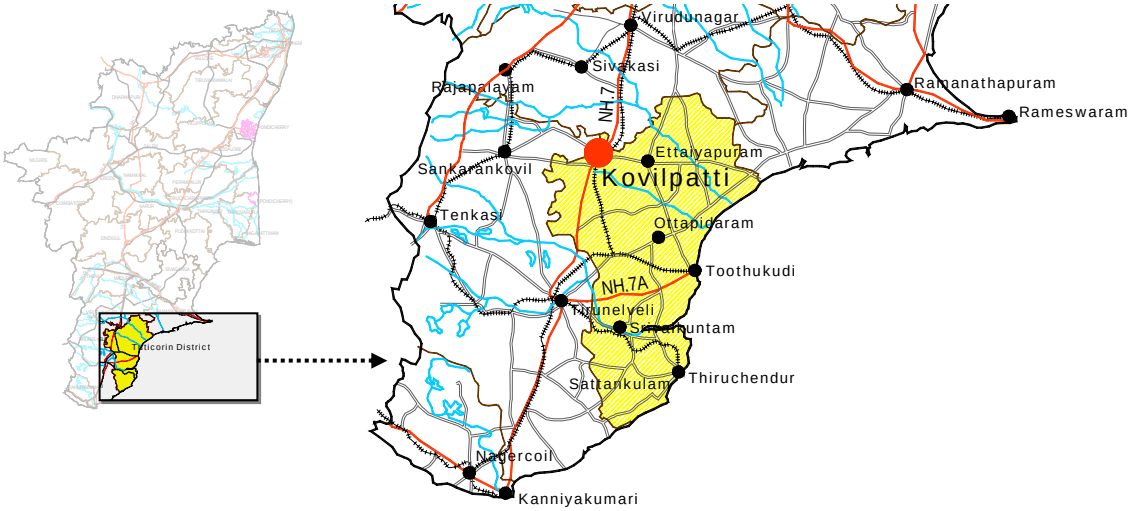
I. BACKGROUND

A. Profile of Kovilpatti

1. Kovilpatti is a historical temple town in southern Tamil Nadu and finds special mention in Tamil literature and history. Shenbagavalli Amman Temple, built by King Shenbagavendhan is a famous temple in this region. Poovanathaswamy, an incarnation of Lord Shiva is an important deity. The old town dating back to 1876 expanded around the temple and has emerged as a major centre of activity with the establishment of a rail link from Kovilpatti to Tuticorin Port in 1891. The town linkage and connectivity is shown in **Figure 1.2**

2. *Town Administration*: In 1876, the railway line and bazaar came into existence. The next phase of development of the town was during the period from 1881 to 1890 close to the loyal textile mill, which came into existence in the year 1891. In 1911, the town became the Taluk headquarters. Residential settlements developed in between the temple and Taluk office. In 1917, Government Hospitals and educational centres came up. Between 1920 and 1950, in the areas between east and west of the town and along railway lines, residential developments came into existence. After establishment of the Lakshmi mills and other small match units during 1950 – 1970, the town saw the development of residential areas still further. Kovilpatti, located in Tuticorin district, is a selection grade municipality constituted in 1964. The town is spread over an area of 7.25 Sq.Km and as per 2001 census, the town's population was 87,458.

Figure 1.1: Linkage and connectivity



1. Objectives of the St udy

3. The main objective for the City Corporate Plan was emphasises on issues of priority local concerns for liveability, and the implied requirements in terms of

   (i) Enhancing City Productivity
   (ii) Reducing Poverty
   (iii) Improving Management
   (iv) Enhancing Financial Sustainability

4. The objective of the assignment is to formulate a Business Plan comprising of appropriate policies and actions that are practically implementable to accomplish the objectives of the City Corporate Plan.

2. Scope of Work

5. The scope of services for converting City Corporate Plan to Business Plan broadly covers the following areas;

   (i) Financial Assessment of Urban Local Bodies;
   (ii) Assess Levels of service, coverage and quality of municipal services in both poor and non-poor localities;
   (iii) Outline issues in revenue realizations, quality of existing assets in relation to service levels and coverage, and institutional constraints;
   (iv) Prepare a Financial and Operating Plan (FOP);
   (v) Indicate and assess areas for expenditure reduction, revenue mobilization and management;
   (vi) Prepare a draft Memorandum of Understanding between Urban Local Body and Tamil Nadu Urban Infrastructure Financial Service Limited for effective implementation and monitoring of the Business Plan;
   (vii) Initiate consultations with council and local stakeholders on the priorities;
   (viii) Finalize Business Action Plan for the City, with a resolution from the council on the priorities and commitment to implement revenue and management improvement measures;
   (ix) Identify the obligations on the part of the Urban Local Body /Tamil Nadu Urban Infrastructure Financial Service Limited/Tamil Nadu Urban Development Fund/Government for successful implementation of the Business Plan.

B. City Corporate cum Business Plan

6. The Corporate Plan is a strategic plan, which sets out in detail the policy and investment options. The plan sets out baseline for the performance of the municipality, it’s priorities and aims for future. The Business Plan is the tool to implement projects and reforms to be under taken by the Urban Local Body. In addition, the Business Plan would formulate strength for additional resource mobilisation to enhance the credit worthiness of the Urban Local Body.

1. City Corporate cum Business planning Approach

7. The approach of the Corporate Plan cum Business Plan is iterative in nature and is presented in Figure 1.2

8. For the formulation of the City Corporate Plan, the future vision of the city was developed through a participatory approach, initiated in July 2002. Public Consultations were conducted at the town level with the Municipal Councillors, officials, line agencies and identified stakeholders. The process of formulating a City Corporate Plan is provided in **Figure 1.3**. The process is iterative and would enable the Kovilpatti Municipality review its outcomes through a series of indicators so as to make the process dynamic and in tune with the felt needs and requirements.

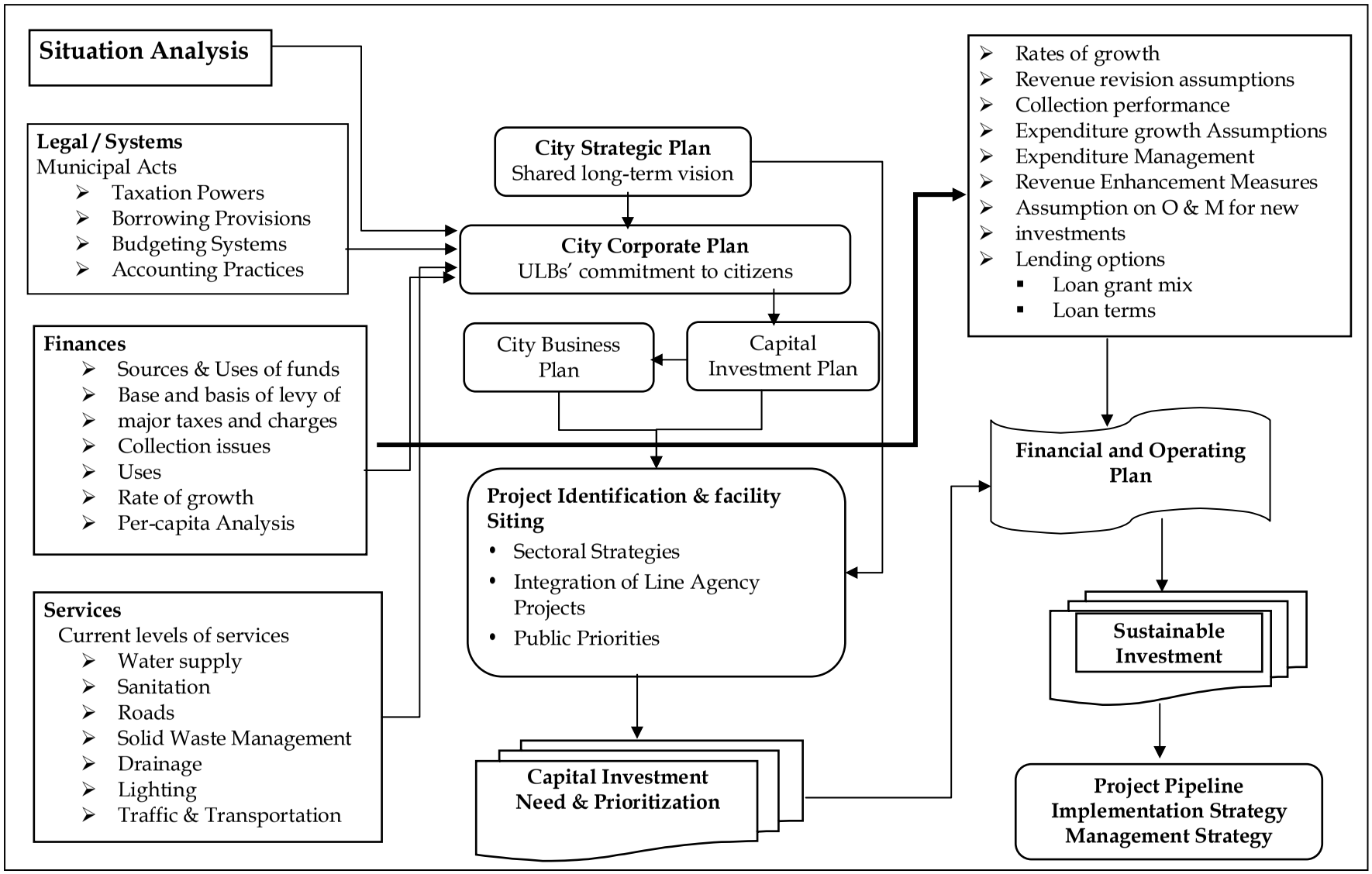
2. Source of Data

9. A varied list of organisations apart from Kovilpatti municipality were consulted for putting together the data presented in the report and used for analysis by the consultants through the City Corporate cum Business Plan preparation process.

10. The census data for the town is made available by the directorate of Census operations Tamilnadu. Institutions and organisations like Directorate of Town and Country Planning, District Industries Centre, Tamil Nadu Water and Drainage Board, Indian Medical Association, Local Non Governmental Organisations, Private organisations etc have provided the necessary data for the respective services.

11. The municipality has provided the necessary data with respect to infrastructure at the ward level. This was instrumental in preparation of the Business plan, which includes Capital Investment Program for the municipality and prioritising the needs at the local level.

Figure 1.2: Approach to Business Plan



C. Vision for Kovilpatti Town

12. The vision for the town is to achieve improved service levels and better quality of life for the citizens of Kovilpatti. Specific goals and service outcomes have been framed (presented in **Table 1.1** below), with this vision in mind.

Table 1.1: Goals and Service Outcomes

Sl. No	Goal	2011	2016	2026
A. Water Supply				
1	Network cover for general households	100%	100%	100%
2	Network cover for Slum households	100%	100%	100%
3	Per Capita Supply	90 lpcd	90 lpcd	
4	Hours of supply			24 hours / daily
5	Un accounted water	20%	15%	12%
6	O&M Cost Recovery	100%	100%	100%
7	Collection Efficiency	100 %	100 %	100 %
8	Customer Satisfaction	Good	Good	Good
B. Sewerage				
1	Coverage (Access)	100%	100%	100%
2	Treatment and Disposal	100%	100%	100%
3	Recycling and Reuse	25%	40%	50%
4	Customer Satisfaction	Good	Good	Good
C. Storm Water Drain and Water Bodies				
Macro Drainage				
1	Macro Drainage Recommendations	100%		
Micro Drainage				
1	With in the Town	100%	100%	100%
D. Solid Waste Management				
1	Collection with in the Town	100%	100%	100%
2	Door to Door Collection - %	100%	100%	100%
3	Source Segregation - %	75%	100%	100%
4	Collection - %	90%	100%	100%
5	Scientific Disposal	80%	100%	100%
6	Waste to Energy Generation		50%	100%
7	Cost Recovery of O & M -%	50%	75%	100%

Sl. No	Goal	2011	2016	2026
8	Private Sector Participation	Primary collection 100%	Secondary collection and Maintenance of disposal site	Primary, Secondary and Maintenance of disposal site
E. Traffic and Transportation				
1	Road Network as % of Total Area	12%	15%	15%
2	Average Speed -km/'h with in the town	20	30	35
3	Sidewalks length to Total road length	Half of the requirement	75% of the requirement	95% of the requirement
4	Road accidents	Reduced by 25%	Reduced by 50%	Reduced by 70%
Roads Coverage				
1	Municipality	80%	100%	100%
Safety				
1	To reduce traffic accidents by traffic management measures With in the Town	100%	100%	100%
Parking				
1	Construction of parking complexes at proposed locations	100%	100%	100%
Decongestion				
1	Development of truck terminal at Proposed location	100%		
2	Shifting of Bus stand	100%		
F. Street Lighting				
1	Energy saving mechanisms	80%	100%	100%
2	Adequate lighting in Non-lit areas	80%	100%	100%
G. Poverty Alleviation				
1	Network Coverage for slum households	90%	95%	100%
2	UGD coverage for slum households	60%	100%	100%
3	Adequately lit slums	100%	100%	100%
4	Adequate road link for the slums	100%	100%	100%
5	Pucca houses for all slum households	80%	100%	100%
6	Education for all in slums	100%	100%	100%

D. Report Structure

13. This report is the Draft Final Report and comprises of following structure:

(i) Project Brief and Scope of work. The current section detailing the project objective and the Scope of work of the project. Approach to the City Corporate Plan in to Business Plan;
(ii) Chapter 2 gives the Profile of the ULB and in terms of its demographic characteristics, past trends and growth, population projections and future trends;
(iii) Chapter 3 deals with urban management, the institutions involved structure of ULB -its political and executive wings. The chapter also outlines the reform agenda currently undertaken by the Municipal Corporation;
(iv) Chapter 4 elaborates planning and land use management and its growth directions of the town;
(v) Chapter 5 detailed on existing situation of infrastructure services, coverage, gaps, and issues confronting the same;
(vi) Chapter 6 presents the fiscal situation of the Kovilpatti Municipality
(vii) Chapter 7 deals with urban poverty including slums, demographic and socio-economic characteristics, availability of infrastructure services and gaps in the provision and delivery of services. Housing for urban poor is also discussed in this chapter;
(viii) Chapter 8 describes vision and sectoral strategies for the different infrastructure, facilities for the town along with the proposed interventions and costing for each of the sector.
(ix) Chapter 9 will deal with the elements that are essential in an asset management program for movable and immovable infrastructure. More specifically road networks, sidewalks, water supply networks, pumping, storage, treatment facilities and storm water drains.
(x) Chapter 10 deals with revenue generation through the non-traditional sources with minimum investment s and the enormous scope to control expenditure.
(xi) Chapter 11 describes Capital Investment Plan and Financial Operating Plan and sustainability of the proposed interventions including the suggested reforms to enhance the municipal revenues.
(xii) Chapter 12 outlines the various best practices and good urban governance. The strategies presented in this chapter.
(xiii) Chapter 13 is about the implementing framework to give technical and financial assistance for the business plan.

II. CITY DEMOGRAPHY

A. Geography and Climate

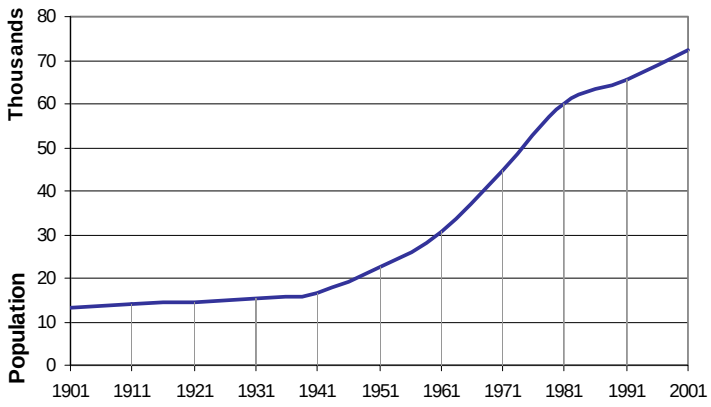
14. *Location & Transport Linkage:* Kovilpatti is located along the NH 7 connecting Kovilpatti to Tirunelveli at a distance of 90 Km towards south, and its district head quarters is at Tuticorin at a distance of 80 Km. State Highway 44 starts from Kovilpatti and extends up to Paruvakudi. Kovilpatti is also linked with a broad gauge rail link connecting Nagercoil and Chennai. The town is well connected with nearby centres viz., Ettayapuram, Pasuvanthani and Kadalaiyoor etc. through a network of major district roads and other district roads.

15. *Physical & Geographical Character:* The town is surrounded by dry lands with a gentle slope from south-west to north-east with some rocky outcrop. The average altitude is about 87.93 m above mean sea level. Ground water table in Kovilpatti is around 250 feet below surface. The area is poor in ground water resources. The surrounding area of this town is dry and water deficient, and not generally suitable for major agricultural activities. The availability of black-cotton soil around the town promotes cotton products, which paved the way for development of ginning mills.

16. *Climate & Rainfall:* The climate in the town is generally hot and dry. The temperatures range between a maximum of 37 ^{0}C to a minimum of 22 ^{0}C. The summers are from April to June. Low temperatures are observed during the months of December and January. The average annual rainfall varied from 228 mm to 964 mm during the last decade. The mean annual average rainfall for the town is approximately 840 mm.

B. Population Trends and Urbanization

Figure 2.1: Population Growth Rate



17. *Population Trends*: Over the past three decades, Kovilpatti has shown considerable growth in population though the growth rates have been declining. While the population reached 87,458 by the year 2001 from 63,964 in 1981, the decadal growth rate has come down from 31.86 percent during 1971- 81 to 10.94 percent during 1991-2001. During the same period, the area of the town increased from 5.21 Sq. Km in 1981 to 6.65 [1]

[1] There are discrepancies in the reported area of the town between the Directorate of Town and Country Planning and the Municipality. While the Directorate of Town and Country Planning maintains 7.25 Sq. Km as the area of the town in 2001, the Municipality maintains the same at 6.65 Sq. km. The

Sq. Km. The numbers of wards has increased from 12 to 36.

18. The town maintained very high growth rates since post independence. The growth rates have declined from about 46 percent during 1951-71 to 23.25 percent during 1981-91. The lowest growth rate is recorded during 1991-2001 at 10.94 percent indicating the stage of stabilisation of growth rates. However, during the period, there was increase in area of the municipality twice, once during 1971-81 from 2.64 Sq. km to 5.21 Sq. km and during 1981-91 to 6.65 Sq. Km. The decadal population growth rate is presented in **Table 2.1**. The population Growth curve is shown in **Figure 2.1.**

Table 2.1: Population and Growth Rate

Year	Population	Growth Rate
		(Decadal - %)-
1901	13,021	-
1911	14,022	7.69
1921	14,617	4.24
1931	15,212	4.07
1941	16,676	9.62
1951	22,674	35.97
1961	33,305	46.89
1971	48,509	45.65
1981	63,964	31.86
1991	78,834	23.25
2001	87,458	10.94

Source: Census of India

19. Similar growth trends have been observed in Rajapalayam, Sivakasi municipalities' location in the same region. Where since independence, the towns registered high growth rates; they started to stabilize since 1990's. Such stabilization is mainly due to stagnation of economy and industry in the region. The development of small-scale sector, particularly the "Match Industry" catapulted Kovilpatti as a major growth engine for the region during the 80's. The development of cotton mills, printing industry and match industry opened investment and employment opportunities in Kovilpatti, resulting in increased productivity and incomes.

1 Density Pattern

20. The overall density of the town during 2001 is 13,150 persons/ sq. km. The density has remained constant around 12,000 persons per Sq. km through the period 1981-2001. There has not been much variation in the density pattern at the town level due to the increase in town's jurisdiction. The density patterns are guided by the development of transport corridors, particularly along the State Highway (earlier part of NH 7), from Loyal mill to Lakshmi mill. The town level density is presented in **Table 2.2.**

Municipality has communicated this discrepancy to Directorate of Town and Country Planning recently for the necessary changes to be incorporated into the Final Master Plan Document for Kovilpatti Local Planning Area.

Table 2.2: Town Level Density

Year	Area	Population	Density
	Sq. Km		*Per/ Sq. Km*
1971	2.64	48,509	18,375
1981	5.21	63,964	12,277
1991	6.65	78,834	11,855
2001	6.65	87,450	13,150

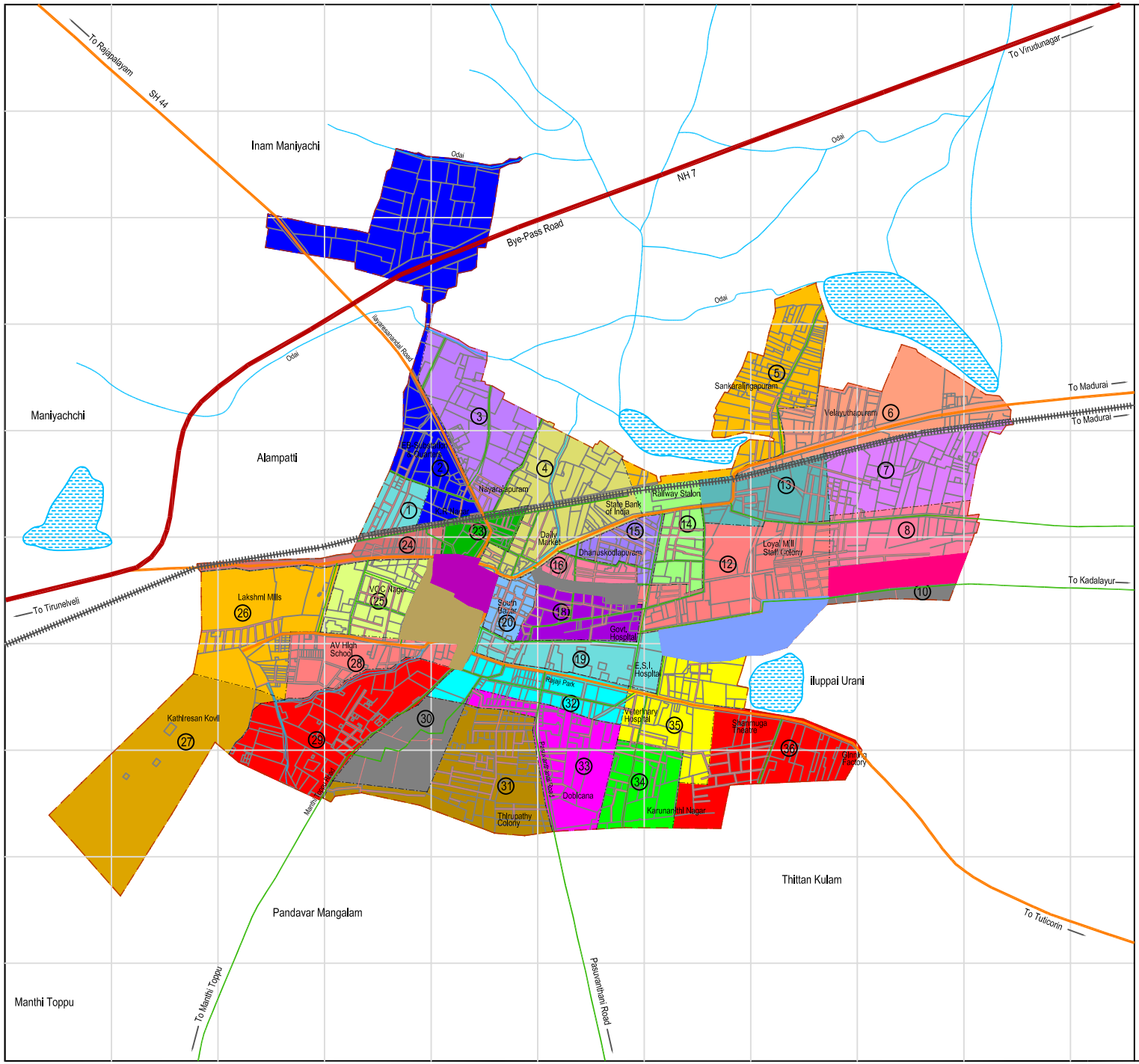
Source: Analysis

21. For administrative purpose the town in divided into 36 wards. (**Map 2.1)**. Eight Wards have high densities more than 20,000 persons per sq. km have predominantly mixed land use with major residential and commercial character. About 8 wards fall in the low to medium-density range of 5,000 to 10,000 persons per Sq. km. These wards are located on either sides of the railway track and in southern area of the town and are predominantly residential in character. About four wards have low density at less than 5000 persons per sq. km. Table 2.3 presents the ward-wise population density. The ward-wise density is shown in **Map 2.2.** The ward level population, area and density are presented in **Annexure I.**

Table 2.3: Ward Wise Density Pattern

Sl. No.	Ward Number	Density
		Per/ Sq. Km
1	20,22,15,16,9,1,10,17	>20,000
2	21,8,34,13,18,30,11,28	15,001 – 20,000
3	5,32,33,3,35,19,24,14,23,25	10,001 – 15,000
4	36,6,29,7,12,26	5,001 – 10,000
5	2,4,27,31	<5,000

Source: Analysis



KOVILPATTI CITY CORPORATE PLAN CUM BUSINESS PLAN

Legend :

- Municipal Boundary
- Ward Boundary
- Ward No.

ROAD WAYS

- Ring roads, NH Ways
- SH Ways
- Major Road
- Minor Road

- Railways
- Water Body
- Canal, Nala, Odai

ADMINISTRATIVE BOUNDARY

N

Scale : 0 0.25 0.5 1 2 Km

Tamilnadu Urban Infrastructural Financial Services

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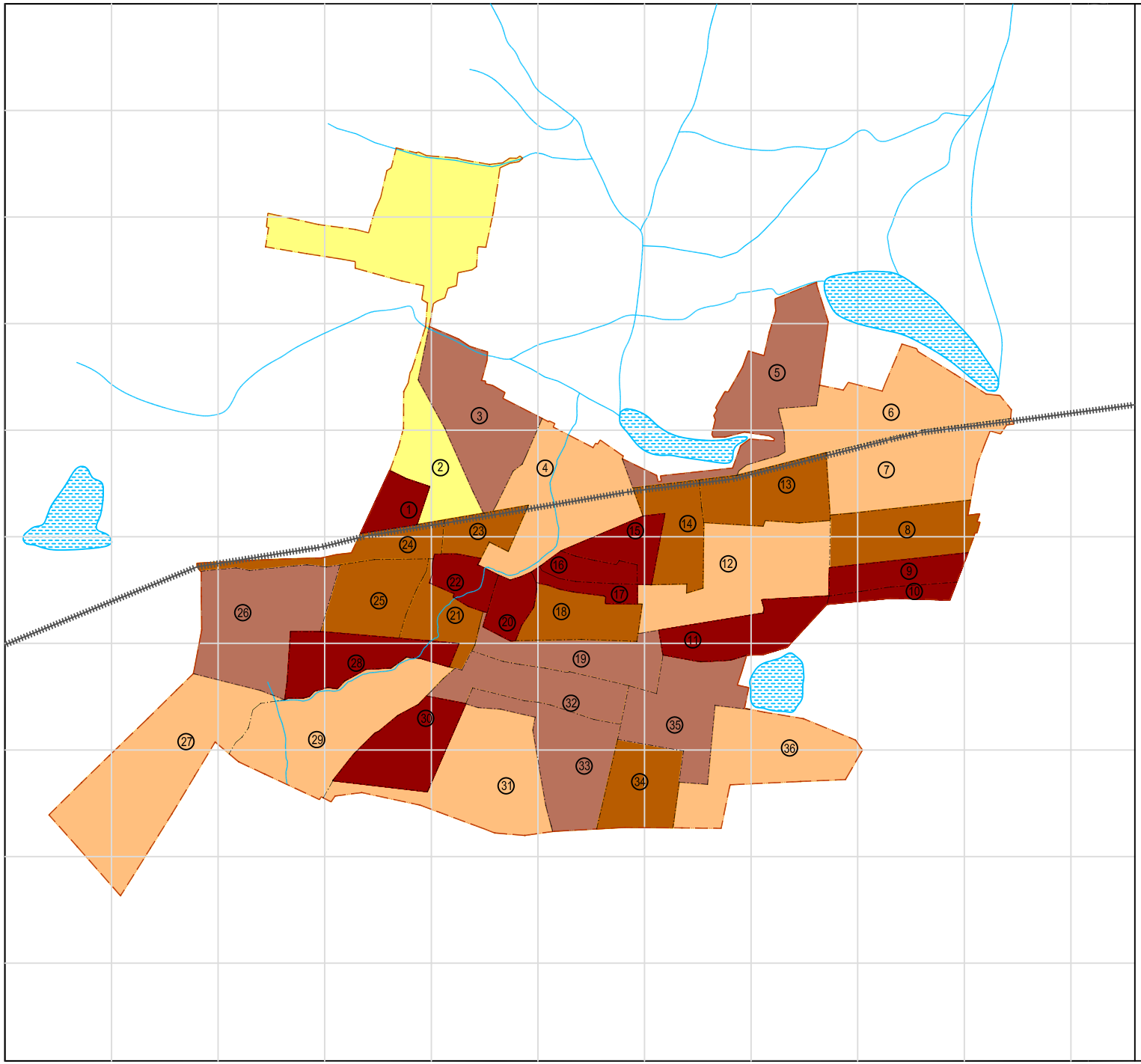
Map No. 2.1



KOVILPATTI CITY CORPORATE PLAN CUM BUSINESS PLAN

Legend :

- Municipal Boundary
- Ward Boundary
- ① Ward No.

ROAD WAYS

- Ring roads, NH Ways
- SH Ways
- Major Road
- Minor Road

- Railways
- Water Body
- Canal, Nala, Odai

< 5000
5000 - 10,000
10000 - 15,000
15,000 - 20,000
> 20,000

WARD WISE DENSITY PATTERN

N

Scale : 0 0.25 0.5 1 2 Km

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Map No. 2.2

C. Economic Development

1. Sectoral Growth

22. The development of rail and road linkages has induced tremendous economic opportunities in the region, resulting in the development of industries in the manufacturing sector and ancillary units. The development of small-scale sector, particularly the "Match Industry" catapulted Kovilpatti as a major growth engine for the region during the 80's. The development of cotton mills, printing industry and match industry opened investment and employment opportunities in Kovilpatti, resulting in increased productivity and incomes.

23. These developments had a bearing on the spatial development of the area. The availability of infrastructure facilities and amenities attracted the working population to reside in the town thereby inducing a spurt in the growth of population in the earlier decades. The spatial development is more pronounced along the transport corridors, with early development witnessing between the railway track and old NH 7 and developments on the southern side including areas along Ettayapuram road, V.O.C Nagar and Jyothi Nagar.

24. Trade, commerce and industry dominate the occupational pattern of the town. As per the census 2001, the total workforce of Kovilpatti has increased to 45 percent of the total population. During the decade 1971-1981, the total workforce had gone up to 41 percent. This was because of the setting up of the match industries during the period 1970 to 1980 in the town. The work force is dominated by the secondary and tertiary sectors constituting 85 per cent of the total workforce of 40,004 persons in 2001. Tertiary sector workers have doubled in 2001 compared with the year 1991. The shift is mainly due to industrial activities in and around the Local Planning Area. There is major shift from secondary sector to tertiary sector in the year 2001 when compared with pervious decades. The details of occupational structures are presented in **Table 2.4**

Table 2.4: Occupational Structure

Sectors	**1971**	**1981**	**1991**	**2001**	**Work Force - 2001**
	No. of Persons				*%*
Primary sector	655	1,048	1,784	314	0.78
Secondary Sector	6,720	13,625	14,454	5,555	13.89
Tertiary Sector	9,013	11,529	14,546	34,135	85.33
Total Work force	**16,388**	**26,202**	**30,784**	**40,004**	**100.00**

Source: Census of India

25. The workers in the town are primarily engaged in manufacturing and processing industries. The manufacturing industry comprises of cotton and ginning mills and match works in the small-scale sector. A majority of the work force is engaged in the match industry. As per the Inspector of factories, there are 269 factories engaging a work force of more than 20 labours each, 31 factories having labours in between 9 to 20 each and 1,140 small scale industries engage less than 9 labours each.

2. Industrial Development

26. Kovilpatti is an important industrial town in the region with a dominant match industry. The availability of cheap and skilled labour, raw materials, dry climatic condition and connectivity to other parts of the country helped in the establishment of match industries in a big way which in turn forms the driving force of the economy of the town. Kovilpatti ranks first in match industry in the region with more than 5000 match units dispersed throughout the town. Loyal textiles and Lakshmi mill are two major textile units in this town employing about 1200 workers. The raw materials to these units come from Northern states like Uttar Pradesh and Maharashtra and finished goods are transported by road and rail. The details on number of industries in Kovilpatti are listed in **Table: 2.5.**

Table 2.5: Details of Industries

Industry	**Numbers**
Ginning Factories	7
Rice and Flour Mills	10
Saw Mills	15
Printing Press	17
Others Industries	196
Total	**245**

Source: Kovilpatti Municipality

3. *Health*

27. Kovilpatti has one government hospital located on the new road catering to the local population as well as the surrounding villages. Apart from the government hospital, there is an ESI Hospital at the junction of New Road and Ettayapuram road, and a veterinary hospital opposite to ESI hospital on the Ettayapuram road. There are four maternity homes in the town.

28. In addition to the above, private medical facilities exist in the town. Though an exact number of such facilities is not available, enquires with the municipal staff indicate that there are about 40 Hospitals with around 52 doctors including both private and government. The details on health facilities in Kovilpatti municipality is presented in **Table 2.6.**

Table 2.6: Health Facilities in Local Body

Type	**Numbers**	**Doctors**	**Beds**
Government Hospital	40	52	227
Maternity Homes	4	-	-

Source: Kovilpatti Municipality

4. Education

29. Literacy rates have increased over the decades in Kovilpatti. From about 64 percent in 1981, the town's literacy rate increased to 76 percent in 2001. The education facilities include the schools run by government, municipality, aided schools and private. Almost all the educational institutions are located towards the south of the main road (old NH 7). There is also an engineering college and a polytechnic college situated in Nalattinpudur close to the town. The details of education facilities are listed in **Table 2.7.**

Table 2.7: Educational Institutions in Municipality

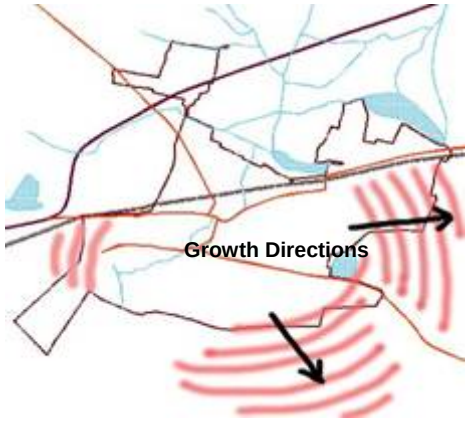
Type of Schools	Numbers
Pre Primary	1
Primary	13
Middle School	8
Higher and Secondary School	9
Private Arts college	1
Private Engineering college	1

Source: Kovilpatti Municipality

E. Growth Trends and Projections

1. Growth Trends and Projections

Figure 2.3: Future growth directions



30. The urban area of Kovilpatti sets into two distinct parts the old and the new areas. The entire town is separated by three physical barriers of NH 7, Railway line, and State Highway (old NH 7) starting from Loyal mills to Lakshmi mills. The old town is primarily concentrated between the railway track and State Highway. The newly developed areas are in between NH 7 and railway track, and south side has State Highway, which pass through the town.

31. The old part of the town has narrow streets and the buildings are closely built. There are several important locations like the weekly market, schools, theatres and bus stand. The initial development of the town was around the Shenbagavalli Amman temple. During the later stages, the development was towards north, northeast and south. The development has also started on the west dierction after the shifting of the bus stand from the core area.

2. Population Projection

32. Since post independence the town has grown rapidly. The growth rates have dipped over

the decades from about 46 percent during 1951-71 to 23.25 percent during 1981-91, the growth rates are observed to be on the higher side. The last decade recorded lowest growth rate at 10.94 percent indicating the stage of stabilisation in growth rates. The area of the municipality was incerased twice, once during 1971-81 from 2.64 Sq. km to 5.21 Sq. km and during 1981-91 to 6.65 Sq. km. To assess the future growth of population, a variety of methods were employed, the details of which are presented in **Appendices II.**

33. The population projection was performed using the decadal growth rate and is furnished in **Table 2.8.** This projected population has been used as the basis for future investments for Kovilpatti municipality. The projected population for the year 2011, 2016, 2021 and 2026 is 97,752, 103,345, 109,258, and 115,509 respectively.

Table 2.8: Population Projection

Year	**Projected Population**
2001	87,450
2005	91,418
2006	93,434
2011	97,752
2016	103,345
2021	109,258
2026	115,509

Source: Analysis

III. URBAN GOVERNANCE

A. Institutions and Capacity

1. Institutional Arrangements and Policy Context

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

(i) Water Supply & Sewerage. The Tamil Nadu Water Supply and Drainage Board (TWAD) is responsible for creation of water and sewerage infrastructure in the state. The TWAD board is supplying water from Tamarabarani to Ramasami park, from there Kovilpatti Municipality is responsible for the provision and delivery of services within the town.

(ii) Master Plan. The Town and Country Planning Department (TCPD) prepares the Master Plan and Comprehensive Development Plan (CDP) for the city/town, and the mandate of implementing the Master Plan /CDP lies with the ULB – growth is generally haphazard and unplanned, the CDP is rarely referred to. However, with a vision to achieve planned growth, revision of CDP is in progress.

(iii) Roads and Highways. Highways and Rural Works maintain the National and State Highways that pass through the town/city. Municipal roads are however created and maintained by the ULB.

(iv) Environmental Protection. The Tamil Nadu Pollution Control Board (TNPCB) is responsible for environmental protection and enforcement of rulings related to the same, passed by competent authorities.

(v) 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.

35. In addition to involvement of various institutions in the development of local-level infrastructure, the Municipal Administration & Water Supply Department controls local-level governance through the Commissionerate of Municipal Administration (CMA).

36. *Policy Framework*. Kovilpatti Municipality is governed by the Tamil Nadu District Municipalities Act, 1920. The municipality is classified as a selection grade municipality Amendment to the Corporation Act (1971) and Amendment to the Municipalities Act (1920), provides impetus for environment improvement through Rain Water Harvesting.

2. Service Delivery and Performance of Urban Local Body

37. The Engineering Department is responsible for all Public Works, and maintenance of civic facilities. This Department is responsible for the following works:

(i) Public Works (Construction and maintenance of roads and storm water drains,
(ii) Maintenance of school buildings,
(iii) Construction and Maintenance of Public Conveniences,
(iv) Maintenance of other facilities viz., Bus stand, Markets, etc.
(v) Street Lighting (Maintenance of Street Lights)
(vi) Water Supply and Sewerage (Provision and operation and maintenance of water supply and sewerage system)
(vii) Parks and Gardens (Maintenance of parks and gardens)

B. Organization Structure of Urban Local Body

38. The structure of the Corporation consists of two Wings i.e., the Deliberative Wing and the Executive Wing.

1. Administrative Wing

39. The municipal council, the political arm of the municipality consists of 36 elected councillors, each representing a ward. The chairman (elected from among the councillors) heads the municipal council, which performs its duties as per the provisions of the District Municipalities Act. The political wing provides an overall direction to the municipality and performs its functions through a set of committees constituted for different purposes. The population as per the census being less than three lakhs[2], there is no wards committee in the local body. However, as per the act, three committees viz., taxation appeals committee, appointment committee, contract committee have been formed consisting of the chairman, the commissioner and elected representatives as members.

2. Executive Wing

40. The executive wing is responsible for day-to-day operations of the municipality, and is headed by the municipal commissioner. The commissioner is the administrative head of the municipality and is supported mainly by five departments in the operations. The organisational structure of the municipality comprises of five functional departments.

41. The Kovilpatti municipality of executive wing is responsible for day to day operations, and is headed by the municipal commissioner. The commissioner is the administrative head of the municipality and is supported mainly by five departments in the operations. The organisational structure of the municipality comprises of five functional departments.

[2] According to the Act, it is mandatory to have ward committees consisting of the elected councilors if the population of the town is more than 3 lakhs.

42. The municipality consists of a head that reports to the commissioner and functions as per the responsibilities prescribed in the Act and as delegated by the municipal commissioner. The function of clerical staff dealing under each department/ section of the Municipality is coded for the sake of work allocation and standardisation.

43. 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:

(i) 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.

(ii) General Administration Department. The department is headed by the Commissioner and assisted by Assistant Commissioner (Personnel), Administrative officers, Public relation officer, Superintendent and other officers. 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.

(iii) Engineering and Water Supply Department. The Municipal Engineer heads the engineering department, and is assisted by Assistant Engineer, Junior Engineer and other staff. With regards to fieldwork, Scheme works are delegated to one Junior Engineer who also looks after regular works, related to Public Works, Drains, Street Lighting. The Assistant Engineer looks after the water supply and is assisted by electrician, operators and other staff. The Department is responsible for ensuring the quality and quantity of water supply to the municipality. A major function of the Municipality is formulation and execution of Works- like construction and maintenance of roads, buildings and other infrastructure systems.

(iv) Revenue and Accounts Department**.** The department is headed by the and assisted by Revenue Inspector and junior assistant. The Accounts Section is responsible for supervising all financial transactions related to the CMC, advising the Revenue Officers 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. 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 (commonly called Khatha transfer); collection of duty; issuing notices for recovery of tax; and monitoring revenue collections of the ULB.

(v) Public Health Department. The department is headed by Sanitary Officer, and 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. The Sanitary Officer assisted by the Sanitary Inspectors and Sanitary Worker Supervisors, is responsible for services of Solid waste management and Malaria Control activities. Sanitary Worker Supervisors are in-charge of works execution at the field level, which includes monitoring and supervising the work of sanitary laborers in the wards under their charge and attending to specific local complaints. Besides, this department is responsible for the enforcement of the Public Health Act. The Public Health Department is vested with the responsibility of ensuring safe sanitation and cleanliness of the town. The department is also responsible for the maintenance of Municipal Dispensaries, Burial Grounds and slaughterhouses. One of the most crucial services of the municipality is maintenance of sanitation and cleanliness in the town. This involves mainly conservancy works involving sweeping of roads, garbage collection and disposal, cleaning of drains, and disinfecting of drains. Private contract was awarded for Solid Waste Management in certain areas of the town. Markets areas and main roads are cleaned every day

(vi) Town Planning Department. A town-planning officer heads this department, assisted by building inspectors, surveyors and junior assistants and other staff. 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. The Town-Planning Department's main function is to implement the master plan proposals, ensure orderly growth in the town and avoid unauthorized constructions and to formulate projects.

IV. PLANNING AND LAND USE MANAGEMENT

A. Planning Efforts in the Past

1. Master Plan Outline

44. Kovilpatti Municipality was declared as Kovilpatti Local Planning area in 1971 under sections 10 (i) and (iv) of the Town and Country Planning Act, 1971. However, the first master plan for the town was approved by the Government in 1991 for an area of 6.51 Sq. km and has come into operation from the same year. Review of the master plan is at present taken up by the Town and Country Planning department for an area of 7.25 Sq. km including the developed and undeveloped areas. In addition, six detailed development plans are under preparation.

45. The department of town and country planning conducted a detailed land use survey to prepare an existing land use map for the Kovilpatti town. The land use prepared in 1991 captured only 6.51 Sq. km as the area of the town. Even the proposed land use pattern as in the approved master plan was prepared for 6.51 Sq. km leaving discrepancies on the actual area of the municipality.

2. Master Plan Implementation and Implications

46. The revision of the Master Plan taken up now is being prepared by Directorate of Town and Country Planning for a total area of 7.25 Sq. km, the Kovilpatti Local Planning Area comprises the villages of Kovilpatti (part) and Illupaiurani (part). In addition, detailed development plans are also under preparation for the municipal area, clearly delineating the land uses at the micro level.

B. Land Use Management

1. Land Use Pattern

47. The land use structure has been worked out based on the survey carried out by the Directorate of Town and Country Planning department. The structure would help in limiting the decaying of certain areas through a conscious and judicious development of core town and the peripheral wards, which have the maximum potential to grow in future. The existing land use details are presented in **Table 4.1**. **Map: 4.1 and 4.2** shows the existing and proposed land use pattern.

48. *Residential.* Residential land use constitutes 293.58 hectare of the total town area. The old residential areas are primarily around the Shenbagavalli Amman temple and have developed between the Loyal mill and the temple. New residential areas have developed along Ettayapuram road, Pasuvanthanai road, Kathiresankovil road and Pudugramam road etc. The residential area namely Gandhi Nagar, Veeraranjinagar, Kattunaicken Street,

Sastri Nagar and Ambedkar Nagar are developing with spatially distributed individual houses and the population density is medium in these areas. The residential use which constituted 33 percent of the total area in 1991, increased to 44 percent in 2001.

49. *Commercial.* The town is developing into a commercial center and also caters to the needs of the surrounding rural areas. The commercial establishment of the town is classified as retail shops and whole sale trading center which are mainly concentrated on both sides of State Highway (old NH 7), Madankovil street, south bazaar street, Ilayarasanendal road, New road, and Chockenchetti Urani street. The area under commercial land use increased from 4 percent to 10 percent during the period 1991 to 2001.

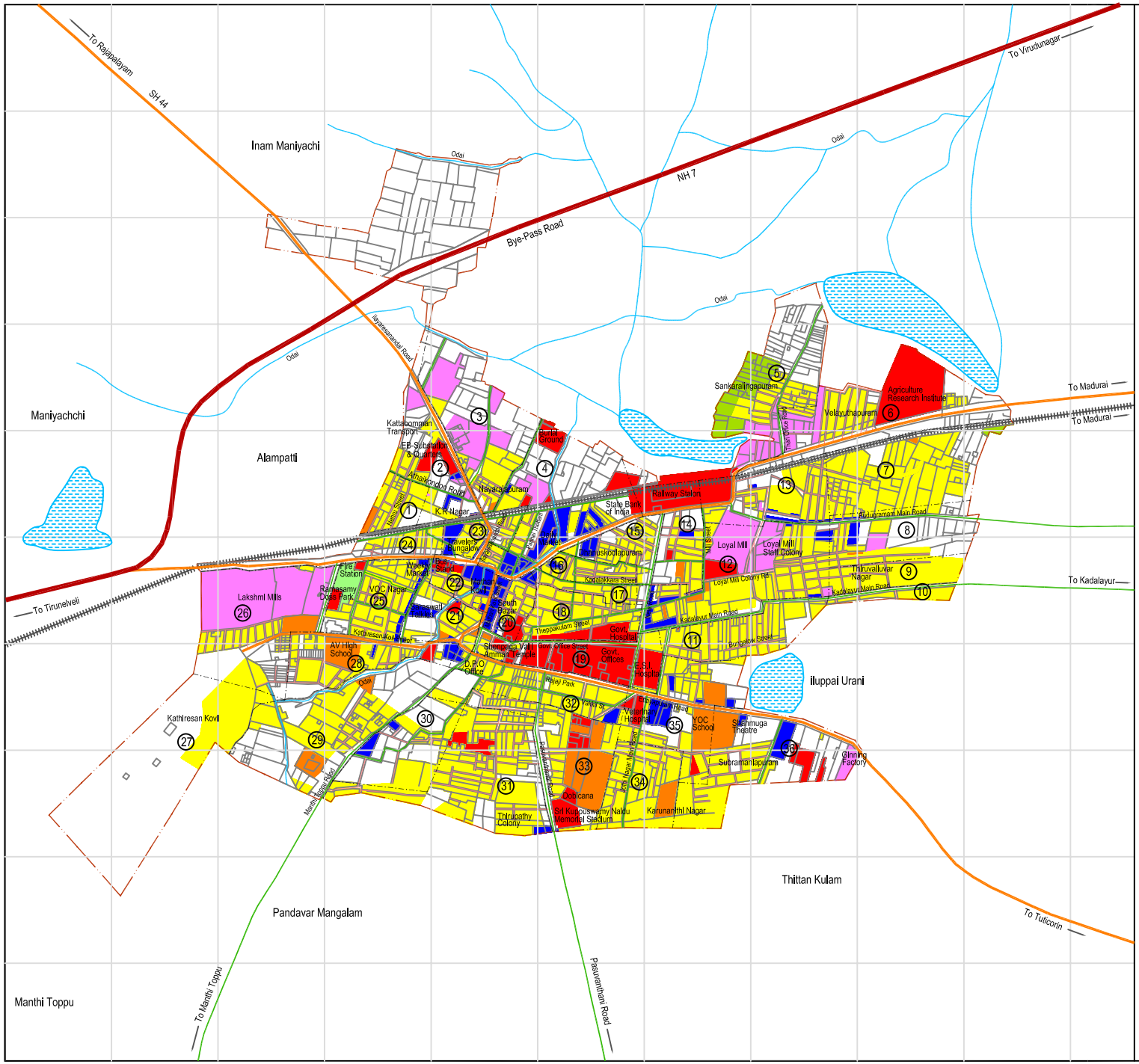
50. *Industrial.* Industrial land use constitutes 6 percent of the area.The town largely has small scale and household industries. The Loyal and Lakhsmi spinning mills are the two major industries in the town. The industries are mainly, cotton mills, power looms, ginning mills, processing factories, match industries, food, chemical, automobile and engineering works etc. Match industries are densely located at Ilayarasanendal road, National Highway and Pudhtikiramam main road.

51. *Public and Semi Public.* The major Public and Semi-public activities in the town are concentrated on the Ettayapuram road. The government offices, hospitals, ESI hospital etc are some of the public buildings located in the town. There are 14 nursing homes and 35 dispensaries/ clinics functioning in Kovilpatti.

Table 4.1: Existing Land Use (2001)

Land use Category	**Area**	**Developed area**	**Total Extent of Town**
	Sq. km	*Percent*	*Percent*
Residential	2.94	50.97	44.12
Commercial	0.65	11.26	9.75
Industrial	0.43	7.53	6.52
Education	0.19	3.35	2.90
Public and Semi- public	0.45	7.82	6.77
Transportation/ Circulation	0.85	14.70	12.72
Open Spaces/ Recreation	0.14	2.43	2.10
Water Bodies	0.11	1.94	1.68
Hills and Quarry	0.34		5.05
Agriculture (Wet)	0.12		1.78
Agriculture (Dry)	0.44		6.61
Sub-Total (Developed Area)	5.76	100.00	86.56
Sub-Total (Un-Developed Area)	0.89		13.44
Total	**6.65**		

Source: Kovilpatti Municipality



KOVILPATTI CITY CORPORATE PLAN CUM BUSINESS PLAN

Legend :

- Municipal Boundary
- Ward Boundary
- Ward No.

ROAD WAYS

- Ring roads, NH Ways
- SH Ways
- Major Road
- Minor Road

- Railways
- Water Body
- Canal, Nala, Odai

Land Use :

- Agriculture
- Residential
- Commercial
- Industrial
- Education
- Recreation
- Public

EXISTING LAND USE

N

Scale : 0 0.25 0.5 1 2 Km

Tamilnadu Urban Infrastructural Financial Services

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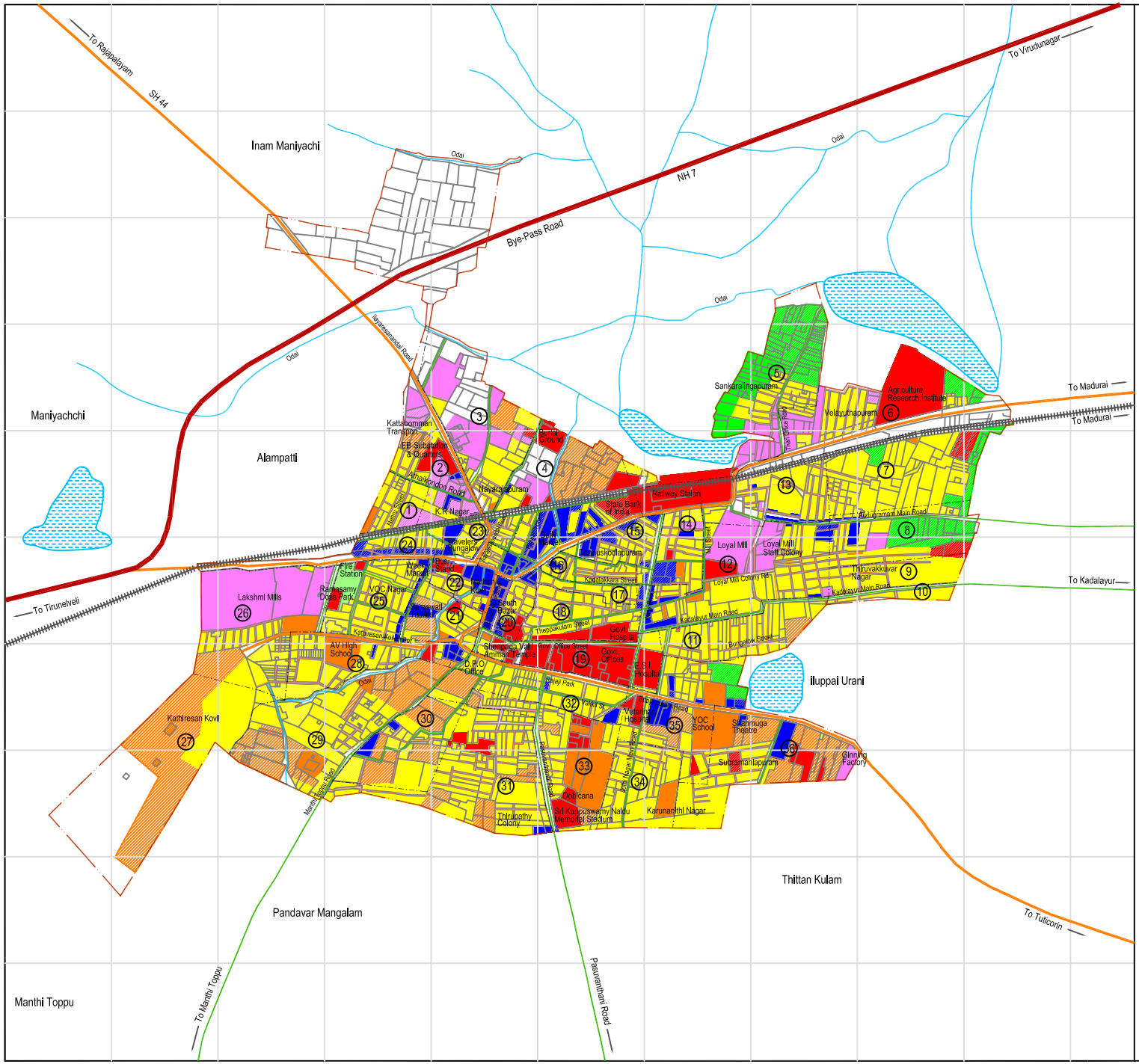
Map No. 4.1



KOVILPATTI CITY CORPORATE PLAN CUM BUSINESS PLAN

Legend :

- Municipal Boundary
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ROAD WAYS

- Ring roads, NH Ways
- SH Ways
- Major Road
- Minor Road

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- Water Body
- Canal, Nala, Odai

Land use :

	Proposed	Existing
Agriculture		
Residential		
Commercial		
Industrial		
Education		
Recreation		
Public		

PROPOSED LAND USE

N

Scale : 0 0.25 0.5 1 2 Km

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Map No. **4.2**

2. Growth Constraints and Developmental Potentials

52. The growth patterns are towards the Southwest and Northeast areas outside the municipal limits. These areas are along the national highway and the state highway leading to Alampatti, Illupaiurani and south side Pandavar Mangalam.

53. The railway line acts as a physical barrier in Kovilpatti and the developments are slow when compared to the southern side of the town. The transport corridors and their proximity to existing services guide the growth pattern of the town. The average population density of the town is approximately 13,150 persons per Sq. Km.

54. Although the developments have merged into the surrounding villages of Illupaiurani (on east), Pandavar Mangalam (south) and Alampatti (southwest), there is no such proposal to include any of these villages into the municipal area.

C. Key Developmental Issues

55. The developmental issues are briefed as follows:

(i) *Lack of integrated approach for conservation.* No efforts towards networking the existing tanks and lakes, which can effectively act as rainwater harvesting structures as well as for ground water recharge. Master plan does not give any specific approach for areas outside municipality and hence they are neglected. Most of the water bodies are outside the municipal limits.

(ii) *Lack of public participation.* Public participation has never been considered as part of the planning process for master plan preparations. All the master plans and other development plans have never reflected the needs of the dwellers of the town. This indicates the lack of efforts on part of the municipality or the Local Planning Authority to involve the public in the plan preparation process.

(iii) *Ineffective Urban Land Management*. Inability to co-ordinate approvals and sanctions among the implementing agencies (Local Planning Authority and Municipality) has added to gross violation of rules and regulations by builders.

(iv) The regulation of land use rests with the Local Planning Authority whereas the municipality does not have any powers thereby leading to conflicts in its implementation. Also the powers of the local body are curtailed resulting in sanctions and approvals without considering local conditions. Further, inadequate infrastructure in the newly developed areas has resulted in poor environmental conditions in these areas.

(v) The rapid growth in population has increased the pressure on land to a great extent. It is important that the growth is directed in an appropriate manner to avoid haphazard development.

V. INFRASTRUCTURE SERVICES

A. Physical Infrastructure

1. Water Supply

56. *Existing Situation*: - The primary source of water for Kovilpatti town is the Thamirabarani River with head works situated in Seevalaperi village approximately 51 km from the town. A Combined Water Supply Scheme (CWSS) catering to 29 wayside villages, Sattur and Kovilpatti municipalities and 3 town panchayats namely Kayathar, Kazhugumalai and Ettayapuram is presently operational. This system was commissioned in 1976 for a design population of 90,000 (2004). As per 2001 census, the town's population was 87,450, and hence it is inferred that the existing water supply to Kovilpatti has reached its saturation stage. It has been reported that approximately 10.24 MLD water is pumped daily from the head works.

57. *Head works.* Water is pumped from the head works through a transmission main to Kovilpatti. The radial collector well installed on the riverbed is equipped with seven radial arms installed for a total length of 220m (7 nos.). Water collected in the Collector well is pumped with the help of two 170 HP pumps. Details of the head works at Seevalaperi are furnished in **Table 5.1.**

Table 5.1: Details of Head works at Seevalaperi

Sl. No.	Item	Description
1	Source	Tamiraparani River
2	Type of source	Collector Well (1 No.)
3	Year of construction	1976
4	Details of Collector well	
	Size of collector well	4 m diameter
	Depth of well	5.85 m
	Length of radial arms	7 nos., length – 220 m (each 28.30 to 36.00 m)
	Size of radial arms	200 mm
5	Length of Pumping main	51 km.
6	Pump Duty	2 Nos., Vertical Turbine pumps @ 8,000 LPM, Head 66 m

Source: Kovilpatti Municipality

58. *Transmission main:* - The length of the pumping main is 51 km, which originates at the head works at Seevalaperi Village and terminates at the sump at Ramasamy Park and Booster Station in Kovilpatti. The transmission main has been laid in sections with different material and varying sizes. Details of the existing pumping main are furnished in **Table 5.2**.

Table 5.2: Details of Existing Pumping Mains

Si. No	Distance of Pumping Main from Head works	Type and Class	Length	Diameter
	m		*m*	*mm*
1	0 to 8,670	Cast Iron – LA class	8,670	450
2	8,670 to 11,431	RCC P2 class	2,761	525
3	11,431 to 11,581	Cast Iron – LA class	150	450
4	11,581 to 16,140	RCC - P2 class	4,559	525
5	16,140 to 24,430	RCC - P2 class	8,290	525
6	24,430 to 29,980	RCC - P2 class	5,550	525
7	29,980 to 36,035	Cast Iron – LA class	6,055	450
8	36,035 to 40,830	RCC - P2 class	4,795	525
9	40,830 to 50,140	RCC - P2 class	9,310	525

Source: Kovilpatti Municipality

59. *Booster Pump Stations:* - There are four booster stations located between the head works and Kovilpatti town.

(i) The first booster station is located at Rajapudukudi about 16 km from the headworks and has two 60 HP centrifugal pumps.
(ii) The second booster station is located at Salaipudur about 24 km from the headworks and has two 50 HP centrifugal pumps
(iii) The third booster station is located at Seevalaperi, 29 km from the headworks and has two 150 HP centrifugal pumps.
(iv) The terminal booster station is located at Ramasamy Park in Kovilpatti and is equipped with two 75 HP centrifugal pumps conveying water to the existing overhead tanks through a network of feeder mains. Details of Existing Booster Pump Stations are presented in **Table 5.3**.

Table 5.3: Details of Existing Booster Pumping Station

Si. No.	Item	Description
1	**Rajapudukudi Booster Pumping Station**	
	Distance from the Source	LS 16,140 m
	Size of sump	11.0 x 6.0 x 2.2 m
	Capacity of sump	1.452 Lakh litres
	Diameter of Inlet	525 mm Cast Iron

Si. No.	Item	Description
	Diameter of Outlet	350 mm Cast Iron
	Pump Duty	60 HP – 2 Nos., Centrifugal pumps @ 7,965 lpm, 22.50 m H
2	**Salaipudur Booster Pumping Station**	
	Distance from the Source	LS 24,430 m
	Size of sump	10.0 x 6.0 x 2.2 m
	Capacity of sump	1.32 Lakh litres
	Diameter of Inlet	525 mm Cast Iron
	Diameter of Outlet	350 mm Cast Iron
	Pump Duty	50 HP – 2 Nos., Centrifugal pumps @ 7,605 lpm, 18 m
3	**Seevalaperi Booster Pumping Station**	
	Distance from the Source	LS 29,980 m
	Size of sump	10.0 x 6.0 x 3.2 m
	Capacity of sump	1.92 lakh litres
	Diameter of Inlet	525 mm Cast Iron
	Diameter of Outlet	350 mm Cast Iron
	Pump Duty	150 HP – 2 Nos., Centrifugal pumps @ 7,605 lpm, 60.50 m
4	**Kovilpatti Booster Pumping Station**	
	Distance from the Source	LS 50,140 m
	Size of sump	10.0 x 6.0 x 2.5 m
	Capacity of sump	1.50 lakh litres
	Diameter of Inlet	525 mm Cast Iron
	Diameter of Outlet	300 mm Cast Iron
	Pump Duty	75 HP – 2 Nos., Centrifugal pumps @ 6,330 lpm, 34 m

Source: Kovilpatti Municipality

60. *Feeder Main.* Water is pumped from the Booster Station at Ramasamy Park, to the Over Head Tanks (OHTs). Feeder mains are laid from the Booster Pump Station to the seven storage reservoirs located at various places. The diameter of existing feeder main varies from 200- 250mm. The 250 mm pipes are of Cast Iron, while the 200mm are of AC. The existing distribution network is presented in **Map 5.1.**

61. *Service Reservoir.* There are seven elevated service reservoirs in use. The total storage capacity of thr elevated service reservoirs is 2.825 ML. For the present receipt of water supply from the CWSS (5 MLD approx.), existing storage facilities are more than 50 percent of the requirement of supply during normal season. However, based on present stage (2005) water demand is 9.36 MLD, the existing storage of 2.825 ML works out to 56 percent to the total water supply.

Table 5.4: Details of Existing Service Reservoirs

Sl. No	Location of Over Head Tanks	Year of Construction	Capacity
			Lakh Litres
1	Ramasamy Park	1976	7.25
2	Taluk Office	1976	5.75
3	Kadalaiyur	1976	7.25
4	Veeravanchi Nagar	1998	5.00
5	Gandhi Nagar	2000	1.00
6	Subramania puram	2003	1.00
7	Orani Street	2003	1.00
	Total		**28.25**

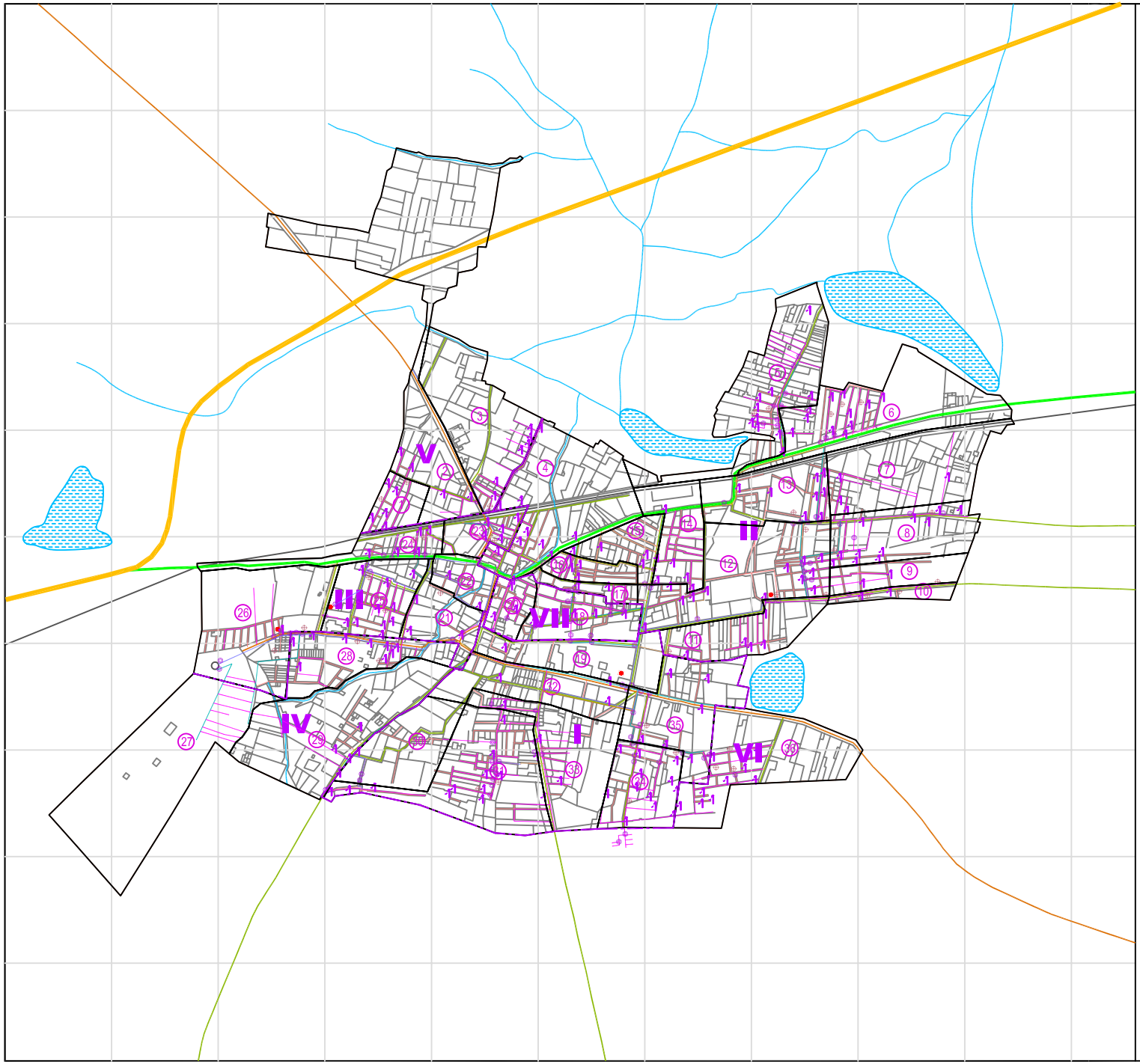
Source: Kovilpatti Municipality

62. *Distribution System*. A total length distribution system is 57 km. The existing water distribution network pipeline has 250mm diameter. The details of existing distribution network are illustrated in **Table 5.5.**

Table 5.5: Details of Existing Distribution Network

Items	Description
Quantity of water supplied	5.8 MLD
Service Reservoirs	7 Nos.
Total Storage Capacity	2.825 ML
Water supply zones	7 zones (55 sub-zones)
Existing length of distribution network	57 km
Total No. of House Service Connections	11,703 Nos.
Total No. of Public taps	65 Nos.

Source: Kovilpatti Municipality



KOVILPATTI CITY CORPORATE PLAN CUM BUSINESS PLAN

Legend :

- Municipal Boundary
- Ward Boundary
- Ward No.

ROAD WAYS

- Ring roads, NH Ways
- SH Ways
- Major Road
- Minor Road
- Railways
- Water Body
- Canal, Nala, Odai
- Reservoir
- Existing Sluice Valves
- 3" Distribution Main
- 4" Distribution Main
- 5" Distribution Main
- 6" Distribution Main
- 8" Distribution Main
- 12" Distribution Main
- 10" Distribution Main
- Water Supply Zone

Notes :

Water Supply Zone	Wards
1	18,19,30,31,32,33,34,35,36
2	4,5,6,7,8,9,10,11,12,13,14,15,16,17
3	20,21,22,23,24,25,26
4	27,28,29
5	1,2,3

WATER SUPPLY

N

Scale : 0 0.25 0.5 1 2 Km

Tamilnadu Urban Infrastructural Financial Services

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e-mail : wsa-urban-ch@dishnetdsl.net

Map No. 5.1

63. *Per Capita Supply*. The quantum of water supplied from the existing CWSS Scheme to Kovilpatti Municipality is 5.8 MLD and the per capita supply works out to 63.44 lpcd. However, the quantity is not ensured on a continuous basis, due to this supply position within the town is erratic. During normal season water is supplied once in 4 days and during summer season it is once in 6 days. The water is supplied for one hour.

64. *Existing distribution zoning.* The entire water distribution system is divided into 7 zones and each over head tank serves one zone. Each ward has been divided into suitable sub-zones in order to regulate the water supply system. **Table 5.6** shows details of the existing distribution zones, wards served by each overhead tank and sub-zones within each distribution zone.

Table 5.6: Details of Existing Distribution Zones

Zone No.	Tank serving the zone	Wards covered by each Over Head Tank	Number of sub-zones
1	Ramasamy Park	2(90 %),3,4,21,22,23,24,25	5
2	Taluk Office	18(50%),19,30,31,32,33,34,35	14
3	Kadalaiyur	5,6,7,8,9,10,11,12,13,14,15,16, 17	15
4	Veeravanchi Nagar	26,27,28,29	16
5	Gandhi Nagar	1,2 (10 %)	2
6	Subramaniapuram	36	1
7	Orani Street	18(50%),20	2

Source: Kovilpatti Municipality

65. *Consumer Connections.* There are 11,118 domestic connections (95%), 560 non-domestic connections and 25 industrial connections. The service coverage is just about 35 percent with respect to property tax assessments. There are 33,418 properties in Kovilpatti, of which 28,980 are residential properties. Details of water supply connections in Kovilpatti are furnished in **Table 5.7.**

Table 5.7: Details of Service Connections

Item	Nos of Connections		Total
	2002-03	*2004-2005*	*Percent*
Domestic	10,172	11,118	95.00
Non – domestic	557	560	4.79
Industrial	22	25	0.21
Total-Metered	**10,751**	**11,703**	**100.00**

Source: Kovilpatti Municipality

66. *Water Charges.* For a new water connection charges the deposits for domestic connections is Rs.2000, for commecial it is Rs.5000 and industrial it is Rs.3000/-. There are few metered connections in the town. The charges for metered connections are Rs.3/ KL for domestic, Rs.6/ KL for commercial and Rs.8/ KL for industrial.

67. For unmetered connections the local body charges at monthly flat rate of Rs. 31 for domestic, Rs. 61 for commercial and Rs. 81 for industrial. The water tariff was last revised in year 2000.

68. *System Coverage.* The gross per capita supply in the town is about 63.44 lpcd considering a total supply of 5.8 MLD. Water is supplied once in four days during normal season and once in six days during summer. The main issue pertaining to the system is the reduced yield from the source over the years and the large volume of water loss during transmission and distribution. Wards 20, 13, 1, 19, 9, 11, 5, 3, 29, 35 and 21 fares well in terms of distribution network reach with respect to the road length. However in case of wards 2, 12, 24, 18, 31, 22, 32, 14, 28, 7 and 15 there are several uncovered areas with effective road network and hence the distribution network reach could also be much lower.

69. There is a significant water loss in the water supply distribution starting from the source/ treatment plant till it reaches the consumer end. Kovilpatti Municipality stated the system losses are about 25 percent. It is to be noted that estimation in the amount of water losses is constrained because of lack meters and consumer databases are inadequate. The water losses are primarily due to leakage from old, damaged, corroded pipe lines and leaking joints and overflow at overhead tanks. Water is also lost due to theft, illegal tapping of water, unregistered connections, faulty meters and unrecorded supply due to poor records and billing errors.

70. Large amount of illegal tapping and leaks along the transmission network has added to the dimension of unaccounted for water (a previously conducted study indicated losses to the quantum of 0.4 MLD during transmission). Further, there is no measure of the actual amount of water reaching the town. The distribution losses are mainly attributed through illegal tapping and unregistered connections and varying tap diameters at consumer end.

71. Control on unaccounted for water (UFW) and loss minimization can be achieved through prevention of illegal tapping, water metering, education and information management, promotion of water conserving household appliances etc.

Service Adequacy and Key Issues.

72. Key issues/indicators are based on review and discussions and data analysis presented in **Table 5.8.**

Table 5.8: Performance Indicators – Water Supply

Indicator	**Current Situation**	**Benchmark**
Per Capita Supply	63.44 lpcd	90.0 lpcd
T & D losses/ Total Supply	20 %	15 %
Supply Frequency	Once in 4 Days	Daily
Distribution Network Reach (percentage of Road Length)	68.4 %	85 %
Elevated Storage capacity/ Total supply	49 %	> 33 %
Percentage of P.T. Assessments with House Service connections	35 %	> 85 %

Source: Analysis

(i) The head works is located at the tail end of Thamirabarani river basin system. Meager inflow from upstream and reduced rainfall has cast a shadow on the long-term sustainability of the source, and hence require immediate conservation

measures.

(ii) Irregular power supply at head works and booster stations has kept Kovilpatti away from continuous supply supplemented by large scale uncontrolled flow in the transmission mains for providing water to the 29 wayside villages. Certain minor leaks in the transmission main are being attended to on a need basis.

(iii) Zone III caters to a large segment of area and population and has inadequate storage capacity even for the present demand.

(iv) Bazaar area, Velayudhapuram, Bangla Street, Loyal Mills area, Veeravanchi Nagar, Jyothi Nagar, Mettu Street, Karunanidhi Nagar etc, are located at a higher elevation and the pressures are low. Also in these areas the distribution network is inadequate.

2. Sewerage and Sanitation

73. *Under Ground Drainage System existing situation.* There is no under ground sewerage system in the town. The primary and tertiary drains in the town also carry the sewage and sullage. Sanitation facilities include septic tanks, Low Cost Sanitation (LCS), public conveniences, ISP units etc. Disposal of night soil is normally by way of individual facilities and liquid waste (sullage and kitchen waste) is let in to the open drains.

74. *Coverage.* About 12,432 properties have septic tanks facility and is used by about 62,160 persons. About 7,035 persons use 1,407 Low Cost Sanitation Units as safe disposal method. 89 percent of the total population practice safe sanitation facilities. However, the service coverage is only 41.41 percent of the property tax assessments. The detail on sewerage and sanitation is presented in **Table 5.9.**

Table 5.9: Details of Sewerage and Sanitation Facilities

Description	**Nos.**	**Total**
		%
No. of Septic Tanks	12,432	88.45
No. of LCS Units	1,407	10.01
Number of Units (ISP-seats)	126	0.90
Number of Units (Others)	90	0.64
Total	**14,055**	**100.00**

Source: Kovilpatti Municipality

75. The slum population other urban poor localities do not have safe disposal facilities and they practice open defecation. The municipality in its efforts to improve upon the system has provided 40 public convenience systems with 216 seats to cover the low-income within slum settlements. These public conveniences cover about 20,000 persons.

76. Of the total units, 19 units are located in slums and the total numbers of seats are 190. There is provision of at least one seat on an average for every 72-slum dweller. The municipality through grants from World Bank/ PMU/ Tamil Nadu Urban Development Program II and VAMBAY funds constructed seven ISP units. Each ISP Unit has 16 seats

and bathing facilities.

Service Adequacy and Key Issues

77. Key issues are based on review and discussions. The indicators are presented in **Table 5.10.**

Table 5.10: Performance Indicators for Sewerage and Sanitation

Indicator	Current Situation	Benchmark
% P.T. Assessment covered with Septic tanks	37.20 %	90.0 %
% P.T. Assessment covered with LCS	4.21 %	10.0 %
% P.T. Assessment covered with Safe Disposal facility-Total	41.41 %	100.0 %
Slum Population per seat of Public Convenience	63	60

Source: Analysis

(i) Absence of safe and adequate disposal systems has also led to the disposing of sullage and night soil into the storm water drains and other natural water courses in the town.

3. Storm Water Drainage and Rejuvenation of Water Bodies

78. The total length of storm water drains network is 76.40 km. This is approximately 92 percent of the total road length in the town. The entire network in the town is of pucca open type. All the storm water drains discharge wastewater into the low-lying areas and water bodies located out side the municipal limits.

79. *Existing situation.* The only natural drainage channel in the town is the odai running across the town for a distance of 2.50 km starting from the Katherisan Kovil in the south to the urani near the railway station outside the municipal limits. This natural drain passes through the wards 29, 28, 21, 22, 20 and 4.

80. The width of the drainage channel (odai) varies from 2m to 4 m across the length. Encroachment is seen on both sides of this channel. Garbage is also dumped at several places along the odai. The details of drains are furnished in **Table 5.11.**

Table 5.11: Details of Drains

Tertiary Drain Type	Length (Km)	Percent
Open Drains- Pucca	76.40	96.8
Natural Channels	2.50	3.2
Total	**76.40**	**100.00**

Source: Kovilpatti Municipality

81. Kovilpatti's terrain slopes from south to northeast. The slope facilitates the storm water run-off and free flow of wastewater from the town. 76.40 km of pucca open drains constitutes the tertiary drains. Most of these drains require desilting.

82. *Major Water Bodies:* No major water bodies exist within the town limits. There are four major water bodies outside the municipal limits. *Iluppai Urani* is adjacent to Ward 11 and another two are behind railway station and Agricultural Research Institute. The fourth lake is located at Alampatti village adjacent to ward number 26. Out of these four water bodies, one is partly encroached upon by slum dwellers at *Iluppai Urani.*

83. The *Urani* located behind the railway station is polluted by sewage and sullage water flowing into it from the town. During public consultations, councilors and public identified five wards, which experience inundation during monsoon season. As per the municipal sources, wards 9, 16 and 17 do not have storm water drains. Because of low-lying nature, ward 10, 20 and 33 are affected due to stagnation of storm water. The water bodies are shown in **Map: 5.2**

84. *Service Adequacy:* The system has been rather rendered ineffective due to lack of periodic maintenance and siltation. In 15 wards the storm water drains run for more than one and half times the respective road length.

85. Wards 31, 33, 29, 32, 6, 34, 26, 14, 5, 36, 19, 4, 22, 30, 27, 28, 3, 21, 2, 20 and 17 do not have adequate drains. Most of these wards are located in the peripheral areas. There are several low lying areas in these wards and have very poor drainage conditions.

Service Adequacy and Key Issues

86. Key issues/indicators are based on review and discussions. **Table 5.12** presents the indicators.

Table 5.12: Performance Indicators for the Drains

Indicator	Current Situation	Benchmark
Storm Drain network/ Total Road Length	92 %	> 150.0 %
% Pucca Closed Drains	0.0 %	100 %
% Pucca Open Drains	100 %	100 %

Source: Analysis

(i) *Letting off Sewage into Storm Water Drains.* In the absence of a sewerage system and inadequate sanitation facilities in Kovilpatti, large amounts of the sewage generated are directly let into the storm water drains. This has resulted in polluting the lake (Urani) located outside the municipal limits. In addition to the above storm water drains and natural drainage channels are susceptible to uncontrolled garbage dumping resulting in blockage and stagnation.

(ii) *Silting of Odai's, Urani's and Storm Water Drains.* Uncontrolled solid waste dumping and encroachments on the banks of odai and urani's has resulted in formation of silt and construction along the Odai and Urani's.

4. Solid Waste Management

87. With a population of about a lakh, Kovilpatti town generates about 27.3 tons of municipal solid waste every day. The per capital waste generation is about 300 gms. In addition to household (domestic) solid waste, the main waste generation sources in Kovilpatti are vegetable market including slaughterhouse, commercail and institutional establishments including hotels and eateris, and construction activities. As Kovilpatti houses a number of small scale industries with in the town area, a part of industrial waste is mixed with municipal solid waste. For effective management of solid waste management, the town is divided into five sanitary divisions by the health department. **Table 5.13** provides the details on municipal waste generation.

Table 5.13: Details of Municipal Solid Waste Generation

Type	Generation (tons/day)	% of Waste
Domestic	20.00	73.3
Commercial	3.45	12.6
Industrial	0.55	2.0
Markets	3.00	11.0
Hazardous/ Hospital waste	0.3	1.1
Total	**27.30**	**100.00**

Source: Kovilpatti Municipality

88. *Domestic.* Domestic waste constitutes 73 percent of the total waste. Though this quantity is considerably high, it can be attributed to the high percentage of residential population.

89. *Commercial.* The commercial waste includes waste from hotels and eateries, street vendors' etc. The daily waste generated is about 3.45 tons.

90. *Industrial.* Industrial waste generated is mainly from the cotton, ginning, match and other ancillary industries in the town. Around 0.55 tons of waste is generated by these industries every day.

91. *Markets.* Kovilpatti has a municipal weekly market and daily market on the old NH road. Though the exact figures were not available, it is estimated that approximately 3.0 tons of waste is generated from these markets, which is generally organic in nature.

92. *Bio-medical waste.* There are 40 hospitals, 4 maternity centers and nursing homes with a total of 227 beds in the town generating around 0.28 tons of bio-medical waste per day. In the absence scientific disposal of bio-medical waste, this waste gets mixed with other waste collected by the Municipality. A proposal for installing an Incinerator in the town is under process.

93. *Primary Collection.* Primary waste collectioncomprises street sweeping and collection of waste stored in dustbins/ closed containers by trolleys. There are 203 dustbins (0.25 ton capacity) placed at different locations.

94. Waste collected near the kerb sides and through street sweepings are collected in a trolley and transferred to the nearest dustbins. Door-to-Door collection and segregation at source is introduced and proposed to extend to the entire town in stages. The Municipality has 55

push carts for garbage collection. These handcarts are divided into two compartments one for organic waste indicated by green colour and inorganic waste indicated by red colour.

95. The commercial waste, organic waste generated by the slaughter house, mutton stall, beef stalls, fish stalls, kalyana mandapams etc is collected on a day-to-day basis. Waste from commercial areas is also collected on daily basis.

96. *Secondary Collection.* Waste collected through primary collection is transported to the 6 collection points/ transfer stations located at Urani Street near PC, Stalin Colony, Pudugramam main road near PC, Slaughterhouse, Pasuvadanai near kaverkarani urani and Park Mela Street near TWAD Board guest house in the town. From the transfer stations municipality transfers the waste with the help of seven Mini Lorries. There are 7 mini-lorries (Mazda and Nissan) and all of them are in working condition. The vehicles per day transfer 80 percent of waste from the transfer stations to disposal yard.

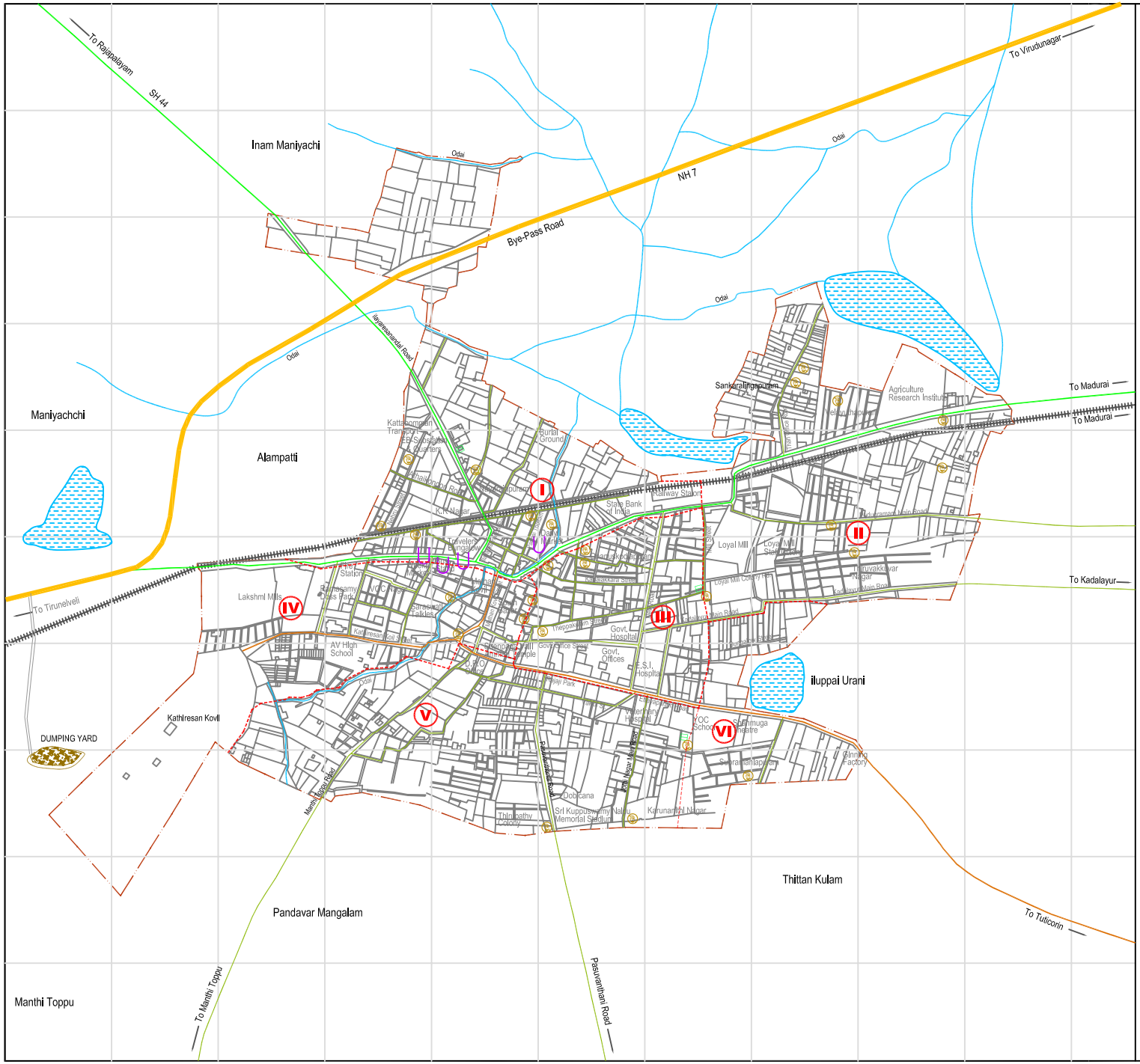
97. The rated capacity of the vehicles with the municipality is 3 tons, which is 71 percent of the waste being generated. Adopting a density factor of 0.35[3] and three trips per vehicle, the total vehicle carrying capacity with the municipality is 80.77 percent of the waste being generated.

98. *Processing and disposal.* Scientific method of disposal is not followed by the municipality. Landfill is done at the disposal sites about 5 km from the town. The site (3.81 acres) is located at Manthithoppu village and is surrounded by open areas and residential plots.The present site is not sufficient for composting.

99. The municipality is in the process of identifying new disposal site at Pandavar Mangalam, which is outside the municipal limits with an area of 12 acres. N.O.C certificate from Directorate of Town and Country Planning and Tamil Nadu Pollution Control Board are awaited by the Municipality. Proposal is made regarding the improvement of compost yard.

100. Additional land requirement for the future will be around 10.46 acres by 2026. The present site identified at Pandavar Mangalam (12 acres) would be sufficient to meet the needs of the year 2026. **Figure: 5.3** shows solid waste management systems.

[3]. The Solid waste Management studies conducted in several towns of Tamilnadu (Palani, Mamallapuram, Kodaikanal, Rameswaram, Erode etc have put the density factor for un-compacted waste at an average of 0.18 – 0.2. When compacted the same is observed to be in the range of 0.35 -0.4



KOVILPATTI CITY CORPORATE PLAN CUM BUSINESS PLAN

Legend :

- Municipal Boundary

ROAD WAYS

- Ring roads, NH Ways
- SH Ways
- Other District Roads
- Major Road
- Railways
- Water Body
- Canal, Nala, Odai
- Public Toilets (Free)
- Pay And Use Latrines
- Integerated Sanitary Complex
- Public Health Zone Boundary
- Existing Dumping Yard

SOLID WASTE MANAGEMENT

N

Scale : 0 0.25 0.5 1 Km

Tamilnadu Urban Infrastructural Financial Services

Wilbur Smith Associates Private Limited
2-B, "NAWAZISH" , 30, Khader Nawaz Khan Road, Nungambakkam, Chennai - 600 006, Tamil Nadu, India.
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Map No. 5.3

Service Adequacy and Key Issues

101. Key issues/indicators are based on review and discussions, and data analysis presented in **Table 5.15**

Table 5.15: Performance Indicators for Solid Waste Management

Indicator	Current Situation	Benchmark
Per Capita Generation (Grams/ Day)	300	< 400 gm
Collection Performance (%Collected to Generated)	80%	100.0 %
% Rated capacity of vehicles to total waste Generated	77 %	100.0 %

Source: Analysis

(i) *Irregularity in Waste Collection Timings.* There are no proper timings maintained by the conservancy staff in collecting the waste in the town and the waste from the six collection points is transported to the disposal site in the forenoon itself.

(ii) *Lack of Dustbin.* Lack of adequate dustbins in the town has resulted in throwing of waste on to the road sides in several areas such as the daily market area, the South Bazaar area and in peripheral areas of the town.

(iii) *Lack of Bio Medical Waste Disposal.* There has not been any bio-medical waste disposal facility till now. There is a proposal for installation of incerator facility.

5. Roads

102. *Existing Situation.* About 0.85 Sq.Km area is under roads i.e. about 12.72 percent of the total area. The total road length in Kovilpatti town is 83.04 km. 82.5 percent of municipal roads are surfaced roads mostly with black top surfacing **(Table 5.16)**.

103. To overcome the unsatisfactory condition of the asphalt roads in the city after monsoon, the municipality is contemplating to augment part of the existing network with cement concrete roads. Even new additions to the network are being taken up as cement concrete roads.

104. The road network in the town comprises National Highway/ State Highway/ Major District Roads/ Other District Roads. The major roads in the town are radial in character and the minor roads follow a gridiron pattern. All the main roads radiate from the centre of the town outwards to the respective regional destinations. While the average width of the roads, including the margin is about 11m. The average width of the carriageway is however observed to be just about 4m.

Table 5.16: Details of Municipal Roads

Surface type	Length (km)	Percent
Cement Concrete	15.83	19.06
BT/ Tar	50.45	60.75
Water Bound Macadam	0.51	0.61
Cut stone Slab	0.77	0.93
Earthen Roads	0.20	0.24
NH / SH / MDR / ODR (BT)	15.28	18.40
Total	**83.04**	**100.00**

Source: Kovilpatti Municipality and Analysis

105. There are three level crossings in the town for which ROBs were planned. Work on two of them, one at Loyal mills and another at Lakshmi mills is in progress. The third proposed ROB on the Ilayarasanendal road is stalled due to land acquisition problems. There are 172 culverts in the municipality.

Service Adequacy and Key Issues

106. *Service Adequacy.* There are 23 wards covered by 100 percent surfaced roads. In 6 wards, above 90 percent of the roads is surfaced. At present, per capita road length in Kovilpatti is 0.91m. As population increases, municipality will have to improve the connectivity in the peripheral areas in the wards 9,2,3,31,26 and 27.

107. Key issues/indicators and data analysis presented in **Table 5.17.**

Table 5.17: Performance Indicators for Roads

Indicator	Current Situation	Benchmark
Road Density	12.48 Km/ Sq. km	10.0 – 15.0 Km/ Sq. km
Per Capita Road Length	0.91 m	1.75 m
% CC Roads to Total Road Length	19.1 %	10.0 %
% Municipal Surfaced Roads	82.5 %	100.0 %

Source: Analysis

6. Traffic and Transportation.

108. *Existing Situation.* Kovilpatti being an industrial town attract considerable amount of traffic both two and four wheelers. There is also substantial pedestrian traffic at commercial areas of the town on the main road (old NH 7) and State Highway to Kovilpatti and Tirunelveli. TOMP study conducted by Directorate of Town and Country Planning also points at the congestion and mixing of pedestrian and vehicular traffic near the Ramasamy theatre and Government hospital area as a frequent phenomenon.

109. *Travel Pattern.* The travel pattern in the town is guided by the road network and land use pattern. The concentration of commercial and trading activities at the center of the town coupled with the radial pattern of the roads make a large number of trips to originate and end at the south bazaar area on the main road. After the construction of the bypass, the thorough traffic which used to pass through the town has diverted to the bypass. Still the old NH 7, which is now recognized, as State Highway is the spine to the town with commercial activities concentrated on it. Hence, substantial local traffic passes through this road daily.

110. *Road-Rail Crossings*. There are three level crossings in the town. While one is located at near Lakshmi mills on the western side on the State Highway (old National Highway 7), second one is located near Loyal mills. The third on the Ilarasanendal Road near the Traveller's Bungalow.

111. The State Highway (old National Highway 7) road carries heavy traffic from Lakshmi mills to Loyal mills, passing through the town centre. To manage this heavy traffic two ROBs are under construction at Loyal mills and Lakshmi mills level crossings.

112. *Intersections.* The five major junctions in the town;

(i) Kovilpatti-Kanniyakumari and Mathan Kovil Street;
(ii) Ettayapuram road and Manthitoppu road;
(iii) Mathan Kovil Street and Ettayapuram road;
(iv) Ettayapuram road and Pasuvanthanal road;
(v) Ilayarasanendal Road and Kovilpatti – KanniyaKumari Road.

113. Junction 2, 3 and 5 are three arm, while junction 1 and 4 are four arm. In case of the first junction (Kovilpatti-Kanniyakumari and Mathan Kovil Street) there is intense commercial development and encroachments is found on both sides road.

114. The second junction is where the Ettayapuram road and Mathan Kovil street have carriageway of 7m each. Manthithoppu road has only 3.5m effective width. Electric posts and telephone posts are located very close to the turning circle of Manthithoppu road, which obstruct smooth flow of traffic.

115. *Parking Facilities.* The growth in number of private vehicles has increased the demand for parking and in the absence of authorised parking facilities; abrupt and indiscriminate roadside parking is resorted to. This has led to reduction in the effective carriageway of the roads leading to extended travel time and accidents.

116. Intense on-street parking is observed along all the major roads in the CBD. On other commercial roads like Main road (SH), Ilarasanendal road, near bus stand area Dhanushkotipuram main road and daily market area, on street parking of two wheelers, taxis, lorries and tempos is prevalent. Major parking problems are observed near the New Road at Government Hospital, near the road from Bus stand to Rajaji Park, Ramasamy theatre to Loyal mill road. There is a need to create off-street parking areas, especially in the CBD and Bus stand area and to regulate the on-street parking along the major commercial roads.

117. Public Transport System in the town is catered to by private service operators plying mini-buses between various localities in and around the town. There are about 10 to 15 such mini buses plying within the municipal limits. Apart from these mini-buses, there are a number of autos operating in the town. Pedestrian mode of transport is also significant in the town.

Key Issues

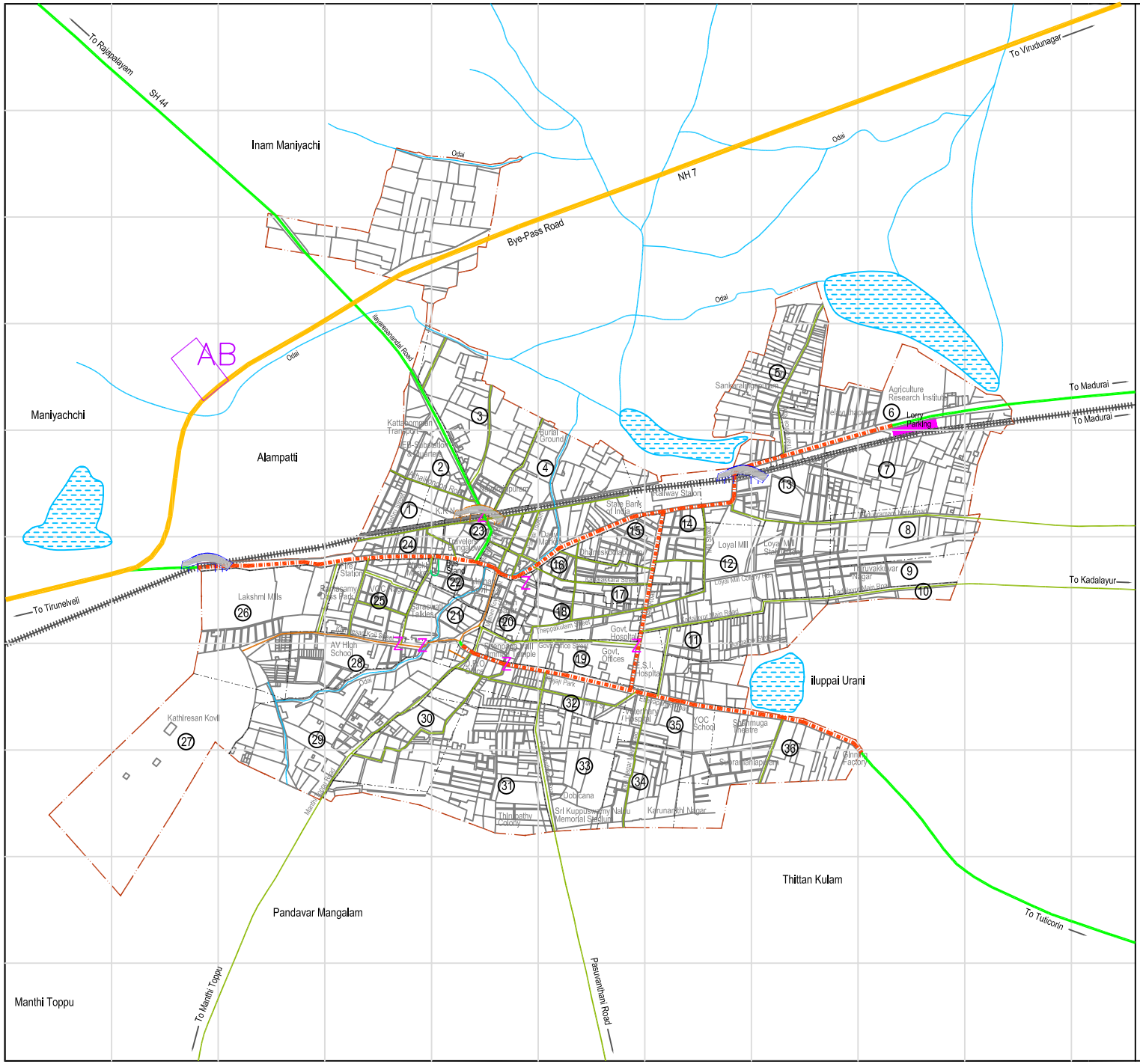
(i) *Inadequate Connectivity in Peripheral areas.* New residential developments have been on the rise towards the north of the railway station and towards the Manthithoppu road. However, these areas lack in effective road network connecting the major roads forcing these areas to adopt new kutcha roads for local travel.

(ii) *Encroachments and Informal Activities on Major Roads.* The margins of the roads are encroached upon in several sections of the old NH 7 and the State Highway to Tuticorin near the market/ commercial areas.

(iii) *Congestion due to Absence of Parking Spaces.* The Commercial stretch along the main road lack in proper parking facilities for the trucks, vans and taxis that form a major constituent of vehicles on this stretch and have been resorting to on-street parking.

(iv) *Lack of Traffic Segregation*. Lack of traffic segregation on all the major roads has been the main reason for the slow movement of vehicles and chaos at junctions on the main road. The effective road widths are reduced on several of these roads due to encroachments resulting in the haphazard movement of vehicles.

(v) *Lack of Link Roads connecting Main Roads.* Lack of link roads connecting the principal arterial roads has been causing frequent traffic congestion in the city. More over the movement of heavy vehicles in the CBD results in congestion and traffic problem.



KOVILPATTI CITY CORPORATE PLAN CUM BUSINESS PLAN

Legend :

- Municipal Boundary
- Ward Boundary
- (1) Ward No.

ROAD WAYS

- Ring roads, NH Ways
- SH Ways
- Other District Roads
- Major Road
- Railways
- Water Body
- Canal, Nala, Odai

- Improvements To Major Roads
- J Proposed New bus - Stand
- Z Traffic Bottlenecks
- Road Over Bridge (On going)
- Road Over Bridge (Proposed)

TRAFFIC & TRANSPORTATION

N

Scale : 0 0.25 0.5 1 Km

Tamilnadu Urban Infrastructural Financial Services

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Map No. 5.5

7. Street Lighting

118. *Existing Situation:* - There are 3,023 streetlights in the town with an average spacing of 27.47 m. 94 percent of total streetlights are tube lights and 6.22 percent are high power lamps. High Mast tower lamp is provided at the junction of the State Highway (old NH 7) and the Ilayarasanendal road near Traveler's Bungalow. The details of street lighting are presented in **Table 5.18.**

Table 5.18: Details of Street Lighting

Type of Luminary	Number	Percent
High Mast Lamps	1	0.03
Halogen Lamps	4	0.13
Sodium Vapour Lamps	183	6.05
Tube Lights	2835	93.78
Total	**3023**	**100.00**

Source: Kovilpatti Municipality

119. While the town level indicator of 27.47 m average spacing between lamp posts gives a more than adequacy (**Table 5.19**). In nine wards the average spacing between lamp posts is above 30 m. These wards are 15, 33, 2, 36, 30, 16, 6, 7 and 22.

Table 5.19: Indicators for Street Lighting

Indicator	Current Situation	Benchmark
Spacing between Lamp Posts	27.47 m	< 30.0 m.
Percentage of Tube Lights	93.78 %	70.0 – 80.0 %
Percentage of High Power Lamps	0.03%	20.0 – 30.0 %

Source: Analysis

(i) *Operational timings of the Streetlights*: The operation and timing of street lighting is very crucial. In wards 6, 33 and 36 timings need to be streamlined. Due to surmounting operational problems with tube lights, certain areas in these wards are invariably plunged into darkness.

VI. FINANCES OF KOVILPATTI MUNICIPALITY

1. Municipal Fund

120. *Overview*. Kovilpatti Municipality maintains a municipal fund for managing the finances of the Municipality. The accounts of the municipal fund were maintained on a cash based single entry system till the FY 1999-2000. The financial status of the Municipality has been reviewed for the past four years, commencing from the financial year 2000-01. This section contains a description of the municipal finances, the sources and uses of funds, and an assessment of municipal finances based on important financial indicators. Currently the urban local bodies of Tamilnadu maintain three separate funds, namely General Fund (Revenue Fund), Water & Drainage Fund and Education Fund. For the purpose of this analysis, Education fund has clubbed in to General fund. For further analysis, the items of each fund are categorized under the following major heads.

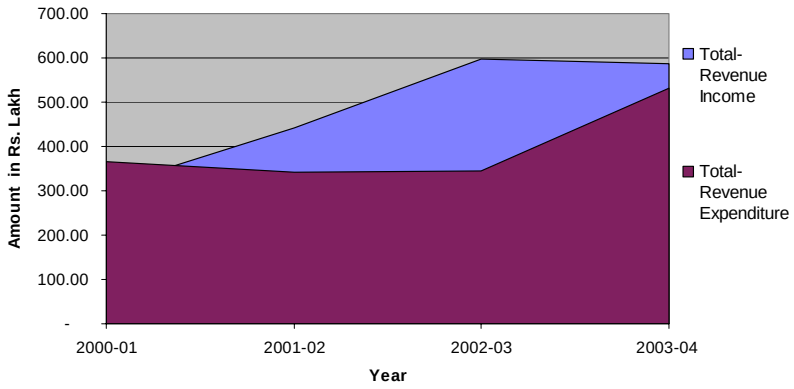
121. *Revenue Account*: All recurring items of income and expenditure are included under this head. These include taxes, charges, salaries, maintenance expenditure, debt servicing etc.

122. *Capital Account*: Income and expenditure items under this account are primarily non-recurring in nature. Income items include loans, contributions by GoTN, other agencies and capital grants under various State and Central Government programs, revenue account transfer for capital works and income from sale of assets. Expenditure items include expenses booked under developmental works and purchase of capital assets.

123. *Deposits and Advances*: Under the municipal accounting system, certain items are compiled under advances and deposits. These items are temporary in nature and are essentially adjustments for the purpose of recoveries and payments. Items under this head include library cess, income tax deductions, pension payments, provident fund, payment and recoveries of advances to employees and contractors, etc.

2. Financial Status

Figure 6.1: Total Revenue Income and Expenditure Trend



124. Revenue income of Municipality has grown to Rs. 587.95 Lakh in the FY 2003-04 from Rs. 309.16 Lakh in FY 2000-01, at a high annual growth of 23.89 percent. Revenue expenditure increased at an average annual rate of 16.30 percent from Rs. 365.38 Lakh to Rs. 532.69 Lakh during the assessment period. The revenue account maintains surplus during the entire assessment period except

during 2001-01 and maintained a maximum surplus of Rs. 252.08 Lakh in 2002-03. The trends for the revenue fund are presented in **Table: 6.1.**

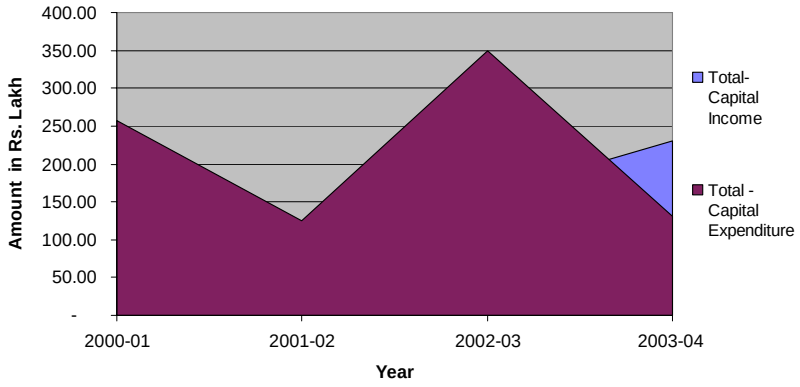
Table 6.1: Summary of Municipal Fund

Item	2000-01	2001-02	2002-03	2003-04
	Amount in Rs. Lakh			
Revenue Account				
Revenue Income	309.16	441.68	597.09	587.95
Revenue Expenditure	365.38	340.85	345.01	532.62
Surplus/Deficit	*(56.22)*	*100.83*	*252.08*	*55.33*
Capital Account				
Capital Income	142.36	31.42	159.19	230.50
Capital Expenditure	257.50	124.74	348.73	130.45
Surplus/Deficit	*(115.15)*	*(93.32)*	*(189.54)*	*100.05*
Fiscal Status	*(171.37)*	*7.51*	*62.54*	*155.38*
Advances & Deposits				
Extraordinary Income	41.71	199.12	158.19	154.84
Extraordinary Expenditure	1.65	20.44	89.15	155.06
Surplus/Deficit	*40.06*	*178.68*	*69.04*	*(0.22)*
Overall Fiscal Status	(131.30)	186.19	131.58	155.16

Source: Kovilpatti Municipality & Analysis.

Note: Figures in parentheses indicates a deficit

Figure 6.2: Total Capital Income and Expenditure Trend



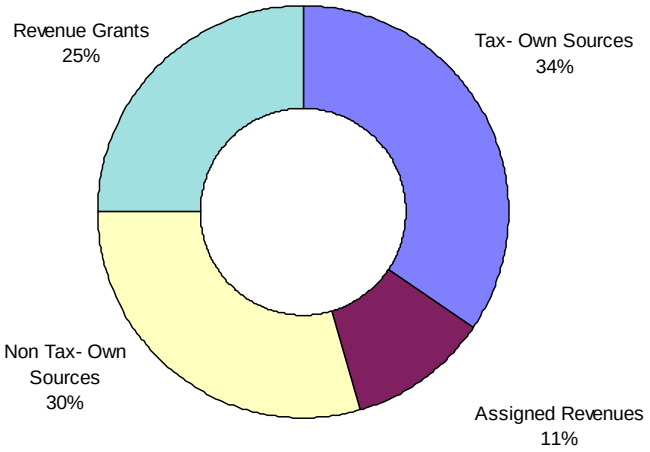
125. Capital income comprises of loans, grants and contribution in the form of initial deposit for water supply connections and sale proceeds of assets. Majority of the capital income is in the form of loans. The capital account has witnessed deficit except during 2003-04, implying revenue surplus is being used for asset creation.

126. The following sections present detailed review of revenue and capital accounts, primarily aimed at assessing the municipal fiscal status and providing a base for determining the ability of Municipality to sustain the planned investments.

3. Revenue Account

127. The revenue account comprises of two components, revenue income and revenue expenditure. Revenue income comprises of internal resources in the form of tax and non-tax items and external resources in the form of shared taxes/ transfers and revenue grants from the State Government. Revenue expenditure comprises of expenditure incurred on establishments, operation & maintenance and debt servicing.

Figure 6.3: Source of Income (2000 to 2004)



128. *Revenue Income*. The revenue sources of Municipality can be broadly categorised as own sources, assigned revenues and grants. The source-wise income generated during the review period is presented in **Table: 6.2**. The base and basis of each income source has been further elaborated in the following section. The revenue income of Kovilpatti Municipality has increased from Rs. 197.99 Lakh in 2000-01 to Rs. 463.24 Lakh in 2003-04 – a high Compound Annual Growth Rate (CAGR) of about 32.76 percent. The high growth attributed to non transfer of assigned revenue and state finance commission grants to ULB during the FY 2000-01.

Table 6.2: Sources of Revenue Income

Item	**2000-01**	**2001-02**	**2002-03**	**2003-04**
	Amount in Rs. Lakh			
Own Sources				
Tax	100.58	115.81	117.95	116.84
Non Tax	69.58	105.84	115.14	117.49
Assigned Revenue	-	39.43	84.58	67.50
Grants	27.83	60.99	147.34	161.41
Total (excl. W&D a/c)	**197.99**	**322.07**	**465.01**	**463.24**

Source: Kovilpatti Municipality & Analysis.

129. Own-source income includes income from resource mobilisation activities of Municipality in the form of taxes, income from municipal properties and markets, building permit fee, trade licences, income from fees and fines, etc. Own revenue sources are further classified as tax revenue and non-tax sources that are generated by various sections of the Municipality. The salient features of this revenue head is detailed below.

(i) Own Sources/Tax. This item head comprises of income sourced primarily from property tax (General purpose tax, lighting tax, scavenging tax and Education tax excluding water and drainage tax), professional tax and other taxes. The property tax is the largest revenue-generating item. Own sources of tax income is presented in **Table 6.3**. Average income from own sources constituted 63.87 percent of the total revenue income during the review period and has increased at an average compounded annual growth rate of 11.26 percent. Tax sources contributed 34.34 percent of the revenue income and non-tax sources contribute 29.53 percent of the revenue income.

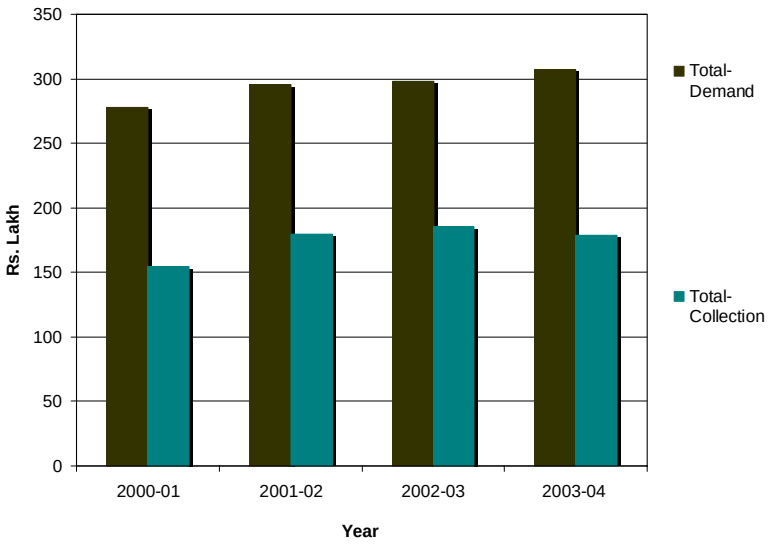
Table 6.3: Own Sources of Revenue Income

Item	2000-01	2001-02	2002-03	2003-04
	Amount in Rs. Lakh			
Taxes				
Property Tax (excl. W&D tax)	85.27	99.14	102.16	98.82
Profession Tax	15.29	16.65	15.77	18.01
Other Taxes	0.02	0.02	0.01	0.02
Non - Taxes				
Income from ULB's. properties	37.68	48.86	59.69	65.40
License Income (Trade, etc.)	4.86	6.92	5.34	5.16
Income from Fees and Fines	19.72	12.66	23.17	22.44
Miscellaneous Income	7.32	37.40	26.94	24.49
Total	**170.16**	**221.65**	**233.09**	**234.33**

Source: Kovilpatti Municipality & Analysis.

- *Property Tax*: This is the most important category of own source income to the Municipality. There are 33,418 properties in Kovilpatti of which, 28,980 residential properties, 3,977 commercial properties and 267 industrial properties. Kovilpatti Municipality levies a consolidated property tax of 29 percent of the Annual Rateable Value (ARV). During the assessment period, the numbers of property tax assessments increased at an average growth rate of 3.53 percent per annum. Property tax income however has increased at a CAGR of about 5.04 percent during the assessment period.

Figure 6.4: Property Tax Collection Performance



The average collection performance of Property Tax for the review period is 59 percent and the same is presented in **Table 6.4**. The property tax levied is 29 percent of the Annual Rental Value (ARV) and includes the general tax (11%), water and drainage tax (13%) and education tax (5%). It is observed that the Municipality maintained a Low arrear collection of average about 30 percent.

Table 6.4: Property Tax – Demand Collection and Balance Statement

Item	2000-01	2001-02	2002-03	2003-04
Demand (Rs. Lakh)				
Arrear	112.60	123.21	116.23	116.82
Demand	164.90	171.93	181.70	190.77
Total	*277.50*	*295.14*	*297.93*	*307.59*
Collection (Rs. Lakh)				
Arrear	33.76	45.12	39.87	28.48

Item	2000-01	2001-02	2002-03	2003-04
Demand	120.79	134.57	145.30	150.63
Total	*154.55*	*179.69*	*185.17*	*179.11*
Collection Performance (%)				
Arrear	30%	37%	34%	24%
Demand	73%	78%	80%	79%
Total	***56%***	***61%***	***62%***	***58%***

Source: Kovilpatti Municipality & Analysis.

The average property tax collection performance of the Municipality has increased marginally during the assessment period. The maximum arrear collection was achieved during the FY 01-02 and the same was as low as 24 percent during FY 04. There are a total of 33,224 assessed properties in the Municipality and this has increased at an average growth rate of 3.53 during the review period. The ARV per property during the FY 04 is Rs. 2,051 and the tax per property is Rs. 615.

- *Professional Tax*: Professional tax is also collected by the municipality from all registered organizations, companies or firms, public or private, individuals and State & Central Government departments. Currently 3,947 assesses are registered with the Municipality. Based on the demand, the average tax per professional is about Rs. 356/- per annum. low average arrear collection of 32 percent observed during the review period and the average current collection is around 84 percent during the same period. The details of Demand Collection and Balance statement are provided in **Table 6.5**.

Table 6.5: Profession Tax – Demand Collection and Balance Statement

Item	2000-01	2001-02	2002-03	2003-04
Demand (Rs. Lakh)				
Arrear	12.09	12.82	12.58	14.18
Demand	11.64	15.02	15.77	16.37
Total	*23.73*	*27.84*	*28.35*	*30.55*
Collection (Rs. Lakh)				
Arrear	5.28	4.95	2.11	3.96
Demand	10.01	11.71	13.66	14.05
Total	*15.29*	*16.65*	*15.77*	*18.01*
Collection Performance (%)				
Arrear	44%	39%	17%	28%
Demand	86%	78%	87%	86%
Total	***64%***	***60%***	***56%***	***59%***

Source: Kovilpatti Municipality & Analysis.

(i) Own Sources/Non Tax. This item head comprises of income from Municipal properties, fees on Municipal services (building permission, etc.), income from interest on investment and miscellaneous services. On an average, through the assessment period, own source/non tax income constitutes 29.53 percent of the total revenue income. Income from remunerative enterprises, income from fees and fines constitute the major revenue sources under this item head. Income through non-tax own sources of the Municipality has grown over the assessment

period at a CAGR of about 19.08 percent.

- *Remunerative Enterprises*: Income from remunerative enterprises is the non-tax income in the form of rentals from assets like shopping complexes, market fee, parking fee and income from other real assets owned by the Municipality. Income from the remunerative assets of the municipality contributed 15.29 percent of the revenue income during the assessment period and registered a high CAGR of about 20.18 percent. The average revenue mobilized during the review period under this item head is Rs. 52.91 Lakh.

(ii) Assigned Revenues. This item head comprises of income from Government of Tamil Nadu (GoTN)/State transfers of Municipal income collected by the state line department. Transfers are in the form of Municipality's share of taxes levied and collected by GoTN from establishments/operations within the municipal limits. Surcharge on transfer of immovable properties and entertainment tax, are the major items on which these revenues are realized by Municipality.

Table 6.6: Income from Assigned Revenue

Item	**2000-01**	**2001-02**	**2002-03**	**2003-04**
	Amount in Rs. Lakh			
Entertainment Tax	-	39.43	13.36	10.99
Surcharge on Stamp Duty	-	-	71.22	56.51
Other Transfers	-	-	-	-
Total	-	*39.43*	*84.58*	*67.50*
Share in total Revenue Income (%)	-	8.93	14.17	11.48
Growth (%)	-	-	*114.52*	*(20.20)*

Source: Kovilpatti Municipality & Analysis.

Income through assigned revenues contributes around 11.25 percent of revenue income and it is growing at an average compounded annual growth rate of 30.84 percent during the review period. It is observed (**Table 6.6**) that the inflow from this account head has been inconsistent due to delays in transfers and deductions at source towards municipality debt repayment commitments and/ or other dues payable to GoTN.

- *Entertainment Tax*: The Commercial Tax (CT) Department collects entertainment tax from six cinema halls (with a total capacity of 3,150 seats) functioning within Municipal limit. The CT Department transfers 90 percent of the total tax collection to Municipality, and retains 10 percent towards management charges. Entertainment tax accounts for around 4.37 percent of total revenue income.

- *Stamp Duty*: Surcharge on stamp duty is another assigned revenue source, accounting for 6.88 percent of revenue income during the assessment period. It is levied in the form of a surcharge on stamp duty applicable on all properties registered or transferred within Municipality limits. The Registration Department collects and 90 percent of the collections are transferred to Municipality.

(iii) Revenue Grants and Contribution. This item mainly comprises revenue grants and compensations from the State Government under various heads. The regular grants include the SFC grants and the others include aid grants, grants for services like roads, buildings, maternity and child welfare, public health, contributions for elementary and secondary schools and etc. Grants which are for specific purposes are ad-hoc in nature. In case of Kovilpatti Municipality, revenue grants and contributions constitute about 24.88 percent of the total revenue income and have registered an average annual growth rate of 79.67 percent. SFC Devolution is major item of grants, which is transferred as part SFC recommendation. As per SFC recommendation, 12% of state revenue under pool B is transferred to each local body based on a formula recommended by SFC. The fluctuation in SFC grant is due to delay and deduction at source.

Table 6.7: Income from Revenue Grants

Item	**2000-01**	**2001-02**	**2002-03**	**2003-04**
	Amount in Rs. Lakh			
State Finance Commission Grant	27.83	60.61	146.41	161.41
Other Grants	-	0.39	0.93	-
Total	*27.83*	*60.99*	*147.34*	*161.41*
Share in total Revenue Income (%)	14.06	18.94	31.68	34.84
Growth (%)		119.17	141.56	9.55

Source: Kovilpatti Municipality & Analysis.

Figure 6.5: Items of Revenue Expenditure (2000 to 2004)

130. *Revenue Expenditure*. Revenue expenditure of Municipality has been analyzed based on expenditure heads broadly classified under the following departments- General Administration and Tax collection, Public Works and Roads, Street Lighting, Public Health & Conservancy, Town Planning and Miscellaneous Items. Water supply and drainage revenue expenditure is analysed separately and the same is presented in the following section. Revenue expenditure is further classified under Establishment, Operation & Maintenance and Debt Servicing.

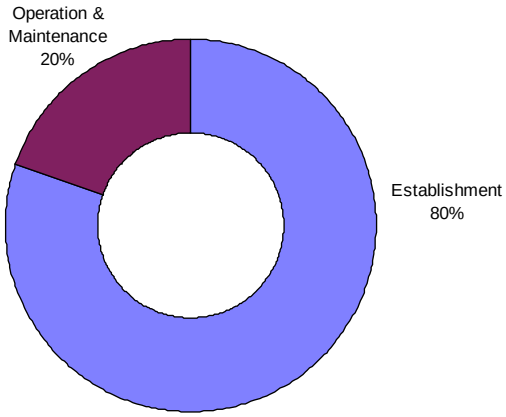


Table 6.8: Sector wise Revenue Expenditure

Item	**2000-01**	**2001-02**	**2002-03**	**2003-04**
	Amount in Rs. Lakh			
Establishment	228.70	227.10	248.48	253.09
Operation & Maintenance	41.03	45.16	61.24	95.33
Debt Servicing	-	-	-	-
Total (excl. W&D A/C)	*269.73*	*272.26*	*309.72*	*348.43*
Growth (%)		*0.94*	*13.76*	*12.50*

Source: Kovilpatti Municipality & Analysis.

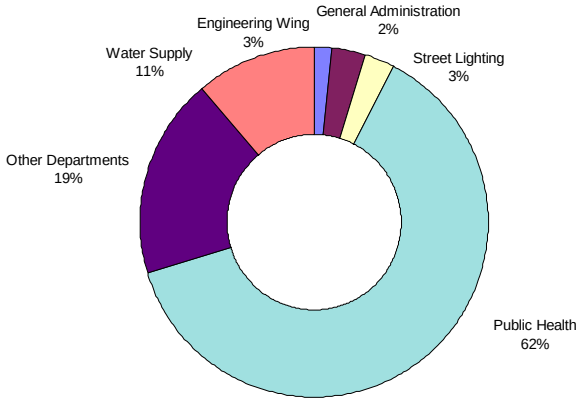
(i) Establishment Expenditure. Establishment expenditure alone accounts for about 80

percent of revenue expenditure, excluding water supply and drainage account. About 73.52 percent of the total revenue income is utilised for payment of salaries excluding water supply and drainage staff salary and other related expenses. No debt servicing was made from general fund during the review period.

For the assessment period, revenue expenditure grew at an average rate of 8.91 percent; while growth in revenue income was 32.76 percent during the same period. This indicates that revenue and education fund of Municipality is in surplus position.

Further, while expenditure on establishment grown at annual average rate of 3.44 per cent, expenditure on O&M grew at an average rate of 32.45 percent per annum indicating that the Operations and maintenance expenditure need to be controlled. Public works and Roads O&M increased by 3.70 times during the financial year 2002-03 to 2003-04.

Figure 6.6: Sector Wise Salary Composition (2000 to 2004)



The following table presents sector /department wise salary expenditure during the assessment period. Since, the department wise establishment expenditure is not furnished in the account statement (consolidated figures only available in the 2000 series), consultant used the third SFC questionnaires for working out the department wise salary. Over 62 percent spent for conservancy staffs salary and around 19 percent for other department salary (excluding engineering, street lighting, water supply, and general admin & public health departments). Water supply staff salary contributes about 11 percent of the total expenditure incurred towards establishments.

Table 6.9: Sector wise Salary

Item	**2000-01**	**2001-02**	**2002-03**	**2003-04**
	Amount in Rs. Lakh			
General Administration	2.60	2.66	2.70	2.73
Engineering Department	5.42	5.48	5.55	5.60
Conservancy	106.00	106.50	106.67	107.05
Street Lighting	4.10	4.15	4.30	4.40
Water Supply	18.20	18.40	18.90	19.10
Other Departments	30.75	31.50	31.66	32.25
Total	**167.07**	**168.69**	**169.78**	**171.13**
Growth (%)		0.97	0.65	0.80

Source: SFC Questionnaire Document

Establishment expenditure of all sections (excluding water & drainage account)

accounts for an average of 80 percent of revenue expenditure. Establishment expenditure of the Municipality has been consistently above 70 percent and there haven't been any major efforts on part of the Municipality towards containing the establishment expenditure.

Though the growth rate of establishment expenses has fallen the actual results of privatisation efforts are yet to reflect on accounts. In the coming years, these expenses are expected to go down due to the reforms taken up by the Municipality. It is necessary that the Municipality goes ahead with such privatisation initiatives so as to improve upon and allocate more amounts for the O&M and debt servicing.

(ii) Operations & Maintenance. Operation and maintenance expenditure of all sections together accounts for 19.73 percent of revenue expenditure and had increased at an average rate of 32.45 percent per annum.

Street lighting, public works and roads conservancy are the major expenditure items. O&M expenses are dominated by power charges for street lighting, while that for the upkeep of roads has been very minimal. Street lighting sector can be put for privatisation and implement energy conservation measures to curtail the costs on repairs, replacements and power charges.

(ii) Debt Servicing. A review of the outstanding loan statement of Municipality, as on March 31, 2005, i.e., at the start of the FY 2004-05 reveals that the net outstanding debt liabilities of Municipality are at Rs. 476.59 Lakh. **Table 6.10** details out the agency wise outstanding loans.

Table 6.10: Out standing Loan Statement

Item	**Loan Amount**	**Outstanding**
	Amount in Rs. Lakh	
Government of Tamil Nadu	251.46	122.00
IDSMT	80.49	4.44
IUDP	3.75	1.11
TUFIDCO	65.77	65.77
TNUDF	40.66	9.66
Total	*442.13*	*202.98*

Source: Kovilpatti Municipality & Analysis.

The total amount of loans drawn by the Municipality till date is Rs. 442.13 Lakh, majority of it from Government of Tamilnadu. It needs mention that the ratio of outstanding loans to current demand of property tax is about 106 percent. The ratio in terms of ARV (estimated at Rs. 2,0510) is 1.62; thereby indicating that the Municipality is capable of leveraging additional debt to finance its projects as this is below the threshold of 2 to 3 (generally considered by Financial institutions).

Debt servicing accounted for around 3.37 % of revenue expenditure (including all funds) during the review period and the DSR (as % of revenue income) is around 3.12 %, which is well below the threshold level of 25 percent, as considered by financial institutions. The Municipality has to start to focus upon sustainable debt servicing after having cut down establishment costs to improve its credit rating and capability towards leveraging additional debts.

4. Water Supply and Drainage Account

131. As mentioned earlier, local bodies in Tamilnadu maintain a separate water supply and drainage fund. Hence to maintain the consistency and also to assess the cost recovery aspect, the consultants have analysed the water fund separately. The details are provided in the following table and the water supply and drainage revenue fund expenditure trend is plotted on a graph.

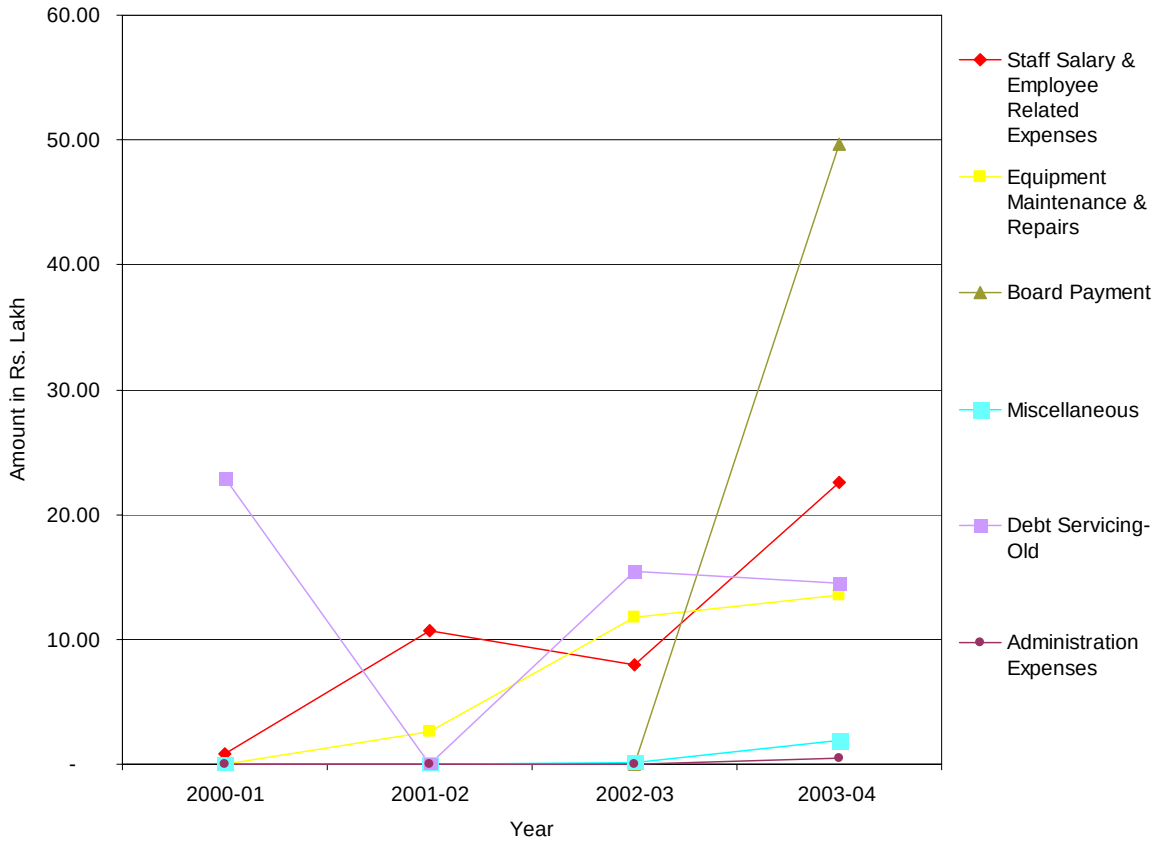
Table 6.11: Revenue Account Status of Water Supply and Drainage Fund

Item	**2000-01**	**2001-02**	**2002-03**	**2003-04**
	Amount in Rs. Lakh			
Revenue Income				
Water & Drainage Tax	69.28	80.55	83.01	80.29
Water Charges	41.83	38.93	49.00	44.17
Water Supply & Sanitation Grant	-	0.02	-	0.01
Other Income	0.05	0.11	0.07	0.23
Total	*111.16*	*119.61*	*132.08*	*124.71*
Revenue Expenditure				
Establishments	0.83	10.65	7.92	23.11
Electricity Charges	71.80	54.67	-	80.00
Board Payment	-	-	-	49.61
Miscellaneous	0.06	3.26	11.93	17.00
Debt Servicing- Old	22.96	-	15.44	14.47
Total	*95.64*	*68.59*	*35.29*	*184.19*
Surplus/Deficit	**15.52**	**51.02**	**96.79**	**(59.49)**
Recovery (%) excl. tax	44%	57%	139%	24%

Source: Kovilpatti Municipality & Analysis.

132. Salaries of staff directly working in the water supply department are booked under this head, while salaries of other engineering staff performing administrative functions related to water supply are booked under the engineering section of general fund. Expenditures incurred under this account comprised of 49.55 percent power charges and other operation & maintenance expenses accounts 11.62 percent and 12.85 percent on establishment costs. About 7 percent is spent on TWAD board water supply maintenance charges, around 18.90 percent utilized towards debt servicing.

Figure 6.7: Water & Drainage Account Expenditure Trend



133. The cost recovery incase of excluding water and drainage tax income work out to only 66 percent of the revenue expenditure incurred in the water supply and drainage fund account. Thus the above analysis indicates that the current tariff is not able to recover even a share of the O & M expenses, when it is compared with only water charges. Major share of water supply income is derived by way of water and drainage taxes, which account for about 64.22 percent of water supply & drainage income.

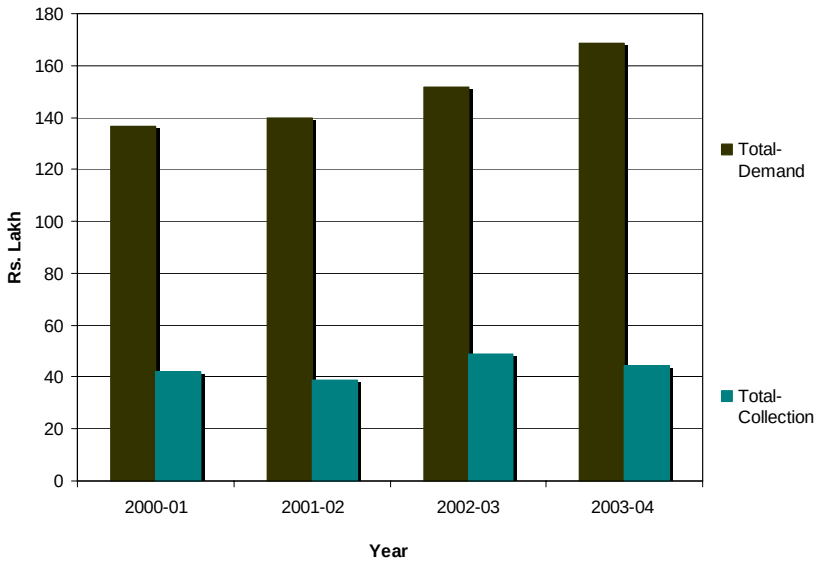
134. There are a total of 11,703 water supply house service connections as of 2004-05 provided by the Municipality in the town. The average collection performance of water charges for the review period indicated in **Table 6.12**. This indicating very low coverage (32% to PT assessment) and very less number of legal service connections against the service provided.

Table 6.12: Water Charges – Demand Collection and Balance Statement

Item	2000-01	2001-02	2002-03	2003-04
Demand (Rs. Lakh)				
Arrear	98.50	100.04	101.85	116.05
Demand	38.12	39.64	49.72	52.45
Total	*136.62*	*139.68*	*151.57*	*168.50*
Collection (Rs. Lakh)				
Arrear	9.73	8.75	15.35	13.61
Demand	32.10	30.18	33.62	30.55
Total	*41.83*	*38.93*	*48.97*	*44.17*
Collection Performance (%)				
Arrear	10%	9%	15%	12%
Demand	84%	76%	68%	58%
Total	*31%*	*28%*	*32%*	*26%*

Source: Kovilpatti Municipality & Analysis.

Figure 6.8: Water Charge Collection Performance



135. The numbers of House Service Connections stand at just 32 percent of the PT assessments indicating the large numbers of unauthorised connections in the Municipality. The unauthorised connections and unassessed properties need to be brought under the user charges and municipal tax gambit to affect cost recovery on the investments.

5. Capital Account

136. *Capital Income*. Capital income comprises of loans, grants and contributions. The detailed components of capital income are detailed in **Table 6.13.** An analysis of this account indicates that grants & contributions have contributed the maximum share of income under this account. While on an average 86 percent of the capital income is in the form of capital grants and contribution and balance amount in the form of loans. There is also no income realised by the Municipality in the form of sale proceeds.

Table 6.13: Status of Capital Account - General

Item	2000-01	2001-02	2002-03	2003-04
	Amount in Rs. Lakh			
Capital Income				
Capital Loans	65.77	-	-	-
Capital Grants and Contribution	60.35	19.96	138.23	214.98
Own Sources	-	-	-	-
Total (excl. W & D a/c)	*126.12*	*19.96*	*138.23*	*214.98*
Capital Expenditure				
General	25.43	-	4.58	2.54
Public Works and Roads	86.15	28.31	230.98	45.23
Street Lighting	3.75	0.91	13.53	21.27
Public Health & Conservancy	2.57	-	-	-
Education	4.21	-	14.22	14.41
Others	-	0.53	-	-
Total	*119.55*	*29.76*	*263.31*	*83.45*
Surplus/Deficits (excl. W &D a/c)	*6.57*	*(9.80)*	*(125.07)*	*131.53*

Source: Kovilpatti Municipality & Analysis.

137. *Capital Expenditure*. The majority of capital expenditure has been directed towards general purpose includes all item of works excluding water supply and drainage and roads over the past four years, this is due to fact TNUDF / TUFIDCO had funded most of the municipalities for roads during the assessment period. Hence there is a sudden major jump in spending on roads.

138. Analysis of capital income and capital expenditure notes that the account was in surplus during the FY 2003-04, indicating lesser utilisation of allocated funds or just start of utilisation of allocated funds.

139. Water supply and drainage capital account status is detailed in **Table 6.14**. Capital income is mainly from water supply connection charges, other than that capital grants were also received during the FY 02-03 & FY 03-04. Capital account is deficit during the entire review period.

Table 6.14: Status of Water Supply and Drainage Capital Account

Item	2000-01	2001-02	2002-03	2003-04
	Amount in Rs. Lakh			
Capital Income				
Capital Loans	-	-	-	-
Capital Grants and Contribution	-	-	9.49	11.49
Own Sources	*16.24*	*11.46*	*11.47*	*4.04*
Total	*16.24*	*11.46*	*20.96*	*15.52*
Capital Expenditure				
Water supply	74.02	25.28	52.07	36.51
Drainage &Sanitation	63.93	69.70	33.35	10.49
Total	*137.95*	*94.98*	*85.42*	*47.00*
Surplus/Deficits	*(121.72)*	*(83.52)*	*(64.46)*	*(31.48)*

Source: Kovilpatti Municipality & Analysis.

6. Assets and Liabilities

140. Current assets and liabilities of Kovilpatti Municipality include monies due to Municipality from debtors and monies due from Municipality to creditors, respectively. **Table 6.15** present a summary of the current assets and liabilities of Kovilpatti Municipality.

141. The current assets include outstanding arrears in property tax, water charges and profession tax and lease rental (non tax items) dues. The total current assets due to municipality are Rs. 638.91 lakh.

142. Current liabilities include the payment of power charges due to TNEB, Salaries Payable, PF and other contribution due, tax /cess payable to government, other payables and deposits. The net liability of Kovilpatti Municipality is Rs. 607.30 lakh. The current ratio is the ratio of total current assets to total current liabilities, which is used to measure short term liquidity of a ULB. The idea behind measuring this ratio is to assess whether the ULB has enough liquid assts to pay off its current obligations when they fall due. Intuitively one would expect that this ratio should be over 1. In case of Kovilpatti Municipality the current ratio is 1.05 and this is just more than one is comfortable current ratio.

Table 6.15: Summary of Current Assets and Liabilities status

Description	**Amount (Rs. Lakh)**
A. Current Assets	
Property Tax Recoverable	128.48
Profession Tax Recoverable	12.54
Water Charges Recoverable	124.33
License/Lease/Rental/other Recoverable	27.81
Other Recoverable	193.69
Cash on Hand /Bank	152.06
Total – Current Assets	*638.91*
B. Current Liabilities	
Salaries Payable	-
PF and Other Contribution	35.67
TNEB	-
Library Cess Payable	41.02
Other Payables	190.10
Recoveries from Staff	43.10
Deposits	297.42
Total – Current Liabilities	*607.30*
Net Status	**31.61**

Source: Kovilpatti Municipality & Analysis.

7. Key Financial Indicators and Issues

143. A set of key financial indicators has been derived using the financial data procured from the Municipality for the assessment period. **Table 6.16** present these indicators. These indicators are used to assess the municipal performance with regards resource mobilization, fund utilization, financial performance and collection efficiencies.

Table 6.16: Key Financial Indicators

	Indicators		Value	Unit
A	**Resource Mobilization**			
1	Per Capita Income		548	Rs. p.a
2	Sources of Funds			
	a	Share of Own Sources in Total Revenue Income (RI)	72.62	%
	b	Share of Property Tax in Total Revenue Income	38.04	%
	c	Share of Revenue Grants & Subsidies in Total RI	18.74	%
3	Growth in Revenue Income		23.89	% p.a
4	Growth in Own Sources of Revenue Income		6.60	%
5	Per Capita Own Income		244	Rs. P.a
B	**Fund Application**			
1	Per Capita Expenditure		449	Rs. p.a
2	Uses of Funds			
	a	Share of Establishment Expenditure in Total RE	64.69	%
	b	Share of O&M Expenditure in Total Revenue Expenditure	31.94	%
	c	Share of Establishment Expenditure to Total RI	51.65	%
3	Growth in Establishment Expenditure		4.79	%
4	Growth in O&M Expenditure		48.24	%
5	Growth in Total Revenue Expenditure		16.30	% p.a
C	**Liability Management**			
1	Per Capita Liability (2004-05 estimated)			
	a	Outstanding Debt per Capita	223	Rs.
	b	Outstanding Non-Debt Liability per Capita	351	Rs.
	c	Total Outstanding Liability per Capita	574	Rs.
2	As a Proportion of Property Tax Current Demand (2003-04 estimated)			
	a	Outstanding Debt as % of P.T Demand	106.40	%
	b	Outstanding Non-Debt Liability as % of P.T Demand	167.83	%
	c	Total Outstanding Liability as % of P.T Demand	274.23	%
3	As a Proportion of Property Tax Own Revenue Income (2003-04 estimated)			
	a	Outstanding Debt as % of Own Revenue Sources	56.54	%
	b	O/s Non-Debt Liability as % of Own Revenue Sources	89.18	%
	c	Total O/s Liability as % of Own Revenue Sources	145.71	%
4	Non-Debt Liability as % of Total Liability		61.20	%
5	Debt Servicing Ratio (D.S/ Revenue Income)		3.12	%
D	**Performance Indicators**			
1	Operating Ratio		0.86	Ratio
2	Growth in Per Capita Own Income		9.74	% p.a
3	Growth in Per Capita Grant		77.22	% p.a
4	Growth in Per Capita Total Revenue Income		22.21	% p.a
5	Growth in Per Capita Establishment Expenditure		4.92	% p.a
6	Growth in Per Capita O&M Expenditure		27.18	% p.a
7	Growth in Per Capita Revenue Expenditure		11.84	% p.a

	Indicators		Value	Unit
8	Capital Utilization Ratio		2.86	Ratio
E	**Efficiency Indicators**			
1	Tax Collection Performance			
	a	Property Tax	59%	%
	b	Water Charges	29%	%
	c	Sewer Charges	NA	%
	d	Profession Tax	60%	%
2	No. of P.T Assessments per Tax Collection Staff		3,020	Nos.
3	Property Tax Demand per Assessment		2,051	Rs. p.a
4	No. of Municipal Staff per 1000 Population		3.19	Nos.
5	Annual Revenue (Own Source) per Municipal Staff		8.05	Rs. Lakh p.a
6	Population per Residential P.T Assessment		3.14	Persons

Source: Analysis.

144. *Resource Mobilization Indicators*. These indicators summarize the performance of the Municipality with regards sources of funds. Kovilpatti Municipality derives about 72.62 percent of its revenue income from own sources, which is a good sign, while grants account for just about 18.74 percent of the revenue income.

145. *Fund Application Indicators*. These indicators are a measure to ascertain the utilization from the municipal fund. Around 65 percent of the revenue expenditure is spent on establishment heads, only about 32 percent for O&M of municipal assets and services. Leaving only 3 percent utilized for debt servicing. Establishment expenditure accounts for about 52 percent of the total revenue generated by the Municipality.

146. *Liability Management Indicators*. These indicators are a measure to ascertain the utilization from the municipal fund regards to debt servicing. The ratio of debt servicing to revenue income is only 3.12 percent during the assessment period. The percapita average outstanding debt works out to 223 rupees and percapita non debt liability is 351 rupees. Out standing debt to property demand is around 106 percent and non debt liability is 168 percent times the property tax demand for the current year.

147. *Overall Financial Performance Indicators*. These indicators are a measure to assess the overall financial performance of the Municipality with regards operational performance and effective growth in revenue income and expenditure. The average operating ratio during the assessment period was a healthy 0.86 and the capital utilization ratio was high at 2.86 indicating frequent utilization of revenue surpluses in asset creation. The indicators of growth in per capita income and expenditure item heads indicate the effective growth, giving a performance measure relative to the growing population. Kovilpatti Municipality has demonstrated 22.21 percent annual growth in per capita revenue income during the assessment period, while the per capita revenue expenditure has grown at 11.84 percent during the same period. This indicates that as population increase revenue fund will be in surplus, however there is a need for controlling operation and maintenance expenditure.

148. *Efficiency Indicators*. These indicators are essentially a measure to assess Municipal efficiency with regards revenue base coverage and realization. Kovilpatti Municipality has maintained an average collection performance both with regards property tax and water

charges (59 percent and 29 percent respectively). The average population per assessment at 2.74 indicates that the property tax base has a wide coverage.

149. Key issues and conclusions are based on the review and assessment municipal finances and discussions with relevant municipal officials.

(ii) Maintenance and Reporting of Accounts. The State Government deducts debt due by the ULB and then transfers funds (SFC devolution) the ULB records do not capture such apportionment. ULB's do not maintain department/sector wise salary expenditure as mentioned in the ULB's Accounting Manual.

(iii) Revenue Realization. Taxes and charges are major own sources of revenue income. Being more dynamic in nature and within the control of the ULB, these revenue incomes have potential to contribute more to the municipal fund. Besides low tax rates and charges levied, the actual demand itself is not established. Key issues regarding the above comprise:

- Low water supply coverage witnessed there are chances of illegal or unauthorized connections in the town; and
- High percapita Revenue expenditure witnessed during FY 03-04. Financial transaction trends not commensurate with population growth trends, resulting in reduction in per capita expenditure levels,

(iv) Fund Application. Key issues regarding application from the municipal fund comprise:

- About 65 percent of the total expenditure is on establishment-related heads, leaving relatively lower amounts for expenditure on operation and maintenance of services.

(v) Efficiency. Key issues regarding collection efficiency comprise:

- Average water charges arrear collection is very low (11 percent). Consequently inadequate water supply revenue fund to meet the operation and maintenance requirements.

VII. URBAN BASIC SERVICES FOR POOR

A. Social Infrastructure

150. Growth in activities such as house hold matches industries, textile mills and other small scale industries has resulted in the involvement of urban poor in industrial allied as well as service sectors, in trade and business activities, hawking, retailing, carting etc. This has also led to the growth of slums in the town.

151. There were four slums identified in the year 1991 with a population of 8,569 which was 10.86 percent of then total population of the town. The number increased to six by 2001 and the percentage of slum population to the total population increased to 15.6 percent. While, the increase in total population from 1991 to 2001 was 8,622, the addition of slum population during the same time is 5,092. About 60 percent of the total population increases are slum population itself. Ward wise and slum location wise details are presented in **Table 7.1.** The location of slums of Kovilpatti municipality is illustrated in **Figure: 7.1.**

Table 7.1: Details of Slums

S. No	Ward	Street Name	Slum Population	BPL Population
1	3	Nataraja Puram	1,633	172
2	9,10	Yalluval Nagar	1,673	180
3	29	Kattu Naickar street	2,958	80
4	31	Bharathi Nagar Mettu street	2,225	277
5	35	Stalin Colony	3,065	117
6	36	Subramania Puram	2,107	226
		Total	**13,661**	**1052**

Source: Kovilpatti Municipality

1. Water Supply

152. Except for the slums in Valluvar Nagar (ward 9) all the other slums have piped water supply system and the total length of distribution network in the slums is around 4.5 Km. Water supply is also supplied through public stand posts and hand pumps. There are five stand posts and each stand post serves about 2,732 persons in slums. On the other hand, there are 57 hand pumps covering all the slums, which serve about 258 persons each.

2. Sanitation

153. Poor sanitary conditions in the slums make many of these locations easy prey to water borne diseases like malaria, hepatitis B, typhoid, gastro enteritis etc. The municipality has provided public convenience systems at 19 locations in the slums. There are 190 seats at 8 seats per unit and 16 seats per ISP unit. That is one seat of public convenience is used by at least 72 persons residing in the slums.

3. Roads and Street Lights

154. The Municipality has laid Bituminous and Cement Concrete Roads in some of the slums. 6.7 Km of Bituminous roads and 0.3 Km of Cement Concrete roads are provided in the slums. Streetlighinh in slums is very poor. Only slums in wards 3, 35 and 36 have street lighting. On an average, there is one street light for every 350m of road length in slums.

155. On the whole, as also observed in the figure below, while the sanitary conditions in the slums have improved due to the various efforts including the Integrated Sanitary Program other basic infrastructure in terms of roads, street lights and water supply are lacking throughout. Slum improvement programs need to focus on these sectors. The details of infrastructure facilities of slums are illustrated in **Table 7.2.**

Table 7.2: Details of Infrastructure Available in Slums

Si. No.	Ward No.	Water Supply			Sanitation	Roads		Street Lights
		Piped	Public Stand Post	Hand Pump	Septic Tanks	BT	CC	
		Km	*Nos.*	*Nos.*		*Km*	*Km*	*Nos.*
1	3	0.21		4	4	0.43	-	5
2	9,10	0.31		13	3	1.20	-	-
3	29	0.21	1	4	2	0.18	0.13	-
4	31	1.51		17	4	2.16	-	-
5	35	0.42	1	6	3	0.56	0.19	7
6	36	1.81	3	13	3	2.16		8
Total		**4.47**	**5**	**57**	**19**	**6.69**	**0.32**	**20**

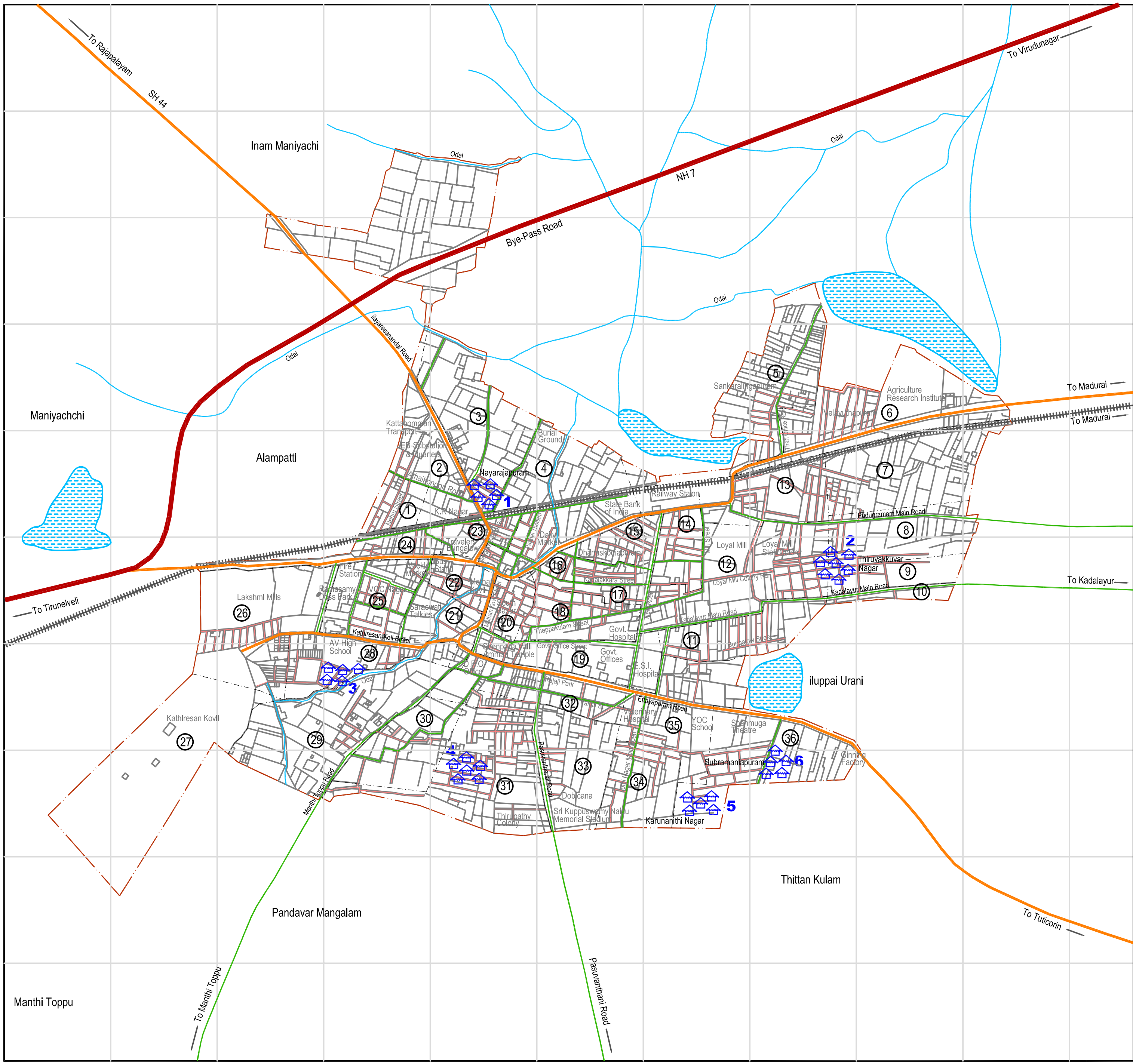
Source: Kovilpatti Municipality

B. Poverty Alleviation and Community Development

1. Policies, Targets and Programs

156. Given the complexity of the social, economic and physical environment in which a growing number of urban poor seek their livelihoods, it is clear that the formulation of anti-poverty measures and the need for an effective slum improvement program is an important issue.

157. A review of Slum Improvement Programs indicates that, by improving basic infrastructure and access to municipal services, there is a significant impact on the quality of life of slum residents. To alleviate the problems of slum dwellers and to reduce urban poverty, a number of programs are initiated and are being implemented by the municipality with assistance from the state and central governments.



KOVILPATTI CITY CORPORATE PLAN CUM BUSINESS PLAN

Legend :

- Municipal Boundary
- Ward Boundary
- Ward No.

ROAD WAYS

- Ring roads, NH Ways
- SH Ways
- Major Road
- Minor Road
- Railways
- Water Body
- Canal, Nala, Odai
- Slum Areas

Notes :

Slum Area Names :

1. Valluvar nagar
2. Valluvar nagar
3. Kattunaicker Street
4. Bharathi Nagar Mettu Street
5. Stalin Colony
6. Subramaniapuram

LOCATION OF SLUMS

Scale : 0 0.25 0.5 1 2 Km

N

Tamilnadu Urban Infrastructural Financial Services

Wilbur Smith Associates Private Limited
2-B, "NAWAZISH", 30, Khader Nawaz Khan Road, Nungambakkam, Chennai - 600 006, Tamil Nadu, India.
Telephone : + 91 (44) 2833 20 94/ 2833 03 82 Fax : + 91 (44) 2833 20 96
e-mail : wsa-urban-ch@dishnetdsl.net

Map No. 6.1

158. The major slum improvement programs being implemented in Kovilpatti are Swarna Jayanti Shahari Rojgar Yojna (SJSRY), National Slum Development Program (NSDP), Integrated Sanitation Program, VAMBAY, and Development of Women and Children in Urban Areas (DWCUA) etc.

159. The SJSRY is planned to provide employment to the urban poor. The central government funding is 75 percent and the state share is 25 percent. The target groups will cover minimum of 30 percent women beneficiaries. The proportion of the Schedule Caste and Schedule Tribe is in the same proportion as in total population of the town. 3 percent is reserved for handicaps.

2. Government Assisted Schemes

160. *Urban Self-Employment Program (USEP).* This is one of the main components of SJSRY and the municipality has been conducting training programs for the Below Poverty Line population under the self-employment scheme. The beneficiaries selected by the task force are based on the recommendations of the community structures and the UPE cell.

161. USEP scheme was started in 1998 with an allotment of Rs. 3.11 lakh for 44 beneficiaries. There were no allotments for the year 1999 -2000. In 2000-01 the amount spent under the scheme was around Rs. 1.04 lakh benefiting 32 beneficiaries and in 2001-02 Rs. 0.65 lakh was spent on14 beneficiaries.

162. *Urban Skill Training.* Skill development through appropriate training is another element. It is intended to provide training to the urban poor in a variety of services and manufacturing trades as well as in local skills and local crafts, so as to enable them to venture into self employment or salaried employment with enhanced remuneration.

163. *Development of Women & Children in Urban Areas (DWCUA).* This scheme is distinguished by the special incentive extended to urban poor women who decide to set up self employment ventures in a group as opposed to individual effort. Groups of poor women shall take up an economic activity suited to their skill, training, aptitude and local conditions. The eligibility for subsidy under this scheme is that the DWCUA group should consist of at least 10 urban poor women.

164. *Thrift and Credit Societies (TCS).* Under the Thrift and Credit Societies only four groups were formed and an amount of Rs. 76,013/- was released for these groups during the period 1999-01. For the year of 2001-02, 26 groups were formed under the TCS but funds were not allotted.

165. *National Slum Development Program (NSDP).* Under this program, the funding of the works is shared between the centre, state and local governments. While the combined share of the Centre and State Governments is 50 percent, the balance 50 percent is funded by the municipality. The Works are finalized by the council and inspected by RDMA through the Regional Engineer.

166. Both permanent and non-permanent slums are given importance by the State Slum

Clearance Board. Permanent Slums are identified by the quality of roads and drainage. Special Priority has to be given to the following works:

(i) Improvement of Drinking water Supply system
(ii) Laying/Relaying of roads
(iii) Provision of Street Lights
(iv) Drainage facilities
(v) Improvement and new Public Conveniences with water Supply
(vi) Welfare (education, etc.); and
(vii) Shelter Up gradation (individual water connections)

167. *Integrated Sanitation Program:* - Integrated Sanitary Program is a World Bank funded sanitation program through the PMU/ Tamil Nadu Urban Development Program-II. The program envisages integrating learning of the health and environmental aspects along with the sanitation activities of the slum communities. Priority is given to the below poverty line population.

168. The program is based on demand driven community participation. Under this Program, the recipient community is made aware of various environmental and sanitation aspects. For successful implementation, the program is coordinated at the local level through the community organizers (COs) of the SJSRY scheme. The program is generally funded by way of grants of which 80 percent is provided by TNUDP-II as grant.

169. However, in case of special and selection grade municipalities, 50 percent of the amount is provided as grant by TNUDP-II. The remaining fifty percent is generated by the urban local body through thirty-two percent fund allocation from sanitation component of VAMBAY scheme and the remaining 18 percent from its own funds. In case of Grade I, II municipalities, 100 percent amount for the construction of these complexes is given as grant.

170. Provision of an Integrated Complex with Toilet, Bathing, Washing and Meeting Room facilities with special provision of sanitation facilities for children. 16 seats (10 major +6 minor) are provided for the community. Separate facilities for bathing (10 units) are also provided. A separate platform is also provided for washing clothes as well. Each unit of ISP is constructed at a cost of about Rs. 10 lakhs. The ULB has constructed seven ISP complexes under the program since 2001-02. The learning program for the identified slum communities is through IEC activities and the same was implemented together with tree plantation at a cost of Rs. 0.5 lakhs.

171. Awareness programs consisting of information, education and communication activities are also conducted within the same complex to create a strong awareness on the related issues of health, sanitation and environment. These are conducted as discussions with the leaders of community organizations, specialists from the associated fields of health, education in the form of camps etc.

172. *VAMBAY.* This is a housing program, where the central government funds 50 percent of the total subsidy. The rest is expected from the ULB. 20 percent of the total allotment is designated for sanitation component and so far the allotments have been in the field of sanitation only mainly due to the ISP scheme. Nine public toilets are constructed so far

under the VAMBAY scheme before the introduction of Integrated Sanitation Program. The remaining 80 percent for shelter up-gradation has never been allotted or utilised.

173. *Issues.*

(i) *Lack of Community Involvement*: Community participation is the key in successful implementation of Slum Improvement Programs. In most cases, community is not fully involved resulting in poor performance of the programs and their sustainability.

(ii) *Lack of Need-based Fund Allocation in Slum Development Programs*: In most cases of the Slum Development Programs being implemented under state and central government subsidies, the identification of beneficiaries is not based on the actual need and purpose but by a random selection.

(iii) *Authenticity of Available Data and Lack of Adequate Data on Slums*: The data available with the municipality regarding the slums in the town is either outdated or is inadequate. Such data does not give a clear picture of the exact status of the slums in the town. A study need to be initiated for the identification and assessment of the conditions in the slums of the town, and thereby generate quantitative data for programs formulation.

(iv) *Inadequate Access to Sanitation*: Slum households are mostly catered to by public convenience systems only. Most of the slum dwellers are unwilling to spend on individual sanitation units. The issue is to devise strategies to ensure adequate access to toilets to all households in the town. Tenure security, sustainability and non-conducive living conditions are major areas of concern.

174. *Indicators.* The following are a set of indicators, for which the current situation and the desired values are presented. The desired values can be used as benchmarks by the municipality to check its performance annually/ periodically and set targets for itself to be achieved in the next financial year. This will also aid in preparation of the Annual CCP Progress Reports by the municipality. The indicators in slums are presented in **Table 7.3**

Table 7.3: The Performance Indicators in Slums

Indicator	**Current Situation**	**Benchmark**
Slum population as percent to Total Town Population	14.94 %	< 10.0 %
Slum Population per Public Stand Post.	63	100 Persons
Slum Population per Seat of Public Convenience.	63	60 Persons

Source: Kovilpatti Municipality

VIII. INFRASTRUCTURE DEVELOPMENT AND SERVICE PROVISION

A. Rationale, Need and Demand

175. Infrastructure assessment of the town indicates inadequate service levels, for present scenario, which will further enhance given the future growth, (i) Per capita water supply is 63 lpcd instead of 90 lpcd. The coverage of water supply connections with respect to property tax assessments is as low as 35 percent. (ii) Urban Local Body lacks in scientific municipal solid waste treatment and disposal system catering to the waste collected; waste collection efficiency of the local body based on rated capacity of the vehicle is 80 percent.(iii) Surfaced roads within the Urban Local Body is approximately 98 percent; missing links, network deficiency and lack of traffic management systems causes congestion within the Urban Local Body area and reduces the carrying capacity of the roads.(iv) Drainage network of the town covers only 92 percent of the total road length; which has been indicated as one of the major causes of flooding and water logging. The abysmal levels of service therefore provide a strong basis and need for the project.

(i) Approach and Design Criteria.

176. *Design Period.* A design period of 20 years, 2005 to 2026 has been considered for designing the proposed improvements to the existing water supply system.

177. *Population.* Considering the population growth rate for previous decades, population for the design year has been projected using available recommended methods of demographic projection. Population projection has been performed for a design period of 20 years in two stages, intermediate stage (2019) and ultimate stage (2026).

178. This technique involved directly adopting the decadal growth rate for Tamil Nadu published by the Department of Census (11.19 percent). Accordingly, population projection was performed using this decadal growth rate. The population projection for Kovilpatti Municipality has been used as the basis for design of system improvements in this project. The projected population furnished in **Table 8.1.**

Table 8.1: Water Supply Requirement for Future

Year	Population
2005	91,418
2006	93,434
2011	97,752
2016	1,03,345
2021	1,09,258
2026	1,15,509

Source: Kovilpatti Municipality

179. *Per Capita demand:* - A per capita demand of 90 lpcd is adopted for design of the proposed improvements to the water supply system.

1. Water Supply

180. *Goals and Service Outcomes:* The goals and service outcomes based on the proposed strategy for the horizon period is presented in **Table 8.2.**

Table 8.2: Goals and Service Outcomes – Water Supply

Goal	2011	2016	2026
Network cover for households	100%	100%	100%
Network coverage for slum HHs	100%	100%	100%
Per capita supply	90 lpcd	90 lpcd	
Hours of supply			24 hours / daily
24x7 water supply	One zone	Three zones	All zones
Quality of water	Safe & Good	Safe & Good	Safe & Good
Un accounted water	20%	15%	12%
O&M Cost Recovery	100%	100%	100%
Collection Efficiency	100%	100%	100%
Customer Satisfaction	Good	Good	Good

181. Kovilpatti municipality should increase the average gross supply of 90 lpcd and to cater to 100 percent of the population. Assuming that distribution network is extended to 85 percent of the town roads, all the citizens will enjoy the required supply.

182. The total demand at the rate of 90 lpcd for the year 2026 is about 11.96 MLD indicating a deficit of 6.16 MLD for year 2026. Considering the new schemes of TWAD Board to make the existing scheme dedicated to Kovilpatti by 2005-06, and the GoTN regional scheme implementation by 2016, the per capita levels have been maximised to 90 lpcd against the requirements and the demand for the future is assessed. Considering the increase in population, the total demand at source by 2026 is estimated at 11.96[4] MLD.

183. A per capita water demand of 90 lpcd has been adopted for design of water supply improvement system. Additionally, to estimate the ultimate demand for the town, an assumption that at least 80 percent of households shall be provided with house service connections including those that have not been covered earlier shall be included in a progressive manner through this improvement project. The detail of future requirement of water supply is furnished in **Table 8.3.**

Table 8.3: Design Criteria and Target Service Level

Description	Units	Based on Norms
		2026
Daily Per Capita Supply (Source development till 2026)	MLD	6.16
Feeder mains and Transmission Mains	Km.	-
Roads Covered with Distribution Network	Km.	27.50
Elevated Storage capacity w.r.t Supply (2026)	ML	1.16
Rehabilitation for existing Network	Km.	8.00
Treatment capacity (2026)	ML	11.96

Source: Kovilpatti Municipality

[4] At present Municipality supplying 5.8 MLD of water, after commencement of Sattur scheme municipality will get around 10 MLD.

184. Considering the above requirements, capital investments in water supply have to be planned to address issues focussing upon:

185. Augmentation and Extension of distribution of existing facilities to meet growing demand. Rehabilitation of existing facilities to avoid the higher costs of deferred maintenance.

186. *Operation and Maintenance Plan*- Adoption of an O & M Plan and Schedule, including options of using the private sector for O & M (e.g. management contract).

187. *Asset Management Plan*- To address the condition assessment and the performance of the water supply assets, it is recommended that an asset management plan be prepared for the assets of water supply in Kovilpatti. The plan has to be prepared on the lines of the pilot study carried out for the ULBs of Alandur, Pallavaram and Tambaram in Tamilnadu.

188. *Tariff Revision*- Future capital investments on system up-gradation being imminent, the tariff structure shall be revised from time to time to enable cost recovery and to service the additional debt from the capital investments.

189. Performance Monitoring- It is important to monitor certain essential indicators to assess the performance of the system and to ensure sustainability of the operations.

190. *Institutional Strengthening and Capacity Building*: It is necessary that periodic training be imparted to the operations staff of the municipality, which are available along with training manuals at the TWAD Board head office.

191. *Source.* Design standards adopted for the water supply improvement scheme shall be in accordance with guidelines specified in the CPHEEO manual. A design period of 20 years has been considered for designing the water supply improvement scheme. Population forms the most important component in design of any water supply system. A per capita demand of 90 lpcd is adopted.

192. *Distribution Network.* The proposed water distribution network shall be reviewed, and redesigned, to include uncovered project areas and strengthe the existing water distribution system.

193. The proposed water distribution system has been designed as continuous supply system based on the following principles:

(i) Supply shall be provided on a daily basis for continuous supply;

(ii) All service reservoirs in the system shall be filled 23 hours a day;

(iii) Service reservoirs have been sized to maintain a minimum storage equivalent to 33 percent of the daily water demand for the zone served ;

(iv) The existing distribution zones has been re-zoned to ensure that the existing overhead tanks can be retained and used for the Ultimate Stage water demand;

(v) Areas those are adjacent to existing distribution zones with distribution mains that have been extended without requisite technical assessment have been de-linked from the existing zones and redistributed based on available storage in the adjacent distribution zone;

(vi) Areas those are not served presently has been included along with the extended areas of the new distribution zones

2. Sewerage and Sanitation

194. *Goals and Service Outcomes.* The goals and service outcomes based on the proposed strategy for the horizon period is presented in **Table 8.4.**

Table 8.4: Goals and Service Outcomes - Sewerage

S.No	Goal	2011	2016	2026
1	Coverage (Access)	100%	100%	100%
2	Treatment & Disposal	100%	100%	100%
3	Recycle & Reuse	25%	40%	50%
4	Customer Satisfaction	Good	Good	Good

195. About 80 percent of the population of the town are reported with sanitation facilities. The town does not have any sewerage system and the sanitation facilities include the septic tanks and low cost sanitation units. Only 41 percent of the property tax assessments have any such facility. Sewerage and sullage water generally flows into the storm water drains and finally into the *Uranis.* The poor and slum dwellers lack adequate safe sanitation facilities and hence are prone to health related diseases. An enormous shortfall is noticed in the coverage of the service. The future requirement of sewerage and sanitation are illustrated in **Table 8.5**

Table 8.5: Requirement until 2026 in Sewerage and Sanitation

Description	Unit	Gaps Up To 2026
Under Ground Drainage		
Length of Under Ground Drainage	km.	79.53
STP and Land and Electrical equipment	MLD	9.56
Road Rehabilitation due to Water Supply and Sewerage Project	km.	79.53
Slum Population per Seat of Public Convenience	Units (ISP)	5

Source: Analysis

196. *Institutional Strengthening for Program Implementation.* Capacity building measures need to be taken in the form of information dissemination among the poor and slum dwellers on the importance of safe disposal facilities. While such mediums like audio-visual communication shall be adopted for the purpose, community gatherings and meetings shall also be given importance. Since new programs are all envisaged towards community participation in O and M, such measures will strengthen the institutional setup.

197. *Stringent Building Permission Mechanism.* Till now, the municipality did not have any role to play with respect to this service. Its role is more of secondary nature with the Building permission rules of Town Planning Department playing the primary role. Hence, by making the building permissions more stringent, it is necessary that the building use

permissions be issued only on ensuring that safe disposal facility is adequately provided.

198. *Sewerage Planning.* Though the population projections arrived at indicates that the municipality would still have less than 1.5 lakh population by 2031. In the wake of growing concern for the right disposal of sewage and the initiative of the state government contemplating sewerage systems in small and medium towns. The future plans shall be directed towards catering to the town's requirements by the year 2026 the program can be phased in the same way as that of the water supply system so that the investment can be made judiciously.

199. Proposals will be limited to the areas where population density dictates the introduction of piped underground sewerage as the only alternative for improving the sanitation and environmental health conditions, and where water supply is available. In congested low-income and slum areas, community sanitation facilities will be provided, which will be connected to the sewerage network. In addition, the municipality has to prepare detailed project report for UGD.

200. *Coverage of Low Income Areas.* Currently, a majority of the low-income areas are devoid of safe sanitation facilities. Though the Slum Improvement Programs have created infrastructure in the form of public conveniences, the operation and maintenance of these facilities is not satisfactory and hence could not be sustainable.

201. Hence, it is recommended that low cost sanitation units and public conveniences be provided under the ISP for the poor and the slum dwellers. In addition, the Operation and Management of the PCs can be given to the local communities to ensure their sustainability. Certain measures towards effective program implementation are:

(i) User-friendly design of toilet based on community's needs;
(ii) Appointment of caretaker form amongst the community concerned;
(iii) Option of using the caretaker's shelter space for conduction community meetings;
(iv) Use of septic tanks as against aqua privy tanks;
(v) Time bound execution in phases;
(vi) Maintenance of toilet blocks by Non Governmental Organizations of Community Based Organizations.

3. Storm Water Drainage and Rejuvenation of Lake.

202. Goals and Service Outcomes: The goals and service outcomes based on the proposed strategy for the horizon period is presented in **Table 8.6**

Table 8.6: Goals and Service Outcomes – Storm Water Drain and Water Bodies

S.No	Goal	2011	2016	2026
Macro Drainage				
1	Macro Drainage Recommendations	100%		
Micro Drainage				
2	With in the Town (Preparation and Implementation Plans)	100%	100%	100%

203. *Primary Drain Rehabilitation and Improvement.* A significant reduction in depth and width is noticed due to siltation and encroachment of the *Odai* running from near the Lakshmi Mills to the Burial ground. The following improvements measures are suggested.

(i) Improvement measures such as widening and deepening
(ii) Construction of side walls to confirm to uniform cross-section in built up areas
(iii) Diversion of drains at critical sections
(iv) Construction of cross-drainage works

204. *Drainage Rehabilitation.* The flood prone areas are to be relieved of the problem in future by undertaking a drainage rehabilitation program. As a part of this program, connections between secondary and tertiary drains have to be improved. In addition, control of weed growth, limiting the dumping of solid and construction waste and removal of encroachments have to be encouraged for effective functioning of the drainage system.

205. In accordance with the above, the municipality shall desilt the primary drains on a regular basis before the onset of the monsoon. The construction of new drains and connecting links shall be taken up as a priority. The strengthening of the existing drains with lining and side walls are immediate measures. The requirement for storm water drainage is furnished in **Table 8.7.**

Table 8.7: Requirement until 2026 in Storm Water Drains and rejuvenation of lakes

Description	**Unit**	**Gaps Up To 2026**
Road Length Covered with Drains	km.	72.73
Up gradation of Kutcha to Pucca	km.	
Kutcha to Pucca Open	km.	32.96
Kutcha to Pucca Closed	km.	39.77
Pucca Open to Pucca Closed	km.	
New Pucca Open Drains	km.	32.51
New Pucca Closed Drains	km.	0.00
Rejuvenation of Lake		
Tanks/ Lakes conservation	Nos.	2
Desilting & Strengthening of Primary Drains	km.	4.25

Source: Analysis

206. *Improvement Works and Construction of Tertiary Drains.* Construction of tertiary drains must be taken up on a priority basis as the town comprises of about 76.04 Km of tertiary drains covering only 92 percent of the total road length against a norm of 150 percent. It is proposed to construct tertiary drains to all the major arterials and important roads to increase the coverage to facilitate proper discharge of storm water. It is expected that areas prone to flooding shall be adequately drained through these roadside drains.

4. Solid Waste Management

207. Goals and Service Outcomes: The goals and service outcomes based on the proposed strategy for the horizon period is presented in **Table 8.8**

Table 8.8: Goals and Service Outcomes – Solid Waste Management

Goal	2011	2016	2026
Collection with in the Town	100%	100%	100%
Door to Door Collection - %	100%	100%	100%
Source Segregation - %	75%	100%	100%
Collection - %	90%	100%	100%
Scientific Disposal	80%	100%	100%
Waste to Energy Generation		50%	100%
Cost Recovery of O & M -%	50%	75%	100%
Private Sector Participation	Modest protocols in place	Complete in the Disposal	Complete in the Disposal

208. *Existing Service Level.* Storage of waste at source is one of the important recommendations of MoEF. The introduction of door-to-door collection by the municipality has led to implementation of source segregation. In all, the other areas where door-to-door collection is absent, the households store the un-segregated waste in open containers and dispose off the same at the community collection points. Recovery of waste that is saleable such as newspaper, glass bottles, and recyclable plastic is observed in the domestic sector. Similar to the domestic households, major hotels and restaurants also store waste in open containers.

209. *Improvement Strategies.* Highest priority has to be accorded for segregation and storage at source irrespective of the area of generation so as to facilitate an organised and environmentally acceptable waste collection, processing and disposal. Source segregation of recyclable and biodegradable (organic waste) will not only provide an efficient way for resource recovery, but also substantially reduce the pressure and pollution in landfill sites.

210. In order to achieve the above objective, a **'Bin system of Solid Waste Storage'** at source is being recommended. As per this system, each of the households shall be directed to keep separate bins/ containers for biodegradable and non-biodegradable waste generated within their premises.

211. The bins can be of 10-15 litres capacity made of plastic/ reinforced plastic/ LDPE or metal bins of individual choice, but should be provided with lid. The segregated waste so stored in these bins will have to be transferred to the collection point or to the dumper placer provided for each area. The details of steps to be taken up for the municipal solid waste is presented in **Table 8.9**

Table 8.9: Measure to Handle Municipal Solid Waste

Source	Storage of Segregated waste	
	Bio-Degradable	Non-Bio-degradable
1. Households	10-15 liters capacity plastic/ reinforced plastic/ LDPE/ metal bin with lid	A bin or Bag of suitable size
2. Hotels, Restaurants	60 liters capacity-LDPE/ HDPE	A bin or Bag of suitable size
3. Shops, Offices, Institutions	Suitable container not exceeding 60 liters	A bin or Bag of suitable size
4. Market Stalls	40-60 liters bin-LDPE/ HDPE	A bin or Bag of suitable size
5. Function Halls	Bin/ Skip matching to Municipal	A bin or Bag of suitable size

Source	Storage of Segregated waste	
	Bio-Degradable	**Non-Bio-degradable**
	Collection system	
6. Hospitals, Nursing homes	60 liters capacity bin for non-infectious bio-degradable waste	Store waste as per Bio-medical Waste Management Handling Rules 1998
7. Construction/ Demolition waste	-	Store with in premises and deposit in the notified Site by the local body or to the municipal Vehicle
8. Garden Waste	Store with in premises	Deposit in large community bin or municipal vehicle

Source: Norms

212. Construction waste has to be stored at the premises of the construction either in skips or suitable containers and has to be directly emptied to the notified disposal site by the generator. Meat and fish markets should store waste in non-corrosive bins of maximum 100-litre capacity each and transfer contents to large container to be kept at the market just before lifting of such large containers.

213. Slaughterhouses should keep separate containers for animal waste and other wastes. It is also being recommended that this system of source segregation and storage is encouraged through community education and awareness campaigns and hence no capital investments are envisaged in this regard.

214. *Primary Collection and Street Sweeping.* Waste is generally collected by door-to-door collection either the municipal or private solid waste workers. This waste collected is deposited at collection points except in areas where door-to-door collection is not implemented. In such areas people dispose the waste into the dustbins located at every odd point on the roads.

215. The community storage facilities comprise of all types of collection bins such as concrete, steel and masonry bins, including the garbage chowks. The average road length per conservancy worker in Kovilpatti is about 361 m as against the desirable norm of 300 m. However, the total road length itself in the town since is considered less, the figure could be much above 400 m.

216. *Improvement Strategies.* The following measures have been recommended for improving the primary collection practices of Kovilpatti.

(i) Implementation of ‘Door-to-door collection’ through 100 percent privatization.
(ii) Installation of ‘Community Storage Bins’ in areas where door-to-door collection could not be implemented.
(iii) Introduction of multi-bin hand carts/ Tri-cycles.
(iv) Placement of dumper containers of sufficient number in markets and ensuring that all the vendors place the waste in the containers.
(v) Introduction of bio-medical waste management facility with support from Indian Medical Association.

217. It is recommended that the community be involved in primary collection through

segregation at household level to minimise the number of times of waste handling. Non-biodegradable waste shall be collected separately from premises where door-to-door collections are organised. Present system of primary collection should be supplemented by introducing multi-bin carts (Push carts / Tricycles) covering the entire area of the town by the municipality. The details of proposed primary collection system are summarized in **Table 8.10.**

Table 8.10: Proposed primary collection

Mode of Collection	Area of collection	Primary Collection Vehicle	Secondary storage
Door to Door	1. Residential colonies of High & Middle income group	Multi-bin cart/ tricycle-with 2 bins for Biodegradable waste and 1 for recyclable	1.Bio-degradable in Skips/ wheel containers 2. Non-biodegradable-Sell or hand over to waste collector
	2. Hotels/ Restaurants	Closed vehicle to collect biodegradable	Direct transport to Disposal site
Large Community Bin System	Fruit and Vegetable Markets/ Transfer Stations	Carrying bins to transfer point	Skip / Dumper Placer
Small Community Bin System	Slums/urban poor colonies	Carrying bins to transfer point	Transfer contents of biodegradable to community bins

Source: Analysis

218. The existing street sweeping operations in Kovilpatti are satisfactory and to ensure operational efficiency of the system, the following measures are suggested.

(i) Markets and other areas of the city shall be swept at least twice a day and sweeping should be done on Sundays and holidays in core areas and denser areas.
(ii) Sweepings shall be collected separately as degradable and non-biodegradable waste and deposit in containers kept at various locations and a separate crew equipped with appropriate implements may do de-silting of larger drains.

219. In situations where door to door collection system is not being implemented, the desirable spacing of primary collection bins is 100 m. However in the light of recent solid waste management initiatives, an organised door-to-door collection of waste is recommended for Kovilpatti. In view of this, the entire town need not be provided with dustbins at 100m interval. The aim of this process is to achieve,

(i) 100 percent coverage of door-to-door collection from hotels and restaurants
(ii) 100 percent coverage of door to door collection from households and Commercial
(iii) The remaining under community bin system.

220. It is envisaged that the entire area of the town is brought under door-to-door collection and hence, no additional dustbins are proposed. This is since after 80 percent coverage of households under door-to-door collection the areas in slums and other areas, which are estimated to be about 20 percent of the total households in 2026, shall be covered by the existing bins, shifted and relocated. In this scenario, the municipality shall be responsible for the collection.

221. The existing dustbins shall be phased out in an organised manner according to the implementation of the system and will be utilised in the areas where introduction of door-to-door collection is considered practically impossible. This is proposed to be achieved by the year 2006-07.

222. There are 55 handcarts at present with the Municipality. So the existing handcarts shall be adequately modified to suit to the future requirements and hence there is no additional capital investment suggested. The current availability of dustbins will also cater to the needs till the system is completely implemented. The dustbins should be slowly phased out after the door-to-door collection system is stabilised and integrated with the secondary collection system of the town.

223. *Collection and Transportation.* There are 6 secondary collection points of 1 ton capacity each, and a fleet of vehicles comprising of mini Lorries numbering 7 in total. On an average, each vehicle makes four trips a day. It has been observed that the numbers of collection points are inadequate. While one collection point can cover an area of 0.16 Sq. km, in Kovilpatti, on an average one collection point is catering to an area of 1.11 Sq. km. The values are arrived based on minimum comfortable walking distance and the time required for door-to-door collection by one handcart.

224. *Improvement Strategies.* In view of the criticality of the information on vehicle movement in assessing the collection and disposal efficiency of the local body, it is recommended that a standard register at the disposal site and transfer station be maintained. The register should contain information on each vehicle trips at both the locations. A summary of this information shall be prepared at the end of the day, to be verified by the health officer.

225. In order to reach total collection of 100 percent it is recommended to procure 3 or 4 new vehicles of total 11 tons capacity by 2008-09 out of the total proposed 15.75 tons addition. In addition to the above it is also recommended that Dual Loaded Dumper Placers (DLDPs) be introduced to improve the collection efficiency and to cover at least 70 percent area of the town.

226. The introduction of Dual Loaded Dumper Placers shall eliminate the need of the secondary collection points except in places where DLDPs cannot be introduced. Instead of these collection points, in the long run, transfer stations with advanced segregation and recycling facilities may be introduced.

227. *Requirements.* Three Dual Loaded Dumper Placers with 12 numbers of containers will be required for collection of approximately 36 tons of waste that will be generated in Kovilpatti by the year 2026. About 32 percent of these investments are proposed for 2006-08 and the rest of investment is proposed for 2010-11. The detail of future requirement in solid waste management is presented in **Table 8.11.**

Table 8.11: Requirement until 2026 in Solid Waste Management

Description	Unit	Gaps Up To 2026
Primary collection		
Hand Carts required for municipality	Nos.	91
Push Carts (Street Sweeping)	Nos.	138
Secondary collection		
Dumper bins required (7 cum)	Nos.	12
Transportation Vehicles		
Dumper Placer	Nos.	3
Area requirement for Land fill	Acre	7

Source: Analysis

228. *Processing and Disposal.* While composting of the bio-degradable waste is introduced recently, the major issues of processing and disposal are pertaining to the unscientific methods of disposal of non-biodegradable waste and the associated impacts on the neighbourhood.

229. *Improvement Strategies.* The characteristics and quantity of solid waste generated in the town primarily influence the disposal options. A review of the available solid waste sample results indicates that nearly 60 percent of the waste generated in Kovilpatti is organic nature. In terms of the quantity around 27.30 tons of waste is generated every day and is expected to go up 36 tons by the year 2026.

230. Considering these aspects, it is recommended to develop a landfill site for safe disposal of solid waste of Kovilpatti. Based on the successful implementation of the door-to-door collection and source segregation practices in the city, the options of waste to energy and composting projects can be developed. The strategies are:

(i) Compost the organic fraction of the waste
(ii) Sanitary land filling of inorganic fraction of waste and the compost rejects
(iii) Educating the community on 4R strategy (Reduce, Reuse, Recycle and Recover)

231. *Requirements.* Area requirements for the land fill sites are worked out based on the waste generation trends and sustainable waste management practices. With a per capita generation rate of 300gm/ capita, the city generates around 27 tons of waste. Following similar trends, Kovilpatti shall be generating around 36 tons of solid waste at a rate of 310gm/ capita/ day by 2026. The base year (2001) waste generation trends when projected to the design year 2026, Kovilpatti shall be requiring 10.46 acres (for a generation 36 tons per day) of land fill area. The area requirements for landfill are presented in **Table 8.12.**

Table 8.12: Future requirements for land fill site

Year	**Estimates [1]**	
	Waste Generation,	**Land Fill Area [2],**
	Tons/ day	*Acres*
2001	26.11	-
2006	27.90	-
2011	29.48	-
2016	31.48	-
2021	33.62	-
2026	35.90	10.46
[1]. Estimates are based on present per capita generation of 300 gm/ capita/ day		
[2]. Land fill areas are on cumulative basis		

Source: Analysis

232. The above analysis is based on CPHEEO design assumptions for sanitary landfills, wherein a landfill height of 5 m and a bulk density of 0.85 Tons/ m^3 are assumed. However, the actual height of landfill depends on the geological/ geographical conditions of the site and technology of landfill development.

5. Roads and Traffic Management

233. *Goals and Service Outcomes:* The goals and service outcomes based on the proposed strategy for the horizon period is presented in **Table 8.13**.

Table 8.13: Goals and Service Outcomes –Roads, Traffic and Transportation

S.No	Goal	2011	2016	2026
1	Road Network as % of Total Area	12%	15%	15%
2	Average Speed -km/'h with in the town	20	30	35
3	Sidewalks length to Total road length	50% of the requirement	75% of the requirement	95% of the requirement
4	Road accidents	Reduced by 25%	Reduced by 50%	Reduced by 70%
Roads Coverage				
1	Municipalitity	80%	100%	100%
Road Safety				
1	To reduce traffic accidents by traffic management measures With in the Town	100%	100%	100%
Parking				
1	Construction of parking complexes at proposed locations	100%	100%	100%
Decongestion				
1	Development of truck terminal at Proposed location	100%		
2	Shifting of Bus stand	100%		

234. Thirteen percent of the total area of the town is under roads with a total length of about 83.04 Km. 98.95 percent of the roads in the town are surfaced. Accordingly, strategies are formulated to have 100 percent coverage of surfaced roads including up-gradation and new formation of roads. The percentage of concrete roads in the town is 19 percent.

235. The overall system gets affected with load and pressure on the remaining roads resulting in frequent operation and maintenance costs and traffic congestion. The deficiencies in Kovilpatti with respect to the road infrastructure pertain mainly to the coverage and width. The following strategies are hence formulated to enhance the coverage of road network and the level of service in Kovilpatti.

236. *Roads planning.* The newly developing areas lack effective coverage and shall increase to a minimum of 10 percent though the norm can be in the range of 15-20 percent. The road widening projects can provide succour to a certain extent in increasing the area under roads, but is limited to certain commercial corridors only. Roads planning shall also ensure that road, parking and traffic infrastructure provision matches the city's present and future needs for both private and public transport. The detail of future requirements of roads and transportation is illustrated in **Table 8.14.**

Table 8.14: Requirement until 2026 in Roads and Traffic & Transportation

Description	Unit	Gaps Up To 2026
Up gradation		
Bituminous Topped to Concrete	km.	0.00
Water Bound Macadam to Black Top	km.	0.03
Earthen to Black Top	km.	0.09
Relaying of Black Top	km.	16.43
New Formation		
Concrete	km.	-
Black Top	km.	18.20
Traffic and Transportation		
Widening/ Strengthening	km.	8.50
Junction Improvement	Nos.	10.00
Construction of Truck Terminal (BOT)	km.	1.00

Source: Analysis

237. *Widening and Strengthening of Road structures.* With due consideration to the growing traffic intensity it has been proposed to upgrade all the major roads with specific focus on the State and National Highways and some minor roads.

238. *Asset Rehabilitation.* New formations shall be undertaken to extend and augment the roads. Plans would be phased so as to optimise the cost and surface condition and shall include upgrading earthen roads to Bituminous Topped roads. This phased up-gradation would considerably reduce the costs on new formations.

239. Important proposals noted by Traffic Operation and Management Plan are as follows:

Improvements at Intersections

(i) Intersection of Kovilpatti – Kanniyamari road and Mathan koil street.
(ii) Intersection of Mathankovil street andEttayapuram road.
(iii) Intersection of Ettayapuram road, Manthitoppu road and Mathankovil street.
(iv) Ettayapuram road and Pasuvanthanal road Junction.
(v) Improvement to Ilayarasanendal road and Kovilpatti Kanniyakumari Road

Improvements for Bottleneck Locations

(i) New road in front of Government Hospital.
(ii) Kathiresan Kovil road between Mathan kovil road and Chokkan Urani Street.
(iii) Kovilpatti road in front of Narayanaswamy theatre.
(iv) Chokkan Urani Street

Medium Term Improvements

(i) Improvement to Kovilpatti Road.
(ii) Improvement to new Road.
(iii) Improvement to Ettayapuram Road.
(iv) Lorry Parking Area

6. Street Lighting

240. *Goals and Service Outcomes:* The goals and service outcomes based on the proposed strategy for the horizon period is presented in **Table 8.15**

Table 8.15: Goals and Service Outcomes – Street Lighting

S.No	Goal	2011	2016	2026
1	Energy saving mechanisms	80%	100%	100%
2	Adequate lighting in Non-lit areas	80%	100%	100%

241. The lamp posts in the town are spaced at a comfortable average of 26m against the observed inadequacy in road connectivity. The deficiency though is specific to 9 wards might extend to more wards depending on the length of new roads provided in the municipality. The strategic intervention in this sector is in increasing the number of lampposts in the wards identified to reduce the average spacing between lampposts to below 30m. Further, measures are to minimise the power consumption observed to be on higher side. The future requirement of street lighting is furnished in **Table 8.16.**

Table 8.16: Requirement until 2026 in Street Lighting

Description	Unit	Gaps Up To 2026
Street Lighting		
Tube Light	Nos.	273
High Power	Nos.	146
Power Saver Switches	Nos.	2
High Mast Lamps	Nos.	1

Source: Analysis

242. These measures are expected to pay back in the form of reduced and sustained Operation and Maintenance costs. Further, to improve upon the O and M of the street lighting it is recommended to mechanise the system and involve private sector in the same. The dimming system can be introduced from 11 PM to 4 AM and reduced the LUX by 50 percent.

7. Poverty Alleviation

243. *Goals and Service Outcomes.* The goals and service outcomes based on the proposed strategy for the horizon period is presented in **Table 8.17**

Table 8.17: Goals and Service Outcomes – Poverty Alleviation

Goal	2011	2016	2026
Water Supply Network Coverage for slum households	90%	95%	100%
UGD coverage for slum households	60%	100%	100%
Adequately lit slums	100%	100%	100%
Adequate road link for the slums	100%	100%	100%
Pucca houses for all slum households	80%	100%	100%
Education for all in slums	100%	100%	100%

244. *Beneficiary Selection.* Identify the target beneficiaries based on a socio-economic survey and initiate efforts to form Community Development Societies (CDSs) covering the target population and implement guidelines on the lines of SJSRY in the selection of beneficiaries.

245. Encourage the community to avail the benefits under the various slum development programs by developing linkages with the lead bankers and ensure that the flow of communication between the various actors and the community structures through a proper reporting procedure. A town level training strategy shall be formulated to focus upon the targeted beneficiaries. The strategy will aim at the people to be trained including the policy makers, town officials, community members as well as the beneficiaries.

246. *Programs' Monitoring.* While implementation of the programs is important, the monitoring of the same is more important for continuing of the process. This ensures the success of the programs and hence further participation of the communities over the years that will only lead to complete poverty alleviation.

247. *Social inclusion of Vulnerable Groups.* The vulnerable groups are the socially under privileged, women and aged who are generally restricted by the dominant groups in any community. A say for these vulnerable groups in the community development programs is necessary.

248. It can be ensured only through effective awareness campaigns. Improving the literacy levels among the poor and the slum dwellers will also ensure the elimination of the differences among the communities and ensures the participation of the vulnerable groups. This initiative aims at a long term goal and needs sustained longstanding efforts on part of the Community Development Societies. The activities of the Community Development Societies shall be monitored through an evaluation procedure on a periodic basis.

B. Project Cost for Service Delivery

1. Water Supply

249. The existing collector well on Thamirabarani River at Seevalaperi is a circular concrete structure equipped with seven radial arms, each approximately 28.80m to 36.00 m each. Vertical turbine pumps installed at the upper platform level convey water through the existing transmission main to the intermediate booster pump stations along the Tirunelveli-Kovilpatti section of NH-7. The following measures are recommended to rehabilitate the collector well at the head works:

(i) Radial arms presently non-functional (5 nos.), i.e. nil or significantly low flow shall be initially selected for cleaning with compressed air;

(ii) If the yield in the specific radial arm that was cleaned first improves, then the operation is recommended to be repeated in the other radial arms;

(iii) If yield does not improve and if radial arms encounter damage combined with high inflow of silt or sand mass, then the cleaning operation shall not be continued

further

250. The rehabilitation activity shall be performed during the summer when the flow in the river is normally low and can permit easy workability.

251. *Proposed Improvements to Ramasamy Park Booster Pump Station.* An existing sump of capacity 1.50 lakh litres and water pumps at this booster station convey water to the existing service reservoirs. Horizontal split case centrifugal pumps were installed in the year 1998 at Ramasamy Park BPS and pertinent details are furnished in **Table 8.18.**

Table 8.18 Primary Details of Booster Station

Si. No.	Item	Description
1	Pump (2 Nos.)	Greaves Peerless
2	Pump Model	8 DA 13.5, 250 x 200 mm
3	Motor (Type)	GEC Alsthom
4	Motor Rating (HP / KW / V / A)	75 / 55 / 415 / 107
5	Motor Speed (rpm)	1,470
6	Existing Pump Duty (Q/H)	6,330 lpm @ 34 m
7	Required Pump Duty to meet the Intermediate stage Demand (Q/H)	6,970 lpm @ 34 m

Source: Analysis

252. The feeder main to the proposed overhead tanks shall be integrated with the discharge manifold of the existing feeder main at the Ramasamy Park booster pump station. Based on the water demand at the Intermediate Stage (2019) and the required flow rate in each feeder main arm, the existing booster pumps shall be upgraded to handle a rated discharge of 6,970 lpm at a rated head of 34 m. As specified above, the flow rate specified is based on the intermediate stage water demand on both the existing and proposed overhead tanks at a standard consumption of 90 lpcd. It is proposed to replace the impeller (300-mm Ø) of the existing pumps with a Cast Iron impeller of higher diameter (320 mm Ø). The upgraded impeller will be able to accommodate the higher flow rate requirement at the same discharge head for the installed pump and motor frame.

253. This method of pump up gradation is recommended for Kovilpatti Municipality since these pumps were installed only in 1998 and it is felt that the same pumps through proper maintenance can serve until the intermediate stage (2021). Further, the existing squirrel cage induction motor rated 70-HP (55-KW) can be retained for serving the intermediate stage flow rate at the specified TDH. The booster pumps at Ramasamy Park shall be renewed after the Intermediate Stage to serve until the Ultimate Stage (2034) based on requisite demand.

254. The existing storage capacity is not adequate to meet the ultimate stage water demand. Therefore, as specified above, three new zones have been proposed with additional storage facilities. The proposed site locations were also confirmed for availability of land with municipal officials and pertinent details are furnished in the **Table 8.19.**

Table 8.19 Location for Proposed Over Head Tank

Name of proposed Over Head Tank	Location	Capacity of Service Reservoir	Ward No.	Survey No.
		Lakh Litres		
Elayarasanenthal Road	Municipal land opposite TNEB sub-station	3.00	2	41
Sasthri Nagar	Mettu Street adj. to Municipal School	3.50	6	225
Velayuthapuram	Municipal land near match factory in North Velayuthapuram	3.00	6	38

Source: Kovilpatti Municipality

255. *Proposed Improvements to Feeder Mains.* A feeder main has been laid from the booster pump station at Ramasamy Park to the existing service reservoirs in Kovilpatti Municipality. The feeder main network shall be expanded through installation of an individual main to the proposed service reservoirs (3 nos.) from the existing booster pumps at Ramasamy Park.

256. *Proposed Improvements to Distribution System.* Proposed zoning of the distribution system in Kovilpatti Municipality has been performed based on the ultimate stage (2034) population of each distribution zone equipped with an elevated service reservoir. Zoning of the proposed distribution system has been performed based on the following factors:

(i) Census population and corresponding ward density
(ii) Capacity of the overhead tanks in existing distribution zones
(iii) Contours in the proposed zone

257. *Rezoning and Redistribution.* Rezoning of the distribution system is considered as essential in order to overcome the uneven distribution of water within the town. That means that even if the supply of water from the headworks is increased, without improvement of the distribution system, considerable improvement in supply position within the town will not be ensured.

258. Originally, the town was provided with 3 overhead tanks namely Ramasamy Park, Taluk Office and Kadalaiyur Over Head Tanks with a total capacity of 20.25 lakh litre with a variation in ground level from 89 to 110 m. Subsequently, three additional overhead tanks were constructed in the following places namely Subramaniapuram, Orani Street and Gandhi Nagar with a total capacity of 3.00 lakh litre (1.00 lakh litre each). Further, during 1997, one over head tank was constructed with a capacity of 5.00 lakh litre with a sump at Veeravanchi Nagar (GL 115.32 m) which is the highest elevation within Kovilpatti Municipality.

259. The existing overhead tanks constructed at Taluk office and Kadalaiyur are expected to cater to a significantly large area of operation consisting of 7 and 8 numbers of wards for each zone with 14 and 15 sub zones respectively. Apart from this, the existing problems such as presence of old pipes, over-drawal of water in certain segments are in existence. Due to above factors, the present service level is not uniform and the tail end pressure is

found to be practically zero.

260. Under the existing system of supply, one feeder main is expected to serve all the seven (7) zones, which is found to rather difficult from the operation point of view. Whereas, under the proposed set up, the feeder main network has been designed to serve three different zones (Low level, Middle level and High level). By implementing this proposal, better operation of the entire system will be ensured. Apart from the above, the following further changes are made as listed below.

261. The existing storage facility and benefiting area in each zone has been compared with the ultimate stage (2034) water demand. Accordingly, areas presently at the tail end or at a significant ground elevation (high-level areas) within an existing distribution zone have been removed to reduce the load/demand on the existing zones and to ensure that the existing over head tank can serve until the Ultimate Stage. Areas removed from existing zones and uncovered areas in Kovilpatti have been earmarked as new zones with additional storage facilities.

262. Three (3) overhead tanks with a total storage capacity of 9.50 lakh litres are proposed in the following zones namely, Sasthri Nagar (3.50 lakh litre), Elayarasanenthal Road (3.00 lakh litre) and Velayuthapuram (3.00 lakh litre).

263. In effect, bulk of present zone, which is presently supplied from the Taluk and Kadalaiyur over head tanks shall be delinked and connected to the new zones equipped with additional over head tanks. Further, by laying individual feeder mains connected to limited number of over head tanks with more or less same ground levels and also by providing additional over head tanks to serve all the areas, it is expected that supply will be more uniform.

264. The local body will take necessary steps to relay the old pipes (approximately 8 km) through this improvement project and shall take necessary steps to prevent overdrawal of water in certain segments. By the above steps, it is expected that the functioning of the entire distribution system will be quite satisfactory.

265. The capital costs estimated for the proposed interventions are to the tune of Rs. 382.44 lakh for the year 2026. This is worked out based on the present unit rates of TWAD Board. Accordingly the gaps are identified and the projects are identified broadly as Source development, Storage capacity augmentation, pumping main, and augmentation of distribution network, Rehabilitation for existing network. The detail of identified investment in water supply is illustrated in **Table 8.20.**

Table 8.20: Details of Identified Investment in Water Supply Sector

Component	**Total investment up to 2026**
	Rs. Lakh
Proposed Improvement Based o Energy Audit	20.59
Proposed improvements to feeder mains & Modification of existing booster Pumps at ramasamy park	101.82
Proposed OHTs at Velayuthapuram & Elayarasanenthal Road and Sastri Nagar	38.77
Rehabilitation of pumps at in take works and clear watrer pumps at WTP & proposed modifications per energy audit	21.47
Proposed improvements to distribution mains	114.22

Component	Total investment up to 2026
	Rs. Lakh
(Rehabilatation 8 km & new distribution network 27.5 km)	
Dedicated feeder main to all booster pump stations	85.57
Total	**382.44**
Lakes conservation /Tanks regeneration and Nalla strengthening	
Tanks/ Lakes conservation	40.00
Desilting & Strengthening of Primary Drains	31.88
Total	**71.88**

Source: Analysis

2. Sewerage and Sanitation

266. The capital investments under this sector for the Business plan are restricted to provision of Pubic Convenience systems. The proposed investment is to the tune of Rs. 2,195.36 lakhs. The investment for sewerage and sanitation is presented in **Table 8.21.**

Table 8.21: The Investments for Sewerage and Sanitation

Component	Total investment up to 2026
	Rs. Lakh
Under Ground Drainage	
Length of Under Ground Drainage (79.53 km)	1,193.01
STP and Land and Electrical equipment (9.56 MLD)	143.46
Road Overlay (79.53 km)	795.34
Public Convenience (85 seats in 5 units of ISP)	63.55
Total	**2,195.36**

Source: - Analysis

3. Storm Water Drainage and Rejuvenation of Water Bodies

267. The investments are in line with up-gradation and new formation of roads. The components involved in this sector are mostly new formations. The estimated cost for up gradation of Kutcha to Pucca (open and closed) drains is estimated as Rs. 1,071.55 lakh. New Pucca formations are proposed at Rs 390.15 lakh. Rs. 31.88 lakh is proposed for desilting and strengthening of *Odai*. The proposed investment for storm water drainage and rejuvenation of water bodies is presented in **Table. 8.22.**

Table 8.22: The Investments for Storm Water Drainage

Component	Total investment up to 2026
	Rs. Lakh
Up gradation of Kutcha to Pucca	
Kutcha to Pucca Open (32.96 km)	395.50
Kutcha to Pucca Closed (39.77 km)	676.05
New Pucca Open Drains (32.51 km)	390.15
Total	**1,461.70**

Source: Analysis

4. Solid Waste Management

268. The total investment identified for this sector is Rs.294.39 lakh. The requirements at the disposal site are planned for the year 2026. The other components of primary and secondary collection are planned for the immediate requirements and demands. Rs. 23.82 lakhs of this amount is proposed for augmentation of the primary and secondary collection system in the town.

269. Rs. 30.00 lakh of the total identified investment is for procuring Dual Loaded Dumper Placers and Rs. 6.60 lakh for the dumper bins. Rs. 240.58 lakh is proposed for investment on creating infrastructure for land fill and composting facilities and acquisition of disposal site. The Investment for solid waste management sector is presented in **Table 8.23.**

Table 8.23: The Investments for Solid Waste Management

Component	**Total investment up to 2026**
	Rs. Lakh
Solid Waste Management	
Vehicle Capacity Required	
Hand Carts required for municipality (91 nos)	7.28
Push Carts (Street Sweeping) (138 nos)	9.94
Secondary collection	0
Dumper bins required (7 cum) (12 nos)	6.60
Dumper Placer (3 nos)	30.00
Cost of Development of Compost	35.00
Cost of Development (7 acres)	172.32
Land acquisition	33.26
Total	**294.4**

Source: Analysis

5. Roads and Traffic Management

270. Rs. 18.70 lakh is proposed for up-gradation of existing roads to BT surfacing, Rs. 0.45 lakh is the identified investment for up-gradation of water bound macadam to black top formations and Rs. 59.50 lakh is proposed for widening and strengthening of identified road stretches in the town. Rs. 50.00 lakh is estimated for the improvement of junctions in the town. Rs. 582.28 lakh is estimated for the new formation of black top roads in the municipality. The investment program for roads and traffic and management is presented in **Table: 8.24.**

Table 8.24. The Phasing of Investments for Roads and Traffic Management

Component	**Total investment up to 2026**
	Rs. Lakh
Up gradation	
WBM to Black Top	0.45
Earthen to Black Top	1.82
Relaying of Black top	16.43
New Formation	

Component	Total investment up to 2026
	Rs. Lakh
Black Top	582.28
Total	**600.98**
Traffic and Transportation	
Widening/ Strengthening	59.50
Junction Improvement	50.00
Construction of Truck Terminal	800.00
Total	**909.50**

Source: Analysis

6. Street Lighting

271. Additional street lighting for Rs. 117.20 lakh is identified in Kovilpatti. These include tube lights, high power lamps, high mast lamps and power saver switches. The cost estimation for street lighting is presented in **Table 8.25.**

Table 8.25: The Investments for Street Lighting

Component	Total investment up to 2026
	Rs. Lakh
Tube Light	68.13
High Power	42.36
Power Saver Switches	0.12
High Mast Lamps	6.60
Total	**117.20**

Source: Analysis

7. Other Identified Projects

272. A total investment of Rs. 470 Lakh is identified for funding other projects as identified by the municipality during the consultation process. This include construction of bus stand, burial ground and electrical crematorium, construction of parks and plays grounds. The investment program for other projects is identified in **Table 8.26**.

Table 8.26: The Investments for All Other Project

Component	Total investment up to 2026
	Rs. Lakh
Construction of Bus stand	395.00
Parks and Play Grounds	60.00
Markets – Local body (improvements)	15.00
Total	**470.00**

Source: Analysis

IX. ASSET MANAGEMENT PLAN

A. Overview

273. This asset management has the objective of defining and describing the important elements, and principles of a Municipal Infrastructure Asset Management (MI-AM) System. This chapter will deal with the elements that are essential in an asset management program for movable and immovable infrastructure. More specifically road networks, sidewalks, water supply networks, pumping, storage, treatment facilities and storm water drains.

274. Both levels of effort and detail are compatible, complimentary and both are necessary. At present in the City Corporate Plan consultants following level -1 procedure because non availability of data require.

1. Asset Inventory

275. The first stage of implementation of an asset management program for municipal infrastructure relies on the essential element of inventory. The location of some of the available assets is presented in Map 7.1. It is fundamental to know about each element in each category of infrastructure as mentioned bellow:

(i) Available Assets
(ii) Location of Asset
(iii) Age of Asset
(iv) Quantity of Asset
(v) Physical Characteristics of Asset

276. It is starting point and for the determination of the high level strategy and objectives of the program. The inventory can consist of approximations of the quantity, size, materials, and age of each category of asset. For the project level decisions more detail is necessary for condition and performance assessment. This level of inventory detail can require a commitment to a multi year program of data collection and field verification

2 Information of Municipal Assets.

Water Supply

277. The Water Supply Assets comprise head works, treatment plant, sump, transmission mains, pumping mains, feeder mains, distribution mains and sub mains, including all valves, connections, meters and all related facilities owned by the local body for the efficient distribution of water. In case the urban local body owns only the distribution facilities from the OHTs, then the asset is classified accordingly. The municipality does not have any assets out side the municipal limits for the water supply sector.

278. Total length of distribution network length is around 53.98 Km and the material type is PVC and Cast Iron. The length of PVC pipeline is around 29 Km laid after 1980, with the age of the pipe line at around 15 to 20 years. The age of Cast Iron pipes is more than 30 years and the length is about 24.98 km.

279. The municipality has four pumps of 75 HP capacity at Ramasamy Park for pumping water from the sump to all OHTs in the municipality. These pumps are recently purchased and are in good condition.

280. There are three types of valves in operation in the town, scour valves, air valves and sluices valves. Out of 250 scour valves, only 230 valves are in working condition and the remaining are not in use. There are 25 air valves and all of them are not in use. All the six sluices valves all are in working condition. The details of valves are tabulated in **Table 9.1**

Table 9.1: Details of Valves

Condition	Scour Valves	Air Valves	Sluice Valves
Working	230	0	6
Not-working	20	25	0
Total	**250**	**25**	**6**

Source: Kovilpatti Municipality

Land and Buildings

281. There are remunerative and non-remunerative assets of the municipality on which the municipality incur considerable expenditure for operation and maintenance. The commercial complexes in the town, shops in the bus stand, markets, slaughterhouse, pay & use toilets, etc are all remunerative. Non-remunerative assets of the municipality are the burial ground, compost yard, etc. The details of remunerative and non remunerative assets are presented in **Tables 9.2 and 9.3.**

Table 9.2: Details of Remunerative Assets

Name of the Street	Ward No.	Type of building	Municipal Commercial buildings	Area
				Sq.m.
Cross street between Krishnan Koil streets	4	RCC	Market Shops	296
Inside road of daily market	4	RCC	Market Shops	91
Market road	4	RCC	Market Shops	91
Near Railway track	4	RCC	Market Shops	91
Pannaithottam cross lane	4	RCC	Market Shops	28
Pannaithottam cross street east to west	4	RCC	Market Shops	564
Pannaithottam cross street lane North to South	4	RCC	Market Shops	76
Pannaithottam Road	4	RCC	Market Shops	142
Pannaithottam Road market link Road	4	RCC	Market Shops	141
Pannithottam cross street near railway line North to South	4	RCC	Market Shops	453
Ramalingam Street	4	GI Sheet	Market Shops	262
Saramariamman kovil street lane	4	RCC	Market Shops	299
Saramariamman kovil cross street	4	RCC	Market Shops	205

Name of the Street	Ward No.	Type of building	Municipal Commercial buildings	Area
				Sq.m.
Saramariamman kovil street	4	RCC	Market Shops	38.87
Ramasamy Park	26	RCC	Shop	22.95
Ramasamy Park	26	RCC	Shop	24
Ramasamy Park	26	RCC	Shop	23.2
Ramasamy Park West	26	RCC	Shop	25
Ramasamy Park West	26	RCC	Shop	24
Ramasamy Park West	26	RCC	Shop	24
Soundarapandian west street	15	RCC	Shop	24
Bus stand	24	RCC	Shopping Complex	320
Chokkanoorani	21	RCC	Shopping Complex	223
Pudhu Road	35	RCC	Shopping Complex	137

Source: Kovilpatti Municipality

282. Remunerative assets have been used to estimate the additional resource that could be mobilised and is presented in the **Chapter X**

Table 9.3: Details of Non Remunerative Assets

Ward No.	Location	Asset Type	Present Use	Area
				Sq. m
32	Bharathi Nagar II Street	Land	Vacant	1,821.15
35 & 21	Main Road	Land	Vacant	36,382.53
3	Ilayarasenenthal Road	Land	Vacant	1,618.80
12	Pudhu Road	Land	Vacant	3,682.77
24 & 22	Main Road	Land	Vacant	566.58
6	Velayudhapuram Northern Road	Land	Vacant	890.34
5	Sankaralingapuram Northern end	Land	Burial Ground	1,821.15
4	Chathiram North Street	Land	Daily Market	14,164.50
35	Ettayapuram Road	Land	Rajaji Park	
29	Mandhi Thoppu Village	Land	Compost Yard	11,372.07
	Iluppaiyoorani Village	Land	Vacant	
1	Gandhi Nagar	Land	Slaughter House	6,070.50
10	Kadalaiyur Road	Land	Vacant	3,237.60
36	Ettayapuram Road	Land	Dhobi Ghana	
8	Pudhugramam Eastern Side	Land	Burial Ground	1,821.15
33	Pasuvanthanai Main Road	Alienated	Dhobi Ghana	7,650.00
3	Natarajapuram Main Road	Gifted	Burial Ground	1,950.00
29	Mandhi Thoppu Road	Gifted	Vacant	
33	Thirumanagai Nagar, Pasuvanthanai Road	Gifted	Park	1,381.55
33	Pasuvanthanai Road	Gifted	Vacant	297.28
33	Pasuvanthanai Road	Gifted	Vacant	736.00
29	Sri Ram Nagar	Gifted	Vacant	2,112.00
29	Main Road	Land	Well	137.00
21	Chokkan Urani	Land	Weekly Market Uzhavar Santhi	3,325.00
24	Main Road	Land	Bus Stand	2,400.00
22	Muthananthapuram Street	Land	Weekly Market Bus stand	3,000.00
2	Gandhi Nagar	Gifted	Vacant	1,089.00

Source: Kovilpatti Municipality

283. There are two markets run by the municipality of which, one is weekly market and another is daily market. The daily market is located on the main road near the Ramasamy theatre, and the weekly market is near the bus stand.

3. Strategies

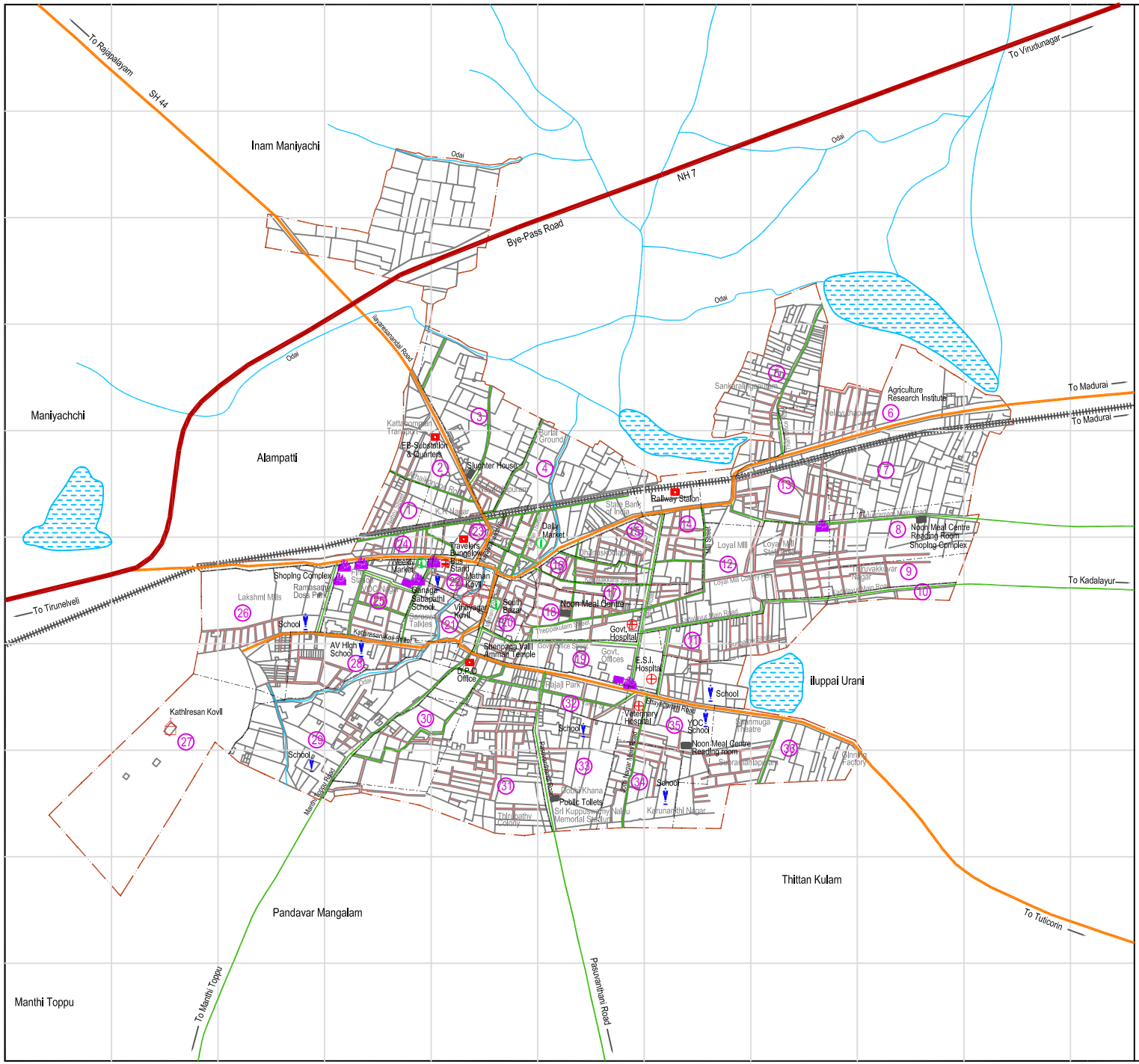
284. Condition Assessment Survey (CAS) establishes the existing condition of the asset (IRC, 1994); and hence is a benchmark for comparison, not only between different assets, but also for the same asset at different times CAS records the deficiencies in a system or component, the extent of the defect, as well as the urgency of the repair work; in some cases the estimated cost of repair is provided at the time of inspection. This type of systematic inspection is essential for asset management as it provides data for the "maintenance management", "service life prediction" and "risk analysis" enabling technologies, mentioned earlier

285. The data collected in a Condition Assessment Survey should reflect the change in the reliability of the system as a whole. This implies that the state or condition of a system being inspected should then be linked to the change in reliability of the system or its components. In this way, programmed maintenance and repair for a given system can be based on updated reliability estimates

286. While the above mentioned three tools are mostly innovative type there are specific Information technology tools that are necessary for accurate generation of MIS.

287. Creating a Geographical Information Systems (GIS) database of the assets identifiers.

288. Global Positioning Systems (GPS) technology assists for rapid and accurate data collection, precise identification of building or service locations, calculations of areas and lengths, estimation of building height, and more importantly the easy, clear and unambiguous documentation of physical location of identified defects and potential problems



KOVILPATTI CITY CORPORATE PLAN CUM BUSINESS PLAN

Legend :

- Municipal Boundary
- Ward Boundary
- Ward No.

ROAD WAYS

- Ring roads, NH Ways
- SH Ways
- Major Road
- Minor Road
- Railways
- Water Body
- Canal, Nala, Odai

- Shopping Complex
- Proposed Shopping Complex
- Hospital
- School
- Markets
- Temple
- Municipal Building
- Municipal Bus Stand

MUNICIPAL ASSETS

N

Scale : 0 0.25 0.5 1 2 Km

Tamilnadu Urban Infrastructural Financial Services

Wilbur Smith Associates Private Limited
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Map No. **8.1**

X. RESOURCE MOBILIZATION INITIATIVES

A. Scope in Savings and Revenue Generation

1. Infrastructure

1. The main objective of the Business plan is to generate revenue through the non-traditional sources with minimum investments. There is enormous scope to control expenditure in water supply, solid waste management and street lighting sector etc. The analysis will find the options for the replacement of inefficient existing pumps in terms of energy efficiency through Cost Benefit Analysis. Regarding street lighting, the analysis will be towards introducing technology of street lighting with the help of private participation.

2. Assets

2. The major assets for the municipalities are the immovable assets. This is one potential area to develop the asset values and increase the municipal revenue. The analysis includes finding out various options to make use of vacant lands on BOT basis and revising of rents for the remunerative assets up to market values.

B. Sector Wise Savings

1. Water supply

289. *Energy Saving*. A significant number of municipalities in Tamil Nadu rely on motive power for conveying water, either through significantly long distances (typically source to distribution point) or to meet contour gradient requirements within the distribution system. Pump Stations or Booster Stations achieve this objective by providing the necessary motive power to increasing the energy of the fluid to ensure water supply and distribution at required pressure and quantity.

290. Smooth functioning of the pump stations is highly critical, since they operate on a 24 hour basis and virtually form the heart of a system. Such pump stations consume a significant amount of electricity and result in high O & M costs for the Municipality that owns and operates such pumping system. It is common that over time, pumps and motors undergo severe wear and tear resulting in reduced operating efficiencies. This directly translates into higher power consumption for the same amount of output or even reduced output, which further results in a tangible increase in spending.

291. Energy Audit is an effective management tool to combat and control spiraling O &M and energy costs and to enable the municipality effectively use the system at the optimum cost possible. There is scope to control expenditure with effective energy management, leak detection and unauthorized tap connections.

292. The primary source of water for Kovilpatti town is the Tamiraparani River with head works situated in Seevalaperi village approximately 51 km from the town. A Combined Water Supply Scheme (CWSS) catering to 29 wayside villages, Sattur and Kovilpatti municipality and 3 town panchayats namely Kayathar, Kazhugumalai and Ettayapuram is presently operational. The existing water supply system was commissioned in the year 1976. The water supply requirement of Kovilpatti town is met from the existing CWSS scheme. Water collected in the Collector well is presently pumped with the help of two 170 HP pumps.

293. As per the latest energy audit study prepared for Kovilpatti Municipality, the following details were observed and the same is presented below. Performance test was conducted on the existing equipment in the Head Works and the booster stations to gauge the present operating condition of the motors and pumps installed. Based on the performance tests conducted and data recorded, results are analysed for potential savings in the pumping system. Pumps have been tested across the operational range of flow rates and discharge head. Results from the performance tests conducted are furnished in **Table 10.1.**

Table 10.1: Details of Pumping station wise efficiency

Pumping Station	Make of Pump & Type	Operating Range		Efficiency (%)	
		Lab Test	Field Test	Lab Test	Field Test
Head works at Seevalaperi	Garden Reach Vertical turbine	8,000 lpm x 66 m	-	83	-
		5,000 lpm x 80 m	5,000 lpm x 79 m	70	68
Rajapudukudi B.P.S. 1	Greaves Peerless HSC Centrifugal	7,965 lpm x 22.5 m	7,965 lpm x 22 m	83	80
Salaipudur B.P.S. 2	Greaves Peerless HSC Centrifugal	7,605 lpm x 18 m	7,605 lpm x 22 m	83	81
Savalaperi B.P.S. 3	Kirloskar HSC Centrifugal	7,605 lpm x 60 m	7,605 lpm x 57 m	80	80
Town Booster	Greaves Peerless HSC Centrifugal	6,330 lpm x 34 m	6,330 lpm x 33 m	84	83

Source: Kovilpatti Municipality & Analysis.

Quantity of water pumped from the headworks - 102,39,600 litres/day
Quantity consumed by beneficiaries - 98,44,100 litres/day
Line losses - 3,95,500 litres/day

<u>Energy consumed per KL of water pumped:</u>

Total Energy consumed per Annum - 20.79 Lakh units
Average Energy consumed per day - 20,79,000 / 365
- 5,695.90 units
Average quantity pumped per day - 10,239.60 KL

Energy consumed per KL - 5,695.90 / 10,239.60
- 0.56 units/KL

Expected energy consumption per KL after implementation of suggested improvements
- (5,695.90–856.90) / 10,239.60
- 0.47 units/ KL

294. Details of actual expenditure incurred towards annual maintenance of the pumping system are furnished below:

Design Flow rate - 11.04 MLD
Actual Flow rate (assessed on field) - 10.2396 MLD
Average Annual Quantity of water - 37,375 LL

Total Cost of O&M - Rs.15,448,000
Cost per 1,000 liters - 15,448,000 / 3,737,500
- Rs. 4.13

(Note: Costs indicated does not include cost of pumping equipment, depreciation and other related cost information)

295. The following modifications to the electrical and mechanical equipment at the booster pump stations are recommended to ensure optimum and efficient operation and related cost savings.

296. It is proposed to regulate the line voltage in booster pump stations through installation of a Voltage Stabiliser to maintain the required voltage of 415V. Potential savings through installation of a Voltage Stabiliser in booster pump stations is furnished below in **Table 10.2**.

Table 10.2: Details of energy savings

Booster Pump Station	**Power Input**	**Power Input at 415 V**	**Energy Savings**	**Annual Energy Usage**	**Annual Energy Savings**	**Annual Cost Savings**
			Kwh	*Kwh*	*Kwh*	*Rs. Lakh*
Rajapudukudi B.P.S. 1	36.00	28.24	7.76	8,198.35	63,619.20	2.23
Salaipudur B.P.S. 2	46.35	38.11	8.24	8,151.65	67,169.60	2.35
Savalaperi B.P.S. 3 Pump No.1	88.11	73.93	14.18	3,522.58	49,950.18	1.75
Savalaperi B.P.S. 3 Pump No.2	88.11	71.95	16.16	4,694.21	75,858.43	2.65
Total Annual Cost Savings						**8.98**

Source: Kovilpatti Municipality & Analysis.

297. Details of investments proposed for installation of Voltage Stabilizer is furnished in **Table 10.4**

Table 10.4: Proposed investment for installation of stabilizer

Booster Pump Station	Equipment Proposed for Installation	Rating	Cost of Equipment
			Rs. Lakh
Rajapudukudi B.P.S. 1	Voltage Stabilizer	75 KVA	2.50
Salaipudur B.P.S. 2	Voltage Stabilizer	50 KVA	2.00
Savalaperi B.P.S. 3	Voltage Stabilizer	200 KVA	3.00
Total Cost of Investment Proposed			**7.50**

Source: Kovilpatti Municipality & Analysis.

298. *Installation of Vacuum Pumps*. Vacuum Pumps are proposed for installation in all intermediate booster stations to eliminate priming requirement and elimination of head loss in the foot valve and air entrainment in the system. It is expected that energy savings of minimum 2% can be generated through implementation of this measure.

Total Energy Savings expected - 2 % of 12,19,000 - 24,380 units
Annual Cost of Savings - 24,380 x 3.50 - Rs. 85,330.00
Cost of 5 HP vacuum pumps - 6 x 1,25,000.00 - Rs.7,50,000.00

299. *Installation of Capacitors*. As Per Tamil Nadu Electricity Board (TNEB) Rules & Regulations, a low-tension (LT) service should maintain a minimum power factor of 0.85 and a high-tension (HT) service shall maintain a minimum PF of 0.90. PF rating less than the aforementioned is liable for penalization by the utility department. On the other hand, equipment operating at high power factor rating will result in an award of incentives/credits from the utility department.

300. Therefore, it is recommended to install capacitors to ensure that the power factor is maintained at 0.98. This measure will not only result in incentives/credits to Kovilpatti Municipality, but also result in reduction in line current, which translates into longer service life for AC motors and other electrical equipment. Details of potential savings that can be generated are furnished in **Table 10.5** and **Table 10.6**.

Table 10.5: Details of energy savings through installation of capacitors

Booster Pump Station	kW / HP of motor	Measured PF	kVAr Required	Installed kVAr	kVAr generated	Balance kVAr
Head works	130/170	0.76	85	75	45	40
Rajapudukudi B.P.S. 1	45/60	0.78	27	20	0	27
Salaipudur B.P.S. 2	37/50	0.82	25	25	13	12
Savalaperi B.P.S. 3	110/150	0.77	60	60	0	60
Town Booster	55/75	0.88	30	30	27	3
Total	**377/505**		**227**	**210**	**85**	**142**

Source: Kovilpatti Municipality & Analysis.

Table 10.6: Reduction in line current through improved power factor

Booster Pump Station	Rated kW of motor	Average Current	KW at observed PF	Measured PF	Line Current Reduction (A)
Head works	130	202	110	0.76	45.35
Rajapudukudi B.P.S. 1	45	63.56	40	0.78	12.97
Salaipudur B.P.S. 2	37	69.83	46.7	0.82	11.40
Savalaperi B.P.S. 3	110	163	114	0.77	34.93
Town Booster	55	83.83	49.2	0.88	8.55
Total	**377**	**582.22**	**359.9**		**113.20**

Source: Kovilpatti Municipality & Analysis.

Total Current Reduction by improving PF to 0.98 -113.2 / 582.22
-19.44%

I^2R reduction (%) - $\{1-[1-0.1944]^2\}$
- 35.10%

Considering overall system loss as 4 % saving in power by improving P.F. to 0.98 is - 359.9 x 0.3510 x 0.04
- 5.05 kW

Annual Energy Savings - 5.05 x 23 x 365
- 42,394.75 KWh

Annual Cost Savings - 42,394.75 x 3.50
- Rs.1, 48,382.00

Investment for a 142 kVr Capacitor (@ Rs. 400/ kVr) - Rs.56, 800.00

301. Based on the energy studies conducted on the installed mechanical and electrical equipment in the head works and intermediate booster pump stations in Kovilpatti, the following energy saving measures are recommended for implementation as listed in **Table 10.7**.

Table 10.7: Summary of Recommendation for energy saving

Energy Saving Measures	Annual Energy saving	Annual Cost Saving	Required Investment
	Kwh	*Rs. Lakh*	*Rs. lakh*
Voltage Stabilizers in Booster P.S.	2,46,379.20	8.62	7.50
Vacuum Pumps in B.P.S.	24,380.00	0.85	7.25
Augmentation of Capacitors to existing capacitor bank at Seevalaperi Headworks	42,394.75	1.48	0.16
Grand Total	**3,13,153.95**	**10.95**	**14.91**

Source: Kovilpatti Municipality & Analysis.

302. It can be seen from the above **Table 10.7** that a one-time investment of approximately Rs.14.91 lakhs is expected to result in an Annual Energy Saving of Rs.10.95 lakh per year. Since, this saving will recur every year if the system is operated and maintained through a well planned and implemented O&M schedule.

303. Cost benefit analysis of pumps has been worked out to compare the energy cost of existing pump and energy efficient pump with above recommended modification for a period of 15 years. The net energy saving percentage is more than 10 percent from current level, recommended for undertaking repair and rehabilitation works. The working details are presented in following tables. As per the above recommendations municipality can fetch a minimum of Rs. 9.54 lakh per annum from 2007.

Table 10.8: Comparison of existing pumps with ideal condition

Description	**Unit**	**Value**
Ideal Condition		
Total Capacity of Pump(excl. standby)	HP	435
Power Consumption per HP/hour	KW	0.747
Total Power Consumption	KW/annum	17,65,846
Unit Rate of Power	INR/KW	3.50
Total Energy Charges per annum	INR Lakh	61.80
Current Status		
Total Energy Consumption	Lakh Kwh/Annum	20.79
Total Energy Charges per annum	INR Lakh	72.77
Annual Increment in Energy Cost	%	5
Interest Rate	%	9.50
Continue with the current Pump if net savings is <	%	5.0
Repair the current Pump if net savings is between previous and less than	%	10.0
Replace the current Pump if net savings is >	%	10.0
Age of Pump	Yrs	5

Source: Analysis.

Table 10.9: Estimation of net energy saving in pump house

Year	Capital cost of Pump	O&M New Pump	O&M old pump	Savings in energy cost	Cost of fund	Net savings	Savings
	Rs. Lakh						*Percent*
2007	14.91	61.80	72.77	10.96	1.42	9.54	13%
2008		64.89	76.40	11.51	1.42	10.09	13%
2009		68.14	80.22	12.08	1.42	10.67	13%
2010		71.55	84.23	12.69	1.42	11.27	13%
2011		75.12	88.45	13.32	1.42	11.91	13%
2012		78.88	92.87	13.99	1.42	12.57	14%
2013		82.82	97.51	14.69	1.42	13.27	14%
2014		86.97	102.39	15.42	1.42	14.01	14%
2015		91.31	107.51	16.19	1.42	14.78	14%
2016		95.88	112.88	17.00	1.42	15.59	14%
2017		100.67	118.53	17.85	1.42	16.44	14%
2018		105.71	124.45	18.75	1.42	17.33	14%
2019		110.99	130.68	19.68	1.42	18.27	14%
2020		116.54	137.21	20.67	1.42	19.25	14%
2021		122.37	144.07	21.70	1.42	20.28	14%

Source: Analysis.

304. Unaccounted for water (UFW) is the difference between the volume of water delivered into the distribution system and the water sold/ billed or accounted for by legitimate consumption. UFW includes losses, physical losses and non-physical or commercial losses.

305. Waste is that water which having been obtained from a source and put into a supply and distribution system and into consumers' installation leaks or is allowed to escape or is taken there from for no useful purpose. Leakage is that part of waste that leaks or escapes other than by deliberate or controllable action. Leakage from reservoir, mains, communication pipes and consumers' supply pipes are of major concern for water managers. The above waste results in the reduction in the revenue to the urban local body. Thus the UFW is also refereed to as non-revenue water. In case of Kovilpatti's property tax assessment to water connection is very low coverage (32 %), consequently there are chances of revenue leakage's through unauthorized /illegal connections in the town. Which needs to be regularized, this would generate significant revenue for the Municipality. However, this cannot be quantified accurately in the absence of no of illegal connections in the town and hence municipality should take necessary action towards legalizing the illegal connections in the town.

2. Solid Waste Management

Compare to all sections public health division will maintain maximum number of workers and more number of vehicles. The vehicles will exhibits more operation and maintain cost. With respect to solid waste management, the analysis is focused on comparison of manpower with municipal staff to the private operator.

Staff Reduction and Privatisation. There is 151 permanent staff excluding consolidated pay members is working as sanitary workers. The average salary for each sanitary worker is around Rs. 5,000.00 /-. As per the birth, after the age of 58 years number of workers will be retire from the service is calculated. After 2010 Municipality has to go for 100 Privatisation including door to door collection. Rest of staff has to shift to other sectors or proving training programs in other areas. Saving will be around Rs. 167,651/- per annum after 2010. The saving in SWM is presented in **Table 10.10**.

Table 10.10: Saving in Solid Waste Management Sector towards Privatization

Description		**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Existing no of filled posts (Sanitary workers)	151						
Average Salary	5,000.00						
Total salary per annum	9,060,000.00						
Uniform and stitching allowances per head	700.00						
Amount for foot ware per head	140.00						
Amount for soap per head	60.00						
Total amount per annum	9,060,900.00						
100 % Privatization by the year 2010							
Waste Handled by Municipality	27.30						
Total Expenditure by Municipality	9,060,900.00						
Total Expenditure by Private Contractor	5,280,000.00						
Per tone cost handled by Municipality annum	331,901.10						
Per tone cost handled by Private Contractor annum	164,250.00						
Savings		167,651.10	177,710.16	188,372.77	199,675.14	211,655.65	224,354.99
		2005 to 10	**2010 to 15**	**2015 to 20**	**2020 to 25**	**2025 to 30**	**2030 to 35**
Existing no of filled posts (Sanitary workers) and no of retirements	151	16	17	32	53	19	8

Source: Analysis

3. Street lighting

306. In street lighting sector, there is large scope to minimize the expenditure towards power consumption and operation & maintenance. Related to street lighting the data has been collected as follows:

(i) Number and types of street lighting and its operation and maintenance
(ii) Expenditure towards salaries and Power charges

307. Energy S*avings*. This section reviews the current level of energy consumption, maintenance and establishment charges incurred in street light maintenance. Kovilpatti Municipality maintains 3,019 light fixtures out of which around 94 percent fixtures are tube lights and 6 percent sodium vapour lamps. The average total cost of energy is Rs. 27.76 lakh per annum and average maintenance expenses of street lighting are Rs.4.12 lakh per annum.. The average cost of energy consumption per fixture is Rs. 919 per annum. The average maintenance expenditure per light works out to Rs. 136 per annum. There are three skilled wiremans and three helpers to operate and maintain entire street lighting in the town and all of them are permanent employee of the Municipality.

Table 10.11: Expenditure trend in street lighting

Items	**2000-01**	**2001-02**	**2002-03**	**2003-04**	**Average**
	Rs. Lakh				
Establishment	4.10	4.15	4.30	4.40	4.24
Energy Charges	19.10	18.66	39.93	33.34	27.76
Maintenance Expenses	5.88	7.69	2.44	0.47	4.12
Total	**29.08**	**30.50**	**46.67**	**38.21**	**36.12**

Source: Kovilpatti Municipality & Analysis.

308. Energy savings in street lighting could be achieved through replacement of existing conventional tube lights with energy efficient retrofit tube lights, installing power saver devices and privatizing the operation and maintenance of street lighting. There are 2,835 florescent tube light fixtures installed in Kovilpatti town. The 40 Watt fluorescent tube lights with ballasts will consume an additional 10-13 watts. To reduce the energy consumption, 28 Watt T-5 retrofit tube lights have to be introduced in place of existing conventional tube lights.

309. Based on the best practices followed in other parts of the country, retrofit tube lights are proposed in Kovilpatti. The new tube-lights have a higher luminary rating, longer life span, lower failure rate and perform better under the highly fluctuating voltage that plagues the town's electricity supply. The salient features of retrofit tube lights are presented in the following table. The salient features of retrofit tube lights are presented in the following table.

Table 10.12: Salient features of Retro fit tube lights

Description	Value
Tube type	E+28 W
Power consumption	28 W
Power Factor	0.95
Rated life of tube (burning hours)	18,000
Rated life of electronics (burning hours)	50,000
Stroking Voltage	Less than 120 volts

Source: Analysis.

310. The following table presents the comparison of present conventional florescent tube lights with proposed Retrofit tube lights. The comparison statement is summarized in **Table 10.13**.

Table 10.13: Comparison of conventional tube lights with retrofit lights

Description	40 Watts Tube Light	Retrofit light
Connecting load* (W)	52.5	30
Light output (Lm)	2,450	2,900
Annual energy consumption ** (KWH)	211	120
Energy charges @Rs. 3.50/-	738	422
Life of lamp (Hours)	4,000	18,000

Source: Analysis.

* Including ballast loss of 12.5 W for conventional 40 Watts Tube lights.
** Calculated for 11 hrs daily burning.

311. The present street lighting system in Kovilpatti is challenged with poor lighting levels, inappropriate operation timings, poor quality of power and inefficient lighting devises.

(i) Operator switching streetlights require 1 to 1.5 hrs to operate all the switches in an area, resulting in some places lights are switched on/off almost 1 to1.5 hrs prior and after the required time;
(ii) Lighting levels are higher than required standards;
(iii) During off peak hours (after 11 pm in night) lighting levels increase further due to increase in voltage;
(iv) Lighting devises are not mounted properly, thus unnecessarily distributing light to surrounding areas and providing less light on roads and pathways; and
(v) Selection and mounting of lamps is not done in a scientific manner, considering parameters like land use, type of road and illumination required as per Indian Standard Codes.

312. In order to address some of the above issues in the town, power saver devises have to be installed. The power saver devises save energy, by regulating voltage after peak hours. The built in timer automatically reduces voltage from 240V to 180 V after 10 pm. It also can reduce voltage stepwise up to 110 V in different time slots. This action optimizes the illumination level after peak hours. The programmable timer switch also controls street lighting operating hours as per desired timings. These power savers also act as protection devises, which increase the life of lamps and luminaries.

313. The replacement of existing lights proposed to replace in a phased manner for next two years (2006 & 2007). Separate cash flow for street lighting was prepared to ascertain the savings due to the replacement of new energy efficient lights and installing power saver devices. The cash flows have been worked out considering privatization of streetlights.

314. The basis for preparing cash flows are as follows, no increase in fixtures, annual increment in energy cost at 3 percent, rate of interest at 8.5 percent and net energy savings share (profit share) between contractor and Urban Local Body with a mutually agreed percentage basis. In this case, it was assumed that the cost of savings in energy utilization was distributed between contractor and Urban Local Body at 80 percent and 20 percent respectively. Through street lighting energy consumption Urban Local Body can save a minimum of Rs. 4.55 lakh in 2008, out of which Rs. 0.91 lakh is transferred to municipality as per the above mentioned profit sharing arrangement, rest with private contractor. Further details are presented in the following table. Existing municipal skilled staffs shall be retained for overseeing the private contractors operation and maintenance work and hence no savings are envisaged from staff reduction or redeployment. Assumption for calculating energy savings are presented in **Table 10.14.** The Internal Rate of Return (IRR) for 2012 is more than the discounted rate of 10 percent making the initiative viable.

Table 10.14: Assumption for calculating energy savings

Description	**Unit**	**Value**
No. of Street Lights in the ULB	Nos.	3,019
Total Annual Energy Cost for Street Lighting	INR Lakh	27.76
Energy Cost per Street light/annum	INR	919
Standard Cost as per Case Studies	INR	919
Annual Increment in Energy Cost	%	3
Transfer of Savings to ULB	%	20
Rate of Interest	%	8.50%

Source: Kovilpatti Municipality & Analysis.

Table 10.15: Energy savings in street lighting

Year	Capital Cost	No. of Lights	Actual Energy Cost	Normative Energy Cost	Net Savings	Transfer of Savings to ULB	Net Cash flow
	Rs. Lakh	***Nos.***	*INR Lakh*				
2006	11.48	3,019	28.59	20.01		0.00	-11.48
2007	12.17	3,019	29.45	20.61	4.42	0.88	-7.75
2008		3,019	30.33	21.23	4.55	0.91	4.55
2009		3,019	31.24	21.87	9.37	1.87	9.37
2010		3,019	32.18	22.53	9.65	1.93	9.65
2011		3,019	33.14	23.20	9.94	1.99	9.94
2012	16.29	3,019	34.14	23.90	10.24	2.05	-6.05
2013	17.26	3,019	35.16	24.61	10.55	2.11	-6.72
2014		3,019	36.22	25.35	10.87	2.17	10.87
2015		3,019	37.30	26.11	11.19	2.24	11.19
2016		3,019	38.42	26.90	11.53	2.31	11.53
2017	21.80	3,019	39.58	27.70	11.87	2.37	-9.92
2018	23.10	3,019	40.76	28.53	12.23	2.45	-10.87
2019		3,019	41.99	29.39	12.60	2.52	12.60
2020		3,019	43.25	30.27	12.97	2.59	12.97
						Total	**39.88**
						IRR 12	**13%**
						IRR 15	**20%**
						IRR 20	**22%**

Source: Analysis.

4. Assets

315. Details of remunerative assets owned by Kovilpatti municipality are presented in **Table 10.16**. Current year demands of remunerative assets were collected from municipality and the same were compared with the market rental value. From the following table it is apparent that the municipal remunerative assets are under valued. There is a wide scope of revenue maximization through lease and rentals from remunerative assets of Kovilpatti Municipality. The ULB should follow the market value as minimum for lease and rentals of remunerative assets. Through this process municipality can fetch additional revenue to the tune around Rs. 58 lakh per annum. The rentals and lease amounts have to be revised every 3 year once to a minimum of 15 percent from FY 2006-07. The collection performance of leases and rentals are inconsistent over the assessment period and hence collection efficiency also to be improved.

Table 10.16: Additional Revenue Estimation from Remunerative Assets

Name of the Asset	**Ward No**	**Area**	**Municipal rent per shop per month**	**Market value**	**Additional Revenue**
		Sq.ft	*Rs./Year*	*Rs./Year*	*Rs./Year*
Cross street between Krishnan koil streets	4	296	22,200	26,640	53,280
Inside road of daily market	4	91	6,825	8,190	16,380
Market road	4	91	6,825	8,190	16,380
Near Railway track	4	91	6,825	8,190	16,380
Pannaithottam cross lane	4	28	2,100	2,520	5,040
Pannaithottam cross street east to west	4	564	42,300	50,760	101,520
Pannaithottam cross street lane north to south	4	76	5,700	6,840	13,680
Pannaithottam Road	4	142	10,650	12,780	25,560
Pannaithottam Road market link Road	4	141	10,575	12,690	25,380
Pannithottam cross street near railway line north to south	4	453	33,975	40,770	81,540
Ramalingam Street	4	262	19,650	23,580	47,160
Saramariamman kovil street lane	4	299	22,425	26,910	53,820
Saramariamman kovil cross street	4	205	15,375	18,450	36,900
Saramariamman kovil street	4	38.87	2,915	3,498	6,996
Ramasamy Park	26	22.95	2,800	3,000	2,400
Ramasamy Park	26	24	2,800	3,000	2,400
Ramasamy Park	26	23.2	2,800	3,000	2,400
Ramasamy Park West	26	25	2,800	3,000	2,400
Ramasamy Park West	26	24	2,800	3,000	2,400
Ramasamy Park West	26	24	2,800	3,000	2,400
Soundarapandian west street	15	24	900	1,000	1,200
Busstand	24	320	47,300	49,500	26,400
Chokkanoorani	21	223	8,400	10,500	25,200
Pudhu Road	35	137	6,000	7,500	18,000
Additional resource mobilization per annum					**585,216**

Source: Analysis.

C. Additional Resource Mobilization

1. Parking Fees

316. Land-use and economic activity drives the parking demand in Kovilpatti. Town attracts two-wheeler traffic, which puts up specific parking requirement. Private vehicles can be seen parked haphazardly along the roadside in the premises of Old Bus stand, New Bus stand and railway station areas. Based on the field visit three locations were identified for on street parking of two wheelers. For estimating the parking fee, it was assumed that 40 percent of the total vehicle will be parked less than or equal to one hour and 60 percent of the total vehicle will be parked more than one hour. Vehicles that are parked more than an hour can be charged four rupees per vehicle and for other vehicles two rupees can be charged. An annual vehicle increment of two percent has been assumed to calculate the future revenue generation. The estimated parking fee is presented in **Table 10.17**.

Table 10.17: Estimated Parking Fee

Year	Old Bus stand	New Bus stand	Near Railway Station	Total
Approximate No of veh./day	200	100	100	400
	Rs. Lakh			
2007	3.07	1.17	1.17	**5.40**
2008	3.13	1.19	1.19	**5.51**
2009	3.19	1.22	1.22	**5.62**
2010	3.25	1.24	1.24	**5.73**
2011	3.32	1.26	1.26	**5.85**
2012	3.39	1.29	1.29	**5.96**
2013	3.45	1.32	1.32	**6.08**
2014	3.52	1.34	1.34	**6.21**
2015	3.59	1.37	1.37	**6.33**
2016	3.66	1.40	1.40	**6.46**
2017	3.74	1.42	1.42	**6.56**
2018	3.81	1.45	1.45	**6.72**
2019	3.89	1.48	1.48	**6.85**
2020	3.97	1.51	1.51	**6.99**

Source: Analysis.

2. Advertisement Fee

317. Lease amount fixed by the council for advertising on lamp posts and hoardings erected within the Municipal limit are accounted in advertisement fee. In case of Kovilpatti Municipality average revenue generated through the advertisement fee is very low (Rs. 16,600). Hence, there is a scope to increase the advertisement fee by extending the coverage net. The following table (**Table 10.18**) presents detailed estimation of advertisement fee for Kovilpatti municipality. The total estimated advertisement fee is Rs. 3.62 lakh per annum with an annual increment of 2 percent on total advertisement fee adopted to forecast the future revenue. This minimum increase is assumed to

accommodate increase in no of advertisement hoardings/ boards, which are going come in future.

3. Conservancy Fee

318. Conservancy establishment cost is work out to 62 percent of total establishment cost of Kovilpatti municipality, to meet at least a part of solid waste collection expenses conservancy fee is introduced. It is proposed to cover at least 70 percent of the residential properties and 100 percent of non domestic properties like hotels, lodges, commercial establishments and etc, in the town. For residential, properties Rs. 15 per month and non domestic properties Rs. 20 per month can be charged with a upward revision of 15 percent every 3 years once from 2006-07 is proposed. **Table 10.19** presents estimated additional revenue mobilization through conservancy fee for Kovilpatti municipality.

4. Summary

319. Summary of additional revenue mobilization through expenditure control measures and additional revenue generations are presented in **Table 10.20**.

Table 10.18: Estimation of Advertisement fee

Description	Unit	Major Arterial Roads	Other Roads	Markets/ Bus stands	Street Light poles
Average Size of Hoardings	Sq.m	10.00	5.00	10.00	
Average Rate/sq.m/half yearly	Rupees	75.00	50.00	100.00	50.00
Total Length of Road	Km	67.76			
Length of Road	%	20%	50%	-	-
Total Length of Road	Km	13.55	33.88	-	-
Spacing of Hoardings/Boards per km	Nos	5	5	-	-
Total no of Hoardings/Boards	Nos	68	1690	50.00	1,512
Total Revenue per annum	**Rs. Lakh**	**1.02**	**0.85**	**1.00**	**0.76**

Source: Analysis.

Table 10.19: Estimation of Conservancy Fee

Description	Coverage	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Domestic (No)	70%	22,206	22,872	23,558	24,265	24,993	25,618	26,258	26,915	27,588	28,278	28,843
Non Domestic (No)	100%	2,820	2,904	2,992	3,081	3,174	3,253	3,334	3,418	3,503	3,591	3,663
Total Revenue (Rs. Lakh)		*37.39*	*43.19*	*46.82*	*62.52*	*66.62*	*69.45*	*85.98*	*90.19*	*93.48*	*111.63*	*116.13*

Source: Analysis.

Table 10.20: Estimated additional revenue from non traditional methods

	2007	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Energy savings – WS	9.54	10.09	10.67	11.27	11.91	12.57	13.27	14.01	14.78	15.59	16.44	17.33
Energy Saving – Street lights	0.88	0.91	1.87	1.93	1.99	2.05	2.11	2.17	2.24	2.31	2.37	2.45
SWM - Privatization	-	-	-	-	1.7	1.8	1.9	2.0	2.1	2.2	2.4	2.5
Leases/Rentals from Assets	5.85	5.85	6.73	6.73	6.73	7.74	7.74	7.74	8.90	8.90	8.90	10.24
Parking Fee	5.4	5.5	5.6	5.7	5.8	6.0	6.1	6.2	6.3	6.5	6.6	6.7
Advertisement Fee	3.6	3.7	3.8	3.8	3.9	4.0	4.1	4.2	4.2	4.3	4.4	4.5
Conservancy Fee	*37.39*	*43.19*	*46.82*	*62.52*	*66.62*	*69.45*	*85.98*	*90.19*	*93.48*	*111.63*	*116.13*	*119.58*
Total Revenue	**62.66**	**69.24**	**75.49**	**91.95**	**98.65**	**103.59**	**121.18**	**126.51**	**132.02**	**151.48**	**157.22**	**163.32**

Source: Analysis.

XI. CAPITAL INVESTMENT PLAN & FINANCIAL SUSTAINABILITY

A. Capital Investment Plan

Water Supply

357. *Water Supply*. Under this sector Rs. 382 lakh identified for all component, which include provision of source development, improvements to feeder mains and modification of existing booster pumps at Ramasamy park. Construction of three OHTs. Rehabilitation of pumps at intake works and clear water pumps at WTP and proposed modifications as per energy audit, provision of additional distribution network to uncovered areas and rehabilitation of existing distribution network at certain location. The investment of lake rejuvenation components also included in water supply sector. The capital costs estimated for the proposed interventions are to the tune of Rs. 454.32 lakh. This is worked out based on the base costs estimated in 2005.

358. The CIP for the Water supply sector is based on the requirements and demand for the year 2026. The priority is given to the source development, source improvement and rehabilitation of pumps, feeder main, and extention of distribution network. However, the detailed project report is available for water supply sector so that the project will be taken up by 2006 financial year. The desilting of nallahs and lakes are planned to be taken up in 2006-07. The phasing of the investment is presented in the **Table 11.1.**

Table 11.1: Investment Phasing for the Water Supply Sector

Component	**2006-07**	**2007-08**	**2008-09**	**2009-10**	**2010-11**
	Rs. Lakh				
Proposed Improvement Based on Energy Audit			20.58		
Proposed improvements to feeder mains & Modification of existing booster Pumps at Ramasamy park	88.00		13.82		
Proposed OHTs at Velayudhapuram, Sastri nagar & Elayarasanenthal Road	-		38.77		
Rehabilitation of pumps at in take works and clear water pumps at WTP & proposed modifications per energy audit	21.47		-		
Proposed improvements to distribution mains	-	100.00	14.22		
Dedicated feeder main to all booster pump stations	-	-	85.57		
Tanks/ Lakes conservation	-	40.00	-		
Desilting & Strengthening of Primary Drains	31.88	-	-		
Total	**141.35**	**140**	**172.96**		

Source: Analysis

Sewerage and Sanitation

359. An investment of Rs. 2,195 lakhs (base cost) is proposed for provision of under ground drainage system. Period of implementation for UGD is from 2007-2009 with around 60 percent of total investment estimated at Rs. 1,318 lakh proposed for core area and treatment plant. The investment proposed till year 2007-09 is Rs. 63.65 lakh for 5 ISP complexes to be constructed during the year 2007-09. The CIP is presented in **Table 11.2.**

Table 11.2: Investment Phasing for the Sewerage and Sanitation

Component	**2006-07**	**2007-08**	**2008-09**	**2009-10**	**2010-11**
	Rs. Lakh				
Under Ground Drainage					
UGD Network		600.00	659.00		
Public Convenience in Slums		63.55			
Total		**663.55**	**659.00**		
	2011-12	**2012-13**	**2013-14**	**2014-15**	**2015-16**
Under Ground Drainage					
UGD Network			439.00		
STP & Land & Electrical equipment		439.00			
Total		**439.00**	**439.00**		

Source: Analysis

Roads & Traffic and Transportation

360. Rs. 493 lakh sustainable investment is proposed for up-gradation of existing roads and new formation. Road widening, strengthening and junction improvements will be taken up by 2009 – 11. Around Rs. 383.5 lakh is identified towards earthen to black top roads in 2009 – 11. The new formation of black top roads will be taken up by 2013 - 16. The details of investment phasing is summarised in **Table 11.3.**

Table 11.3: Investment Phasing for the Road Sector

Component	**2006-07**	**2007-08**	**2008-09**	**2009-10**	**2010-11**
	Rs. Lakh				
Up-gradation					
WBM to Black Top				0.45	
Earthen to Black Top				1.82	
Relaying of Black top				8.33	8.13
New Formation					
Black Top					112.00
Traffic and Transportation					
Widening/ Strengthening				59.5	
Junction Improvement				50.0	
Total				**120.1**	**120.13**
	2011-12	**2012-13**	**2013-14**	**2014-15**	**2015-16**
New Formation					
Black Top			84.00	84.00	84.00
Total			**84.00**	**84.00**	**84.00**

Source: Analysis

Storm Water Drainage & Natural Drains

361. The investments are in line with up-gradation and formation of new drains. The estimated cost for extension and augmentation of storm water drainage is about Rs. 731 lakh. Up-gradation of drains will be taken up by 2006 – 10 and the new formation will be taken up by 2012 – 16. The investment phasing for storm water drains is presented in **Table 11.4.**

Table 11.4: Investment Phasing for Storm Water Drains

Component	**2006-07**	**2007-08**	**2008-09**	**2009-10**	**2010-11**
	Rs. Lakh				
Up-gradation of Kutcha to Pucca					
Kutcha to Pucca Open	73.00		73.00		
Kutcha to Pucca Closed		73.00		110.00	
Total	**73.00**	**73.00**	**73.00**	**110.00**	
	2011-12	**2012-13**	**2013-14**	**2014-15**	**2015-16**
Up-gradation of Kutcha to Pucca					
New Pucca Open Drains		73.00	110.00		110.00
New Pucca Closed Drains				110.00	
Total		**73.00**	**110.00**	**110.00**	**110.00**

Source: Analysis

Solid Waste Management

362. The total investment identified for this sector is Rs. 294 lakh. The requirements at the disposal site are planned for the horizon year 2026. In addition, the other components of primary and secondary collection are planned for the immediate requirements. Rs. 53.82 lakh is proposed for augmentation of the primary and secondary collection system in the town. Rs.240.58 lakh is proposed for investment on creating infrastructure for landfill, land acquisition and composting facilities. 100 percent of the total identified investment i.e., the landfill development and compost development are the components identified in 2006-10. The Capital Improvement Program for solid waste management sector is presented in **Table 11.5.**

Table 11.5: Investment Phasing for the Solid Waste Management Sector

Component	**2006-07**	**2007-08**	**2008-09**	**2009-10**	**2010-11**
	Rs. Lakh				
Hand Carts	7.28				
Push Carts (Street Sweeping)	9.94				
Dumper bins required (7 cum)		6.60			
Dumper Placer		30.00			
Cost of Development of Compost	35.00				
Cost of Development for land fill	35.78	51.4	59.00	25.74	
Land acquisition				33.26	
Total	**88.00**	**88.0**	**59.00**	**59.00**	

Source: Analysis

Street Lighting

363. Rs. 117.2 lakh is identified for the provision of additional streetlights in Kovilpatti. Of this, Rs. 52 lakh is proposed for the plan period 2006-10. Of the total identified investment, Rs. 7 lakh is proposed for provision of High Power, Power Saver Switches and High Mast lamps during 2006-07 and 2007-16 investment identified for the Retrofit bulbs instead of tube lights. The Capital Improvement Program for Street lighting is presented in **Table 11.6.**

Table 11.6: Investment Phasing for the Street Lighting Sector

Component	**2006-07**	**2007-08**	**2008-09**	**2009-10**	**2010-11**
	Rs. Lakh				
Replacement of Tube Lights With Retro Fit			6.64	14.00	
High Power	7.00	28.00	7.36		
Power Saver Switches	0.12				
High Mast Lamps	6.60				
Total	**14.00**	**28.00**	**14.00**	**14.00**	
	2011-12	**2012-13**	**2013-14**	**2014-15**	**2015-16**
Replacement of Tube Lights With Retro Fit	14.00	14.00	14.00	14.00	14.00
Total	**14.00**	**14.00**	**14.00**	**14.00**	**14.00**

Source: Analysis

Other Identified Projects

364. A total investment of Rs. 235 lakh is identified for funding various other projects as identified by the municipality. These investments are towards construction of bus stand, construction of parks and play grounds and improvement to the existing markets.

365. During the present plan period of 2006-11, 50 percent of this total identified investment is proposed for funding. For the construction of parks and playgrounds, it is proposed that the municipality will contribute 100 percent and maintained by the private participation. The proposed Capital Improvement Program other municipal investments are presented in **Table 11.7.**

Table 11.7: Investment Phasing for the Commercial Complexes, Parks etc.

Component	**2006-07**	**2007-08**	**2008-09**	**2009-10**	**2010-11**
	Rs. Lakh				
Construction of Bus Stand		32.00	47.00	47.00	47.00
Parks and Play Grounds	45.00	15.00			
Markets- Local Body	15.00				
Total	**47.00**	**47.00**	**47.00**	**47.00**	**47.00**

Source: Analysis

Summary

366. The total estimated base cost of projects for all the sector is Rs. 4,558 lakhs. The summary of sustainable investments is presented in **Table 11.8.**

Table 11.8: Component wise Sustainable Investments

Sector	**Capital Expenditure**
Municipal Infrastructure	*Rs. Lakh*
Water Supply & Rejuvenation of Lakes	469.00
Sewerage & Sanitation including slums	2,195.00
Roads & Traffic and Transportation	493.00
Storm Water Drains & Desilting of Natural Drains	731.00
Solid Waste Management	294.00
Street Lighting	141.00
Others	235.00
Sub-total (Municipal Infrastructure)	**4,558.00**
Non-Municipal Infrastructure	
Truck Terminal	800.00
Total	**800.00**

Source: Analysis

B. Financial Sustainability

1. Financial Sustainability

342. *Sustainability Analysis*. The sustainability analysis assumes that the municipality will carry out reforms indicated as assumptions for financial projections. A financial and operating plan (FOP) prepared for Kovilpatti Municipality then evaluates the municipal fund status for the following scenarios:

(i) Base Case Scenario. In the base case scenario, the finances of the ULB are forecast in a “do nothing” or “without project” scenario. Additional resources mobilized through various initiatives like expenditure control through energy savings, privatization etc. and further resources mobilized through introducing conservancy fee, parking fee, remunerative assets lease/ rental value appreciation and extending advertisement fee coverage are loaded on to the FOP. The revenue surplus thus generated indicates the ULB’s capacity to service capital expenditure.

(ii) Full Project Scenario. The Full project investment scenario is based on investments identified for Kovilpatti municipality and the requirement for upgrading the town’s infrastructure is estimated and phased based on the construction activity and investment priority. Implications of this investment in terms of external borrowings required, resultant debt service commitment, and additional operation and maintenance expenditure are worked out to ascertain sub-project cash flows. Revenue surpluses from the Base Case Scenario are applied to sub-project cash flows emerging from full project investments – the municipal fund net surpluses indicates the ULB’s ability to sustain full investments. FY 2020 is assumed as the reference year to determine the net surpluses and whether the Municipality maintains a debt/revenue surplus ratio as an indication of the ULB’s ability to sustain investments.

(iii) Sustainable Investment Scenario. The sustainable investment scenario is worked

out when the full project investment scenario indicates inability of the municipality to sustain the full identified investment. In this case, the identified investment is sized down to immediate felt need for the municipality to sustain on its own. Implications of this investment in terms of external borrowings required, resultant debt service commitment, and additional operation and maintenance expenditure are worked out to ascertain sub-project cash flows. Revenue surpluses from the Base Case Scenario are applied to sub-project cash flows emerging from sustainable investments – the municipal fund net surpluses indicates the ULB's ability to sustain the investments. FY 2020 is assumed as the reference year to determine the net surpluses and whether the Municipality maintains a debt/revenue surplus ratio as an indication of the ULB's ability to sustain investments. The outcome of this scenario will give an indication of the actual level of investment sustainable by the municipality without any additional external support.

2. Basic Assumptions for Projections

343. The FOP is based on a whole range of assumptions related to income and expenditure. These are critical to ascertain the investment sustenance and would also provide a tool to test certain specific policy decisions regarding revenue and expenditure drivers on the overall municipal fiscal situation. This section elucidates the key assumption adopted for the three FOP scenarios.

344. In order to determine the financial viability of the project, two instruments were used – the Modified Internal Rate of Return (MIRR) and the Financial and Operating Plan (FOP). The MIRR determines the rate of return based on surplus cash flows from project account being invested at market rates. The FOP is a cash flow stream of the ULB based on the regular municipal revenues, expenditures, and applicability of surplus funds to support project sustainability. The FOP horizon is determined to assess the impact of full debt servicing liability resulting from the borrowings to meet the identified interventions. The proposed capital investments are phased over ten years investment from FY 2006-07 to 2015-16 implying that the last loan draw down would occur in FY 2020-21. Considering a five-year moratorium period, the debt servicing commitment will commence in the FY 2011-12 for the first phase (1st five year) and 2016-17 for the second phase (2^{nd} five year) of investment.

345. *Revenue Income*. The assumptions for forecasting revenue income comprise:

(i) Taxes and charges. In cases like property related taxes, water charges and sewerage charges, where the base and basis of revenue realization are known and predictable, the likely revenue is forecast based on certain assumptions regarding growth in number of assessments, revision in ARV (in case of property-related taxes), revision in charges/tariffs and improvement in collection efficiencies. The assumptions with regards basis for forecasting revenue income of taxes and charges are the same for base case and investments scenarios (full project as well as sustainable project scenarios). However, the tax base (number of connections) varies for the base, full project and sustainable investment scenarios, assuming that the new investments in water supply and sewerage schemes will result in increased coverage of the infrastructure systems. In the sustainable investment scenario, the increase in tax base is scaled down pro rata with the scaled down (sustainable)

investment. **Table 11.9, Table 11.10, Table 11.11 & Table 11.12** lists the assumptions adopted with regards forecasting income from property tax, water charges, drainage charges and conservancy fee respectively under the three FOP scenarios. The investment scenarios include both full project and sustainable investment scenarios.

Table 11.9: Key assumptions for forecasting income from Property Tax

Description	Current Level	Base Case Scenario	Investment Scenarios
Annual growth in number of assessments (%)	3.53	3.00	3.00
Average ARV per Property (Rs. Per Annum)	2,051	2,051	2,051
Tax Rate (% of ARV)	29%	29%	29%
Periodic increase in ARV (%)			
2006-07	-	30.00	30.00
2011-12	-	30.00	30.00
2016-17	-	30.00	30.00
Collection Performance (% of Demand)			
Arrears	30.00	50.00	50.00
Current	79.00	80.00	80.00

Source: Analysis

Table 11.10: Key assumptions for forecasting income from Water Charges

Description	Current Level	Base Case Scenario	Investment Scenarios
% water connections to property tax assessments	32.36%	32.36%	80%
Monthly water charge per connection (Rs.)			
Domestic	31.00	31.00	31.00
Non Domestic	61.00	61.00	61.00
Industrial	81.00	81.00	81.00
Periodic revision in water charges			
2006-07	-	15.00	15.00
2009-10	-	15.00	15.00
2011-12	-	15.00	15.00
2015-16	-	15.00	15.00
2018-19	-	15.00	15.00
Collection Performance (% of Demand)			
Arrears	11%	50%	50%
Current	72%	80%	80%
One time connection fee (Rs.)			
Domestic	4,000	4,000	4,000
Non Domestic	5,000	5,000	5,000
Industrial	5,000	5,000	5,000
Periodic revision of one time connection fee	-	20 % - 3 yrs once	20 % - 3 yrs once

Source: Analysis

Table 11.11: Key assumptions for forecasting income from Sewerage Charges

Description	Current Level	Base Case Scenario	Investment Scenarios
% Sewerage connections to PT assessments	-	-	80.00
Monthly sewerage charge per connection (Rs.)			
Domestic	-	-	50.00
Non Domestic	-	-	100.00
Industrial	-	-	200.00
Periodic revision in sewerage charges			
2006-07	-	-	15.00
2009-10	-	-	15.00
2011-12	-	-	15.00
2015-16	-	-	15.00
2018-19	-	-	15.00
Collection Performance (% of Demand)			
Arrears	-	-	50.00
Current	-	-	80.00
One time connection fee (Rs.)			
Domestic	-	-	5,000
Non Domestic	-	-	8,000
Industrial	-	-	10,000
Periodic revision of one time connection fee	-	-	20 % - 3 yrs once

Source: Analysis

Table 11.12: Key assumptions for forecasting income from Solid Waste conservancy fee

Description	Current Level	Base Case Scenario	Investment Scenarios
% Coverage to PT assessments			
Domestic	-	-	70.00
Non Domestic	-	-	100.00
Monthly conservancy fee per PT assessment (Rs.)			
Domestic	-	-	10.00
Non Domestic	-	-	15.00
Periodic revision in conservancy fee			
2006-07	-	-	15.00
2009-10	-	-	15.00
2011-12	-	-	15.00
2015-16	-	-	15.00
2018-19	-	-	15.00
Collection Performance (% of Demand)			
Arrears	-	-	50.00
Current	-	-	80.00

Source: Analysis

(ii) Other revenue income from own sources. All revenue income from own sources

other than property-related taxes, and water and sewerage charges, where the base and basis is not clearly defined, are forecast based on the observed trend during the assessment period (2000-01 to 2003-04), subject to minimum and maximum annual growth rates of 5 percent and 20 percent, respectively. Though the income from the municipal properties and markets past trend witnessed a high growth trend, on a conservative side 20 percent has been adopted.

Table 11.13: Key growth rate assumptions for income from other own sources

Description	Current Level	Assumption
Profession Tax	5.60 %	5.00 %
Other taxes & Charges	(4.90%)	5.00 %
Income from Municipal Properties and Markets	20.18 %	15.00 %
License Income (Trade, etc.)	1.98%	5.00 %
Income from Special Services	--	5.00 %
Income from Sale Proceeds	(100.00 %)	5.00 %
Income from Fees and Fines	4.39 %	5.00 %
Income from Interest on Deposits	139.12 %	6.00 %
Income from Investments(Excl. Interest)	--	5.00 %
Miscellaneous Income	47.05 %	5.00 %

Source: Analysis

(iii) Assigned Revenue. Items of assigned revenue such as surcharge on stamp duty, entertainment tax share, etc. are forecast based on the observed trend during the assessment period (2001 to 2003-04), subject to minimum and maximum annual growth rates of 5 percent and 15 percent, respectively. Entertainment tax observed trend during the assessment period was negative growth rate, which attributes to inconsistent transfer of ULB share during the review period. Hence, a nominal growth rate of 5 percent assumed to forecast the revenue. In case of surcharge on stamp duty witnessed a negative growth rate of 20.65 percent during the review period, which is very low. This low growth trend attributed to uneven transfers of stamp duty to municipality. Considering high property value appreciation in the town a maximum of 15 percent has been adopted to forecast the revenue.

Table 11.14: Key growth rate assumptions for income from assigned sources

Description	Current Level	Assumption
Entertainment Tax	(47.20 %)	5.00 %
Surcharge on Stamp Duty	(20.65%)	15.00 %
Other Transfers	--	5.00 %
Total- Assigned Revenue	**30.84 %**	

Source: Analysis

(iv) Grants and Contributions. Revenue income in the form of grants and contributions are also forecast based on the observed trend during the review period (2000 - 01 to 2003-04), subject to minimum and maximum annual growth rates of 5 percent and 15 percent respectively. Although SFC devolution observed trend was negative, due to inconsistent transfer of grant to ULB. Considering the states tax revenue growth trend forecast, population growth trend and reforms measures initiated by the municipality will fetch more devolution fund. In this perspective a maximum of 15 percent growth per annum adopted.

Table 11.15: Key growth rate assumptions for income from grants & contributions

Description	Current Level	Assumption
State Finance Commission Grant	79.67 %	15.00 %
Other Grants	(100.00 %)	5.00 %
Total- Grants & Contribution	**79.67 %**	

Source: Analysis

(v) Additional Revenue Income due to Sub-Projects. The sub-projects – in case of water and sewerage projects – are expected to fetch additional revenue by way of increase in number of assessments and levy of user charges (in cases where a new sewerage system is proposed). The sewerage charge is adopted as per **Table 11.11** starting from 2007-08 and a revision of 15 percent is proposed every three years, beginning from 2007-08. The additional revenue income due to water supply and sewerage sub-projects is computed based on the proposed number of new connections, proposed tariffs and assumed collection performance. In addition solid waste conservancy fee also planned to levy on property assessments.

346. *Revenue Expenditure*. Key assumptions for forecasting revenue expenditure comprise:

(i) Expenditure on Municipal Services. Expenditure on municipal services including general administration, revenue collection and service delivery are forecast based on the observed trend during the assessment period (2000-01 to 2003-04), subject to minimum and maximum annual growth rates of 5 percent and 20 percent, respectively.

Table 11.16: Key growth rate assumptions for forecasting revenue expenditure

Description	Current Level	Assumption
General Administration & revenue Collection		
Staff Salary and Employee Related Expenses	5.04 %	8.00%
Allowances to Elected Representatives	0.34 %	5.00%
General Expenses	(9.07 %)	5.00%
Pensions and Gratuities	(13.68 %)	5.00%
Education - Staff Salary	--	5.00%
Miscellaneous	45.31 %	15.00%
Total-General Admin. & Revenue Collection	**3.44 %**	
Municipal Services excl. W&D		
General Expenses	32.19 %	15.00%
Public Works and Roads	105.16 %	20.00%
Public Health and Conservancy	105.43 %	20.00%
Street Lighting (including Electricity Charges)	10.62 %	10.00%
Education	(87.09 %)	5.00%
Vehicle and Equipment Maintenance	0.81 %	5.00%
Miscellaneous	(34.65 %)	5.00%
Total- Municipal Services excl. W&D	**32.45 %**	

Source: Analysis

Table 11.17: Key growth rate assumptions for forecasting W S revenue expenditure

Description	Current Level	Assumption
Staff Salary & Employee Related Expenses	201.09 %	8.00%
Administration Expenses	--	5.00%
Equipment Maintenance & Repairs	547.00 %	15.00%
Board Payment	--	5.00%
Electricity Charges	3.67 %	10.00%
Vehicle Maintenance & Repairs	53.65 %	15.00%
Miscellaneous	548.10 %	15.00%
Total- Water Supply & Drainage	**32.67 %**	

Source: Analysis

(ii) Outstanding Non-debt liabilities. The outstanding non-debt liabilities like payments due to employees, TNEB, TWAD, State Government cess, etc. are assumed to be cleared in equal installments over a 5-year period from 2006-07 to 2010-11. Wherever data was provided by the ULB, it was considered for preparing the FOP.

(iii) Outstanding Debt Liabilities. The outstanding debt liabilities are proposed for clearance over a 10-year period beginning 2006-07 to 2016-17 with the furnished interest rate adopted otherwise at a constant interest of 9.50 percent per annum was assumed.

(iv) Additional O & M Expenditure due to Sub-Projects. While each sector identifies the O & M costs applicable for asset maintenance (manpower, consumables, power charges, etc.), a proportion of the capital cost was derived for projections. **Table 11.18** presents the assumptions regarding O & M expenditure on new assets.

Table 11.18: Assumptions for O & M Expenditure

Sector	As % of Capital Cost
Water Supply	6.00
Sewerage & Sanitation	4.00
Roads and Traffic Management	3.00
Storm Water Drainage	2.00
Solid Waste Management	10.00
Street Lighting	10.00
Slum Up gradation	1.00
Others	2.00

Source: Analysis

(v) Additional Debt Servicing Expenditure due to Sustainable Investment. The loans for the sustainable investments are assumed to spread over 20 years, carrying an interest burden as indicated in **Table 11.19**, with a five year moratorium on interest and principal repayment – interest during the moratorium period being capitalized. Considering a five-year loan draw down schedule (2006-07 to 2010-11) and a 20-year tenor, debt servicing will commence from 2011-12 for a period of 15 years. According to the project implementation schedule, the loan drawn and repayment schedule will differ.

Table 11.19: Proposed Financing Pattern

Infrastructure Type	Loan	Grant	ULB + Consumer	Interest Rate
	Percentage			
Water Supply	50	30	20	8.50
Sewerage & Sanitation	50	30	20	8.50
Roads and Traffic Management	60	30	10	8.50
Storm Water Drainage	60	30	10	8.50
Solid Waste Management	60	30	10	8.50
Street Lighting	60	30	10	8.50
Slum Upgradation	60	30	10	8.50
Others	10	10	10	8.50

347. *Capital Account*. In case of capital account, only regular capital grant expected during the forecast period based on past trend are considered in the base case scenario, as this scenario is aimed at ascertaining the ULB's capacity to generate internal resources that would be leveraged to undertake identified sub-projects. In the identified investment and sustainable investment scenarios, sub-project cash flows are loaded onto the FOP and their impact on municipal finances in corresponding scenarios are tested. Key assumptions regarding capital account are investment phasing and project financing/funding structures.

348. *Capital Expenditure*. The estimated expenditure for implementing sub-projects is phased over a ten-year period beginning 2006-07. Based on the above phasing the actual investment requirement over the ten-year period is ascertained adopting a physical contingency of seven percent and a price contingency of six percent per annum. Following tables presents the base full project cost and implementation schedule.

Table 11.20: Summary of estimated investment requirement and phasing schedule

Sector	**Total Investment**	**Investment Phasing (%)**									
	Rs. Lakh	*2006-07*	*2007-08*	*2008-09*	*2009-10*	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*2014-15*	*2015-16*
Municipal Infrastructure											
Water Supply	469.22	30%	30%	40%	0%	0%	0%	0%	0%	0%	0%
Sewerage & Sanitation	2,195.36	0%	30%	30%	0%	0%	0%	20%	20%	0%	0%
Roads	600.98	0%	0%	0%	20%	20%	0%	0%	20%	20%	20%
Storm Water Drains	1,461.70	10%	10%	10%	15%	0%	0%	10%	15%	15%	15%
Solid Waste Mgmt	294.39	30%	30%	20%	20%	0%	0%	0%	0%	0%	0%
Street Lighting	140.86	10%	20%	10%	10%	0%	10%	10%	10%	10%	10%
Others	470.00	20%	20%	20%	20%	20%	0%	0%	0%	0%	0%
Sub Total – ULB Investment	***5,632.51***										
Other Agency Infrastructures											
Traffic Management – Other agency investment	909.50	30%	30%	40%	-	-	-	-	-	-	-
Sub Total –Other Agency Investment	***909.50***										
Grand Total Investment	**6,542.01**										

Source: Analysis.

Table 11.21: Summary of phased investment in full project investment scenario

Sector	**Total Investment**	**Investment Phasing – Rs. Lakh at Current Price**									
	Rs. Lakh	*2006-07*	*2007-08*	*2008-09*	*2009-10*	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*2014-15*	*2015-16*
Municipal Infrastructure											
Water Supply	469.22	141	141	188	-	-	-	-	-	-	-
Sewerage & Sanitation	2,195.36	-	659	659	-	-	-	439	439	-	-
Roads	600.98	-	0	0	120	120	-	-	120	120	120
Storm Water Drains	1,461.70	146	146	146	219	-	-	146	219	219	219
Solid Waste Mgmt	294.39	88	88	59	59	-	-	-	-	-	-
Street Lighting	140.86	14	28	14	14	-	14	14	14	14	14
Others	470.00	94	94	94	94	94	-	-	-	-	-
Sub Total – ULB Investment	***5,632.51***	***483***	***1156***	***1,160***	***506***	***214***	***14***	***599***	***793***	***354***	***354***
Other Agency Infrastructures											
Traffic Management – Other agency investment	909.50	273	273	363	-	-	-	-	-	-	-
Sub Total –Other Agency Investment	***909.50***	***273***	***273***	***363***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
Grand Total Investment	**6,542.01**	**756**	**1,549**	**1,643**	**386**	**94**	**12**	**597**	**790**	**351**	**351**

349. *Capital Income*. Capital income is forecast based on actual requirement to meet proposed capital expenditure.

Table 11.22: Financing pattern for proposed projects

Sl. No	Sector	Government Grant	Financial Institution Loan	ULB Share	Consumer Contribution	Other Department
		% Share				
	Municipal Infrastructures					
1	Water Supply	30.00	50.00	10.00	10.00	-
2	Sewerage & Sanitation	30.00	50.00	10.00	10.00	-
3	Roads and Traffic Management	30.00	60.00	10.00	-	-
4	Storm Water Drainage	30.00	60.00	10.00	-	-
5	Solid Waste Management	30.00	60.00	10.00	-	-
6	Street Lighting	30.00	60.00	10.00	-	-
7	Slum Upgradation	30.00	60.00	10.00	-	-
8	Others	10.00	80.00	10.00	-	-
	Other Agencies owned Infrastructures					
9	Traffic & Transportation	-	-	-	-	100

Table 11.23: One-time charges for water & sewerage connections

Sl.No	Description	Water Supply	Sewerage
1	Domestic	4,000	5,000
2	Non Domestic	5,000	8,000
3	Industrial	5,000	10,000

350. In summary, the following key assumptions were made while preparing the cash flows:

(i) Revenue Income.

a. *Property Tax*: Projected based on ARV per property; number of assessments to grow at a nominal 2.25 percent per annum; ARV for all properties revised once in 5 years beginning 2006-07 at 30 percent; and collection performance assumed at 50 percent against arrears demand and 80 percent against current demand.

b. *Water Charges*: At a nominal 3 percent per annum (proportionate to property tax assessment growth rate) regular connections are envisaged in the base case scenario and increase in water connections is a result of the availability of additional water for distribution – it is assumed that 80 percent of the property tax connections would have water connections by FY 2013; the current rate of water charge is maintained till 2005-06, and from 2006-07 a 15 percent increase is assumed every 3 years; collection

performance is assumed at 50 percent against arrears demand and 80 percent against current demand; and new (one-time) connection charges are collected as per the current rate till 2005-06, and from 2006-07 a 20 percent increase in every 3 years.

c. *Sewerage Charges*: no new connections envisaged in base case scenario and sewer connections are provided under the Project – it is assumed that 80 percent of the property tax connections would have water connections by FY 2013; monthly flat rate of Rs. 50, Rs, 100 & Rs. 200 per connection for domestic, non domestic and industrial connections respectively, it is assumed for sewerage charge starts from 2008-09, and from then on a 15 percent increase is assumed every 3 years; collection performance is assumed at 50 percent against arrears demand and 80 percent against current demand; and new (one-time) connection charges are adopted as per **Table 11.11**.

d. *Conservancy Fee*: In base case scenario and investment scenarios, it is assumed that 70 percent of the residential property tax assessments and 100 percent of non domestic property assessments would have to be brought under the conservancy fee coverage net. Monthly conservancy fee of Rs. 15 & Rs, 20 per property assessment s has been proposed for residential and non domestic properties respectively. It is assumed for conservancy fee starts from 2006-07, and from then on a 15 percent increase is assumed every 3 years; collection performance is assumed at 50 percent against arrears demand and 80 percent against current demand.

e. *All other revenue income items*. (Including municipal own sources, grants and assigned revenues): past trend is adopted, subject to minimum and maximum ceilings of 5 and 15 percent per annum, respectively.

(ii) Revenue Expenditure.

a. Past trend is adopted, subject to minimum and maximum ceilings of 5 and 20 percent per annum, respectively.
b. Additional O&M expenditure is estimated based on ascertained percentages of capital costs.
c. All outstanding non-debt liabilities are to be cleared off in the next 5 years.
d. All outstanding debt liabilities are to be cleared off in the next 10 years at an interest rate provided by the ULB, otherwise at an average interest rate of 9.50 percent.
e. New loans are to be serviced over a 20-year tenor (including a five-year principal plus interest moratorium) at interest rates indicated in **Table 11.19**.

(iii) Capital Expenditure.

a. Capital expenditure is forecast based on the identified investments.
b. The base costs estimated are at 2005-06 prices, which are then indexed by 7 percent for physical contingencies, and 6 percent for price contingencies.

(iv) Capital Income.

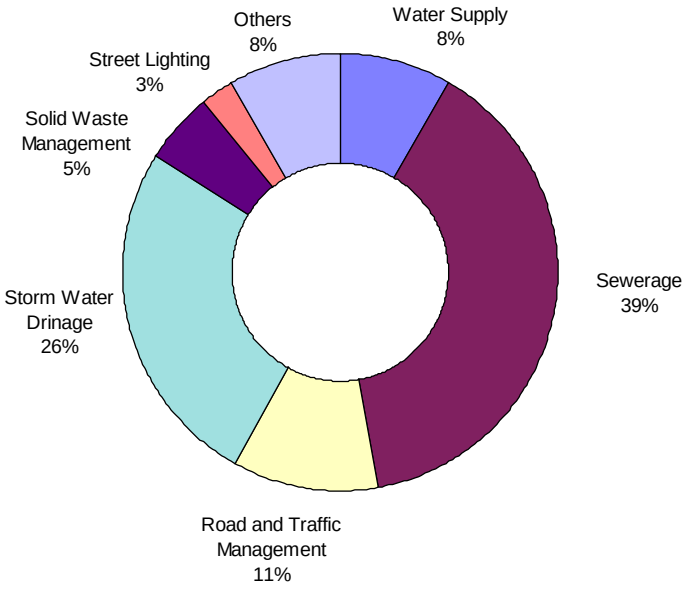
a. Based on the past trend regular capital grants are estimated.
b. Capital income is ascertained based on assumed project financing patterns as detailed in **Table 11.19**.

3. Project Cash Flows and FOP Results

351. The base case scenario is worked out considering only the revenue account transactions to assess the municipal capacity to generate revenue surpluses that could be leveraged to undertake capital investments. Detailed cash flows are worked out for each of the sub-projects based on the assumptions with regards investment phasing, financing pattern, additional O & M expenditure and additional income due to proposed capital investments, for the Full Project scenarios and Sustainable investment scenarios. The net project cash flows are then loaded onto the base case scenario to test their impact on the overall municipal fiscal situation.

352. *Base Case Scenario*. The base case scenario results indicate that under the past-trend based assumptions adopted, Kovilpatti Municipality would end up with a positive cumulative surplus of Rs. 9,014 Lakhs by the end of FY 2019-20 (refer **Table 11.24**). With reforms and additional resource mobilization initiatives like energy saving in street lighting and privatization of solid waste management activity and parking fee, levying of new charges like conservancy fee municipality can reach above said cumulative surplus. Base case with out reforms and with out additional resource mobilization initiatives municipality would end up with a positive closing balance of Rs. 8,486 Lakhs.

Figure 11.1: Full Project Investment Distribution



353. *Full Project Sustenance Scenario*. **Table 11.25** presents a summary of total project cash flows due to the full project scenario. Kovilpatti municipality would accumulate a negative closing balance of Rs. 1,018 lakh by the end of 2019-20 due exclusively to the full project investment. The total net project cash flows due to full project when loaded onto the base case Scenario FOP indicate that Kovilpatti municipality would end up with a positive closing balance of Rs. 7,996 lakhs by the FOP horizon year 2019-20, though the account represents positive closing balance debt servicing ratio is more than 30 percent of the revenue income. Hence, full project cannot be invested as per FIs norms. **Table 11.24** presents a summary of the municipal fiscal status in the Full Project scenario. The full

project (municipal share) investment proposed for Kovilpatti is to the tune of Rs. 5,633 Lakh, out of which 39 of the total investment proposed for sewerage and 26 percent for storm water drain construction and improvement. However, the water supply project cost is 8 percent of the total investment. This clearly indicates that the ULB need of a sewerage system and better storm water drainage facility in future.

Table 11.24: Financial Operating Plan Results - Kovilpatti Municipality

Item Heads	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	Rs. Lakh														
Base Case - Municipal Fund															
Opening Balance	189	478	725	974	1,237	1,534	1,857	2,343	2,888	3,477	4,114	4,822	5,729	6,718	7,819
Revenue Income*	729	817	866	927	1,016	1,102	1,268	1,403	1,531	1,672	1,849	2,130	2,344	2,605	2,868
Additional Revenue Mobilization**	15	26	27	29	30	33	35	36	37	39	41	42	45	46	48
Total Revenue Income	744	843	892	956	1,047	1,135	1,303	1,439	1,568	1,712	1,890	2,172	2,388	2,651	2,915
Revenue Expenditure	455	597	643	693	750	812	817	894	979	1,075	1,182	1,265	1,399	1,550	1,720
Status	289	247	250	263	297	323	486	545	589	637	708	907	989	1,101	1,195
Closing Balance	478	725	974	1,237	1,534	1,857	2,343	2,888	3,477	4,114	4,822	5,729	6,718	7,819	9,014
Project Account - Full Project Scenario															
Total Net Project Cash Flow (after deducting ULB equity from cash flow)	-	(72)	(247)	(21)	599	969	1,222	1,706	1,289	962	586	246	(210)	(605)	(1,018)
Overall Closing Balance	478	652	727	1,216	2,133	2,826	3,565	4,594	4,766	5,076	5,408	5,975	6,508	7,214	7,996
Project Account - Sustainable Investment Scenario															
Total Net Project Cash Flows (after deducting ULB equity from project cash flow)	-	(49)	(200)	63	743	1,163	1,478	2,056	1,765	1,582	1,383	1,199	934	741	542
Overall Closing Balance	478	676	774	1,300	2,278	3,020	3,821	4,945	5,242	5,696	6,205	6,928	7,652	8,560	9,556
Financial Viability Ratios															
Sustainable Investment Scenario															
Debt Equity Ratio- New Projects		7.61	3.76	1.53	0.33	0.10	0.04	0.67	3.92	2.22	-	-	-	-	-
Debt Service Coverage Ratio (DSCR) – Min.150%		1064%	508%	528%	849%	1107%	1290%	1163%	896%	912%	932%	1099%	1141%	1183%	1294%
Operating Ratio (<1)		0.79	0.79	0.65	0.60	0.67	0.65	0.56	0.87	0.89	0.86	0.81	0.81	0.78	0.78

Item Heads	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	Rs. Lakh														
DSR (Max. 30%)		8%	18%	25%	23%	21%	19%	24%	30%	29%	28%	23%	23%	22%	20%
Full Project Investment Scenario															
Debt Equity Ratio- New Projects		7.71	3.98	1.66	0.54	0.20	0.04	0.76	4.36	3.16	-	-	-	-	-
Debt Service Coverage Ratio (DSCR) – Min. 150 %		893%	423%	439%	681%	876%	1018%	934%	703%	686%	670%	774%	798%	822%	886%
Operating Ratio (<1)		0.79	0.80	0.65	0.61	0.68	0.66	0.57	0.88	0.90	0.87	0.82	0.83	0.80	0.79
DSR (Max. 30%)		9%	20%	29%	27%	25%	23%	27%	35%	35%	34%	29%	28%	26%	25%

Source: Analysis.

Note: * including projected regular capital grants and with out project scenario regular connection deposit fee.

** excluding conservancy fee, since it is loaded on to the SWM sub project cash flow.

Table 11.25: Summary of Full Project Cash Flow.

	Description	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
		Rs. Lakh													
	Full Sub Project Cash Flow														
1	Water Supply	(26.2)	72.5	206.0	437.4	707.0	862.7	1,090.8	1,177.1	1,267.9	1,391.4	1,510.6	1,632.8	1,798.1	1,969.8
2	Sewerage	0.0	(130.0)	75.3	495.9	731.7	1,007.0	1,576.4	1,411.4	1,301.4	1,261.4	1,213.7	1,132.7	1,084.3	1,043.2
3	Roads and Traffic Management	0.0	(10.1)	(35.4)	(65.7)	(96.6)	(128.1)	(164.4)	(234.6)	(342.2)	(490.0)	(646.4)	(805.0)	(977.9)	(1,165.8)
4	Storm Water Drainage	(11.6)	(38.9)	(83.1)	(152.3)	(228.3)	(310.2)	(414.9)	(557.2)	(745.3)	(973.1)	(1,212.3)	(1,461.8)	(1,725.9)	(2,005.5)
5	Solid Waste Management	30.4	48.8	54.1	60.4	60.8	58.7	67.4	75.3	81.3	102.3	124.6	146.8	186.4	227.3
6	Street Lighting	(1.1)	(6.3)	(16.2)	(29.7)	(45.6)	(64.0)	(87.8)	(117.0)	(151.9)	(192.6)	(238.0)	(285.8)	(336.1)	(388.9)
7	Slum Upgradations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	Others	(7.5)	(25.0)	(53.5)	(93.5)	(146.0)	(202.3)	(262.5)	(327.0)	(383.3)	(444.3)	(506.4)	(569.4)	(633.4)	(698.5)
	Total Sub Project Cash Flow	**(16.0)**	**(89.1)**	**147.2**	**652.4**	**982.9**	**1,223.8**	**1,804.9**	**1,428.0**	**1,027.8**	**655.3**	**245.8**	**(209.7)**	**(604.6)**	**(1,018.3)**
	Total Full Project Cash Flow														
	Opening Balance		*(16)*	*(89)*	*147*	*652*	*983*	*1224*	*1805*	*1428*	*1028*	*655*	*246*	*(210)*	*(605)*
A	**Sources of Fund**														
1	Debt Drawdown	435	1,165	1,232	430	111	18	721	1,036	526	558	-	-	-	-
2	Equity Drawdown	56	158	168	54	14	2	99	139	66	70	-	-	-	-
3	Govt. Grant	56	158	168	54	14	2	99	139	66	70	-	-	-	-
4	User Charges	37	54	113	218	285	340	488	522	546	656	684	705	831	863
5	New Connection Fees	-	135	572	737	535	429	850	98	101	124	102	104	127	130
	Total- Inflow	***585***	***1,670***	***2,253***	***1,492***	***958***	***791***	***2,259***	***1,935***	***1,305***	***1,478***	***786***	***809***	***958***	***993***
B	**Disposition of Funds**														
1	Project Capex	564	1,580	1,679	537	139	22	993	1,392	658	697	-	-	-	-
2	Operation & Maintenance	-	27	97	173	202	214	229	279	343	381	423	448	475	504

3	Debt Servicing-Principal Repayment	-	-	-	-	-	313	393	490	508	528	772	816	877	902
4	Interest During Construction	37	136	241	277	287	1	63	151	196	243	-	-	-	-
	Total- Outflow	**601**	**1,743**	**2,017**	**987**	**627**	**550**	**1,677**	**2,312**	**1,705**	**1,850**	**1,195**	**1,264**	**1,353**	**1,406**
	Net Cash Flow	***(16)***	***(73)***	***236***	***505***	***330***	***241***	***581***	***(377)***	***(400)***	***(373)***	***(410)***	***(456)***	***(395)***	***(414)***
	Closing Balance	*(16)*	*(89)*	*147*	*652*	*983*	*1224*	*1805*	*1428*	*1028*	*655*	*246*	*(210)*	*(605)*	*(1018)*

Source: Analysis.

Table 11.26: Summary of base cost sustainable investment and phasing schedule

Sector	**Total Investment**	**Investment Phasing (%)**									
	Rs. Lakh	*2006-07*	*2007-08*	*2008-09*	*2009-10*	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*2014-15*	*2015-16*
Municipal Infrastructure											
Water Supply	469.22	30%	30%	40%	0%	0%	0%	0%	0%	0%	0%
Sewerage & Sanitation	2,195.36	0%	30%	30%	0%	0%	0%	20%	20%	0%	0%
Roads	600.98	0%	0%	0%	20%	20%	0%	0%	20%	20%	20%
Storm Water Drains	1,461.70	10%	10%	10%	15%	0%	0%	10%	15%	15%	15%
Solid Waste Mgmt	294.39	30%	30%	20%	20%	0%	0%	0%	0%	0%	0%
Street Lighting	140.86	10%	20%	10%	10%	0%	10%	10%	10%	10%	10%
Others	470.00	20%	20%	20%	20%	20%	0%	0%	0%	0%	0%
Total – ULB Investment	***5,632.51***										

Source: Analysis

Table 11.27: Summary of sustainable project investment -base cost

Sector	**Total Investment**	**Investment Phasing – Rs. Lakh at Current Price**									
	Rs. Lakh	*2006-07*	*2007-08*	*2008-09*	*2009-10*	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*2014-15*	*2015-16*
Municipal Infrastructure											
Water Supply	469	141	141	188	-	-	-	-	-	-	-
Sewerage & Sanitation	2,195	-	659	659	-	-	-	439	439	-	-
Roads	493	-	0	0	120	120	-	-	84	84	84
Storm Water Drains	731	73	73	73	110	-	-	73	110	110	110
Solid Waste Mgmt	294	88	88	59	59	-	-	-	-	-	-
Street Lighting	141	14	28	14	14	0	14	14	14	14	14
Slum Upgradation	-	-	0	0	0	-	-	-	-	-	-
Others	235	47	47	47	47	47	-	-	-	-	-
Total – ULB Investment	***4,558***	***363***	***1036***	***1040***	***350***	***167***	***14***	***526***	***647***	***208***	***208***

Source: Analysis

Table 11.28: Summary of sustainable investment project cash flow

	Description	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
		Rs. Lakh													
	Sustainable Sub Project Cash Flow														
1	Water Supply	(26.2)	72.5	206.0	437.4	707.0	862.7	1,090.8	1,177.1	1,267.9	1,391.4	1,510.6	1,632.8	1,798.1	1,969.8
2	Sewerage	0.0	(130.0)	75.3	495.9	731.7	1,007.0	1,576.4	1,411.4	1,301.4	1,261.4	1,213.7	1,132.7	1,084.3	1,043.2
3	Roads and Traffic Management	0.0	(10.1)	(35.4)	(65.7)	(96.6)	(128.1)	(164.4)	(226.0)	(314.0)	(430.3)	(552.9)	(677.3)	(812.0)	(957.4)
4	Storm Water Drainage	(5.8)	(19.5)	(41.6)	(76.2)	(114.1)	(155.1)	(207.4)	(278.6)	(372.6)	(486.5)	(606.1)	(730.9)	(863.0)	(1,002.7)
5	Solid Waste Management	30.4	48.8	54.1	60.4	60.8	58.7	67.4	75.3	81.3	102.3	124.6	146.8	186.4	227.3
6	Street Lighting	(1.1)	(6.3)	(16.2)	(29.7)	(45.6)	(64.0)	(87.8)	(117.0)	(151.9)	(192.6)	(238.0)	(285.8)	(336.1)	(388.9)
7	Slum Upgradations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	Others	(3.7)	(12.5)	(26.7)	(46.8)	(73.0)	(101.2)	(131.3)	(163.5)	(191.6)	(222.1)	(253.2)	(284.7)	(316.7)	(349.2)

	Description	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
		Rs. Lakh													
	Total Sustainable Sub Project Cash Flow	***(6.5)***	***(57.1)***	***215.5***	***775.3***	***1,170.1***	***1,480.0***	***2,143.6***	***1,878.7***	***1,620.4***	***1,423.7***	***1,198.6***	***933.6***	***741.0***	***542.0***
	Total Sustainable Project Cash Flow														
	Opening Balance		(6)	(57)	215	775	1170	1480	2144	1879	1620	1424	1199	934	741
A	**Sources of Fund**														
1	Debt Drawdown	323	1,046	1,106	255	55	18	625	832	309	328	-	-	-	-
2	Equity Drawdown	42	143	152	32	7	2	87	114	39	41	-	-	-	-
3	Govt. Grant	42	143	152	32	7	2	87	114	39	41	-	-	-	-
4	User Charges	37	54	113	218	285	340	488	522	546	656	684	705	831	863
5	New Connection Fees	-	135	572	737	535	429	850	98	101	124	102	104	127	130
	Total- Inflow	**445**	**1,521**	**2,095**	**1,275**	**888**	**791**	**2,137**	**1,680**	**1,034**	**1,190**	**786**	**809**	**958**	**993**
B	**Disposition of Funds**														
1	Project Capex	424	1,431	1,521	319	69	22	872	1,136	387	410	-	-	-	-
2	Operation & Maintenance	-	25	91	163	188	199	213	260	317	347	380	403	427	453
3	Debt Servicing-Principal Repayment	-	-	-	-	-	259	335	424	437	450	630	671	723	739
4	Interest During Construction	27	116	210	232	237	1	55	125	152	179	-	-	-	-
	Total- Outflow	**452**	**1,572**	**1,823**	**715**	**494**	**481**	**1,474**	**1,944**	**1,292**	**1,387**	**1,011**	**1,074**	**1,151**	**1,192**
	Net Cash Flow	***(6)***	***(51)***	***273***	***560***	***395***	***310***	***664***	***(265)***	***(258)***	***(197)***	***(225)***	***(265)***	***(193)***	***(199)***
	Closing Balance	*(6)*	*(57)*	*215*	*775*	*1170*	*1480*	*2144*	*1879*	*1620*	*1424*	*1199*	*934*	*741*	*542*

Source: Analysis.

XII. URBAN GOVERNANCE

A. Urban Governance

320. This chapter outlines the various best practices world over regarding good urban governance. The strategies presented in this chapter, are an integrated whole and none of them can be seen are understood in an isolated section. Commitment of the municipality to civic, secure and transparent administration will realize the dream of any city/town where the citizens will be those who govern and the municipality as an institution is one who facilitates and provides the service.

1. Current Initiatives

321. The other initiatives that are being adopted by the municipality to enhance its performance and capacity building are computerization of its activities and involving private sector in the delivery of civic services.

322. *Computerization*. GoTN has initiated steps to computerize municipal administration in the state. The entire process consists of four modules: Revenue and Taxation, Record Maintenance, Personnel Management System, Financial Management System.

323. As a start up, data relating to property tax has been computerized and the assessments are now handled by using computers. The billing and collection system of the property taxes is also computerized in the town. However, the computerization efforts are slow owing to the absence of technical capabilities with the municipality.

324. *Private Sector Participation.* The municipality has initiated the involvement of private sector in service delivery through part privatization of the solid waste collection system. The initiative has received good response from the citizens of the town and further privatization of certain other components of services is in active consideration of the municipality.

2. Strategies

325. *Decentralization*. In conformity to the 74th CAA, the Government of Tamil Nadu has made necessary legislative changes to devolve functional domains of the 18 listed items in the 12th schedule of the constitution. However only seven functions are made obligatory functions of urban local bodies and important functions like urban planning including town planning, regulation of land use and construction of buildings, slum improvement, urban poverty alleviation remain discretionary functions with rather little say for ULB. Consequently, the funds and concerned staff continue to remain under the control of the State Government. Financial powers as envisaged in the 12th Schedule of the Constitution also need to be immediately devolved to urban local bodies.

326. The local bodies should have control over the land in their jurisdiction and other

infrastructure including roads in their area. They should have power to remove encroachment from public land, construct and maintain roads within their respective municipal areas.

327. The municipality shall divide the area into zones/ divisions for better service delivery and management control. Such a mechanism is already being implemented in water supply and public health sectors.

328. *Urban Environmental Management*. The costs of maintaining a healthy urban environment needs to be recovered through various municipal taxes and user charges following the "Polluter Pays" principle. For this, the functional role of the ULB as envisaged in Item 8, 12th Schedule of the Constitution have to be resolved keeping in view the role of Tamil Nadu Pollution Control Board and the organizational and fiscal strength of the ULB.

329. *Access of Urban Services to Poor*. Since "Ability-to-Pay" for the full cost of environmental infrastructure services' provision is the important criterion, cross-subsidization of tariffs, innovative project structuring and user/ community participation are the means towards ensuring access of these services to the poor. Again, the functional and financial role of ULB with respect to the items 10 and 11 of 12th Schedule against those of central and state government agencies need to be resolved.

330. *Streamlining and Strengthening of Revenue Base of Local Bodies*.

(i) The recommendations of the State Finance Commissions must be made mandatory and should be implemented as a matter of course. Law enforcement powers should be given to local bodies to compel payments of taxes and other charges levied by them.
(ii) Property Tax base should be de-linked from rental value method and should be linked to Unit Area or Capital value method.
(iii) Fiscal powers of municipal bodies to fix tax rates, fee structure and user charges should be strengthened through specific guidelines and notifications. Prepare model guidelines for the town to allow greater flexibility in levying taxes, fees and user charges, borrowing funds and incurring expenditures.
(iv) The annual report of the municipality shall devote a section highlighting the amounts of subsidy given to a particular service, how was the subsidy funded and who were its beneficiaries.
(v) Adopting Zero-based budgeting shall be carried out supported by the already computerised accounting system for continual monitoring of budgets and cash flow management.
(vi) Implementation of MIS to provide relevant information on accounts, commercial and operating systems for better decision making and information dissemination to citizens.
(vii) Auditing of Accounts should be carried out effectively and regularly to promote transparency and accountability.
(viii) Application of e-governance is equally important for municipal finance. Adequate software in the financial management is required at different levels.

331. *Transparency and Civic Engagement in Municipal Management*.

(i) Laws/ rules/ regulations specific to town/ local issues should be tried to facilitate effective implementation. These should be lucid and easily understood.
(ii) Participatory mechanisms should be so structured that they have legal entity and administrative power. Local bodies should be responsive and innovative and involve community participation in civic engagement.
(iii) Specific code of conduct for municipal executives and elected representatives.
(iv) Public education, resource mobilisation, good leadership and transparent processes apply in municipal finance and development work.
(v) Closer networking with media and their engagement in creating public awareness and creating demand for good governance. Cautious engagement of private sector with continuous monitoring is necessary.
(vi) Setting in place an active and online public Grievances' Redressal System, with automated department wise complaint loading and monitoring system.
(vii) Instruments to improve the efficiency of local bodies through enhanced technical, administrative, and financial capacities.
(viii) Credit Enhancement options other than state guarantees need to be adopted.
(ix) Preparation of annual Environmental Status Reports through a multi-stakeholder consultation process.

332. *Capacity Building of Local Bodies*.

(i) The municipality shall maintain data to generate indicators as suggested in this document for evaluating their performance.
(ii) Prepare and conduct capacity building programs for elected representatives, especially women representatives with a view to enable them to focus on gender based issues.
(iii) Promote the creation of interactive platforms for sharing municipal innovations, experiences among municipal managers.
(iv) Better Human Resource Management through assessment of the training needs of personnel involved in urban administration to enhance the management and organizational capabilities.
(v) Assessment of fund requirement and resource persons to tackle the training needs of all the personnel.
(vi) Development of Training Material in the local language and Impact and Evaluation Studies of the Training Programs.
(vii) Capacity building to position the ULB in a better place to employ highly qualified staff and seek superior quality of out-sourced services.

Appendix I: Ward Level Density details

Ward Number	Area	Population	Households	Density (2001)	Literate Population
	Sq. Km			*Per Sq.km*	*(2001*
1	0.06	2,631	701	46,506	1,736
2	0.57	1,764	202	3,104	1,164
3	0.25	3,633	801	14,289	2,397
4	0.32	1,682	397	5,337	1,110
5	0.28	3,488	856	12,592	2,302
6	0.30	2,638	732	8,753	1,741
7	0.26	2,418	685	9,432	1,595
8	0.17	2,955	671	17,097	1,950
9	0.08	3,328	762	40,106	2,196
10	0.03	2,100	672	60,113	1,386
11	0.14	2,883	1,161	20,417	1,506
12	0.31	2,940	774	9,506	1,940
13	0.16	3,006	731	18,522	1,984
14	0.12	1,811	577	15,020	1,195
15	0.08	2,389	769	31,166	1,,576
16	0.05	1,530	384	32,151	1,009
17	0.03	2,379	571	70,314	1,570
18	0.12	2,272	587	19,179	1,699
19	0.15	2,219	589	14,570	1,465
20	0.06	1,480	434	26,902	977
21	0.09	1,545	297	16,503	1,217
22	0.06	1,666	199	28,126	1,099
23	0.07	1,060	182	15,902	700
24	0.09	1,387	189	14,658	915
25	0.14	2,345	607	16,311	1,548
26	0.30	3,132	558	10,320	2,063
27	0.44	2,880	662	6,571	1,900
28	0.15	3,047	693	20,653	2,011
29	0.33	2,958	538	9,054	1,952
30	0.16	3,156	677	19,965	2,082
31	0.30	2,225	589	7,462	1,469
32	0.16	2,047	591	12,905	1,346
33	0.21	2,750	523	13,137	1,815
34	0.14	2,542	547	18,495	1,525
35	0.21	3,065	1,064	14,458	2,023
36	0.27	2,107	406	7,938	1,391
Total	6.65	87,458	21,378	13,152	57,554

Appendix II: Population Projection

1- Kovilpatti Municipality - Population Growth												
Year	**Population**				**Variation**	**Type 1 ARITHEMATIC**	**Type 2 Incrimental increase**	**Poly 2**	**Poly 3**	**Poly 4**	**Poly 5**	**Population projection from water supply report**
	Male	Female	Actuals	lakhs		Projected in Lakhs						No.
1901			13,021	0.13								
1911			14,022	0.14	1,001							
1921			14,617	0.15	595							
1931			15,212	0.15	595							
1941			16,676	0.17	1,464							
1951			22,674	0.23	5,998							
1961			33,305	0.33	10,631							
1971			48,509	0.49	15,204							
1981	32123	31841	63,964	0.64	15,455							
1991	39229	39605	78,834	0.79	14,870							
2001	43117	44333	87,450	0.87	8,616							
2002						0.87	0.89	1.25	0.88	1.65	1.49	
2003						0.87	0.90	1.28	0.89	1.68	1.45	
2004						0.88	0.91	1.30	0.91	1.71	1.48	
2005						0.89	0.92	1.32	0.92	1.74	1.51	**91418**
2006						0.90	0.94	1.35	0.94	1.77	1.55	**93434**
2011						0.90	1.00	1.47	1.01	1.90	1.70	**97752**
2016						0.94	1.06	1.61	1.09	2.02	1.83	**103345**
2021						0.98	1.13	1.74	1.17	2.11	1.93	**109258**
2027						1.02	1.21	1.92	1.26	2.17	1.99	**115510**
2031						1.06	1.26	2.03	1.32	2.17	1.98	**122119**
2035						1.09	1.31	2.16	1.38	2.14	1.93	**126264**

Appendix III: Minutes of Meeting on Consultancy Service for Conversion of City Corporate Plan into Business Plan for Kovilpatti Municipality held at Council Hall, Kovilpatti Municipality on June 30, 2006.

List of Participants

Sl .No	Name	Designation
1	Thirumathi A. Vimala Rani	Chairman
2	Thiru S. Senthil Kumar	Assistant Engineer
3	Thiru K. Nathanil	Town Planning Officer
4	Thiru A. Ramesh	Town Planning Inspector
5	Thiru T. Manoharan	Sanitary Officer
6	Thirumathi C. Saramari Chandran	MC- 4th Ward
7	Thiru K. Kombaya	MC-10th Ward
8	Thiru Chellapandiyan	MC-14th Ward
9	Thiru K. Srinivasan	MC- 29th Ward
10	Thiru P.K. Raj Pandian	MC-30th Ward
11	Thirumathi S. Bathrakali	MC- 33rd Ward
12	Thiru K. Sankarasubhu	MC- 35th Ward
13	Thirumathi E. Subulakshmi	MC- 36th Ward
14	Thiru R. Kuppan	Senior Citizen
15	Thiru N. Kathirvel	Senior Citizen
16	Thiru P. Vasudavan	Senior Citizen
17	Thiru Santha Kumar	Senior Citizen
18	Thiru G. Thovaian	Rotary Club
19	Thiru L. Jothi Basu	Public
20	Thiru K. Veramuthu	Public
21	Thiru Duraiswamy	Public
22	Thiru Kannan	Public
23	Thiru S. Sathivel	Public
24	Thiru A.M. Hari Prasad	WSAPL
25	Thiru E. Gopinath	WSAPL

The Chairperson presided over the meeting in the presence of the Commissioner, Councilors, Senior Citizens of Kovilpatti and other line agencies. The details on the discussion held and decision taken are listed below.

1. Most of the members emphasized on Water supply project should be considered as first priority
2. Second priority suggested is for improvements of roads and storm water drains.
3. It was discussed, that the natural drains is being polluted due to sullage water from the residential areas. Hence, in order to avoid this problem, the Municipal Commissioner suggested to prepare Detailed Project Report for Under Ground Drainage (UGD), find out a suitable location for the treatment plant, and use the treated water for gardening and agriculture.

4. Most of the Ward Councilor’s suggested to provide median for all main roads with underground cable
5. It is suggested to provide service road parallel to the railway track towards North side.

Prioritization for Municipality

1. Improvement of Water supply Scheme
2. Improvements of Roads and drains
3. Treatment plant for treating the sullage and wastewater.

Some of the individual stakeholder's suggestions are given below

Commissioner, Chairman and TNUIFSL representative briefing the project to the Stake holders

Chairperson expressing their views on Projects

NGOs and Councilors are expressing their views on Projects

Appendix IV: Municipal Finance					
17- Kovilpatti Municipality - Abstract of Accounts		***1- Income and Expenditure Statement***			
	Head of Account	**2000-01**	**2001-02**	**2002-03**	**2003-04**
				Rs. Lakh	
	Opening Balance				
	REVENUE ACCOUNT				
1	**Revenue Income**				
A	**Tax- Own Sources**				
1	Property Tax (General Purpose) - 38% of Total PT	58.62	68.16	70.24	67.94
2	Property Tax (Education Purpose) - 17% of Total PT	26.65	30.98	31.93	30.88
3	Profession Tax	15.29	16.65	15.77	18.01
4	Other Taxes & Charges	0.02	0.02	0.01	0.02
	Tax- Own Sources	*100.58*	*115.81*	*117.95*	*116.84*
B	**Assigned Revenues**				
1	Entertainment Tax	-	39.43	13.36	10.99
2	Surcharge on Stamp Duty	-	-	71.22	56.51
3	Other Transfers	-	-	-	-
	Assigned Revenues	-	*39.43*	*84.58*	*67.50*
C	**Non Tax- Own Sources**				
1	Income from Municipal Properties and Markets	37.68	48.86	59.69	65.40
2	License Income (Trade, etc.)	4.86	6.92	5.34	5.16
3	Income from Special Services	-	-	-	0.48
4	Income from Sale Proceeds	0.02	-	0.02	-
5	Income from Fees and Fines	19.72	12.66	23.17	22.44
6	Income from Interest on Deposits	-	0.14	0.98	0.81
7	Income from Investments(Excl. Interest)	-	-	-	-
8	Miscellaneous Income	7.30	37.25	25.93	23.20
	Non Tax- Own Sources	*69.58*	*105.84*	*115.14*	*117.49*
D	**Revenue Grants**				
1	State Finance Commission Grant	27.83	60.61	146.41	161.41
2	Other Grants	-	0.39	0.93	-
	Revenue Grants	*27.83*	*60.99*	*147.34*	*161.41*
	Total- Revenue Income (Excl. W&D Fund)	**197.99**	**322.07**	**465.01**	**463.24**
E	**Water and Drainage Fund**				
1	Water & Drainage Tax - 45% of Total PT	69.28	80.55	83.01	80.29
2	Water Charges	41.83	38.93	49.00	44.17
3	Drainage Charges	-	-	-	-
4	Income from Interest on Deposits	0.05	0.11	0.07	0.23
5	Water Supply & Sanitation Grant	-	0.02	-	0.01
6	Other Income	-	-	-	-
	Total- W&D Fund Revenue Income	**111.16**	**119.61**	**132.08**	**124.71**
	Total- Revenue Income	**309.16**	**441.68**	**597.09**	**587.95**

Appendix IV: Municipal Finance					
17- Kovilpatti Municipality - Abstract of Accounts		***1- Income and Expenditure Statement***			
	Head of Account	**2000-01**	**2001-02**	**2002-03**	**2003-04**
			Rs. Lakh		
II	**Revenue Expenditure**				
A	**General Administration**				
1	Staff Salary and Employee Related Expenses	193.38	183.74	200.80	224.12
2	Allowances to Elected Representatives	1.18	1.28	1.40	1.19
3	General Expenses	6.10	8.41	3.95	4.59
4	Pensions and Gratuities	25.92	31.64	37.30	16.67
5	Education - Staff Salary	-	-	-	-
6	Miscellaneous	2.13	2.04	5.02	6.53
	Establishment	*228.70*	*227.10*	*248.48*	*253.09*
B	**Operation & Maintenance**				
1	General Expenses	1.91	2.54	1.62	4.42
2	Public Works and Roads	3.91	6.06	9.16	33.77
3	Public Health and Conservancy	0.99	2.57	5.10	8.62
4	Contractor Payment- Conservancy	-	-	-	-
5	Street Lighting (including Electricity Charges)	24.98	26.35	42.37	33.81
6	Education	-	-	-	8.00
7	Vehicle and Equipment Maintenance	5.55	6.32	2.13	5.68
8	Miscellaneous	3.68	1.30	0.86	1.03
	Operation & Maintenance	*41.03*	*45.16*	*61.24*	*95.33*
C	**Debt Servicing**				
1	Public Works and Roads	-	-	-	-
2	Public Health and Conservancy	-	-	-	-
3	Others	-	-	-	-
	Debt Servicing	-	-	-	-
	Total- Revenue Expenditure (Excl. W&D Fund)	**269.73**	**272.26**	**309.72**	**348.43**
D	**Water and Sanitation Fund**				
1	Staff Salary & Employee Related Expenses	0.83	10.65	7.92	22.61
2	Administration Expenses	-	-	-	0.50
3	Equipment Maintenance & Repairs	0.05	2.62	11.76	13.54
4	Board Payment	-	-	-	49.61
5	Electricity Charges	71.80	54.67	-	80.00
6	Vehicle Maintenance & Repairs	-	0.64	0.07	1.50
7	Miscellaneous	0.01	-	0.10	1.96
8	Debt Servicing- Old	22.96	-	15.44	14.47
	Total- W&D Fund Revenue Expenditure	**95.64**	**68.59**	**35.29**	**184.19**
	Total- Revenue Expenditure	**365.38**	**340.85**	**345.01**	**532.62**
	Operating Surplus (W&D Revenue Fund)	15.52	51.02	96.79	(59.49)
	Operating Surplus (Revenue Account)	(56.22)	100.83	252.08	55.33
	Closing Balance-(Revenue Account)	(56.22)	44.61	296.69	352.01
	Transfer to Capital Account	-	-	-	-

Appendix IV: Municipal Finance					
17- Kovilpatti Municipality - Abstract of Accounts		***1- Income and Expenditure Statement***			
	Head of Account	**2000-01**	**2001-02**	**2002-03**	**2003-04**
		Rs. Lakh			
	CAPITAL ACCOUNT				
III	**Capital Income**				
A	**Capital Loans**				
1	Public Works and Roads	-	-	-	-
2	Street Lighting	-	-	-	-
3	Public Health & Conservancy	-	-	-	-
4	Education	-	-	-	-
5	Others	65.77	-	-	-
	Capital Loans	*65.77*	-	-	-
B	**Capital Grants and Contribution**				
1	Public Works and Roads	-	-	-	6.26
2	Education	-	-	-	-
3	Others	60.35	19.96	138.23	208.72
4	Tenth/Eleventh Finance Commission Grants	-	-	-	-
	Capital Grants and Contribution	*60.35*	*19.96*	*138.23*	*214.98*
C	**Own Sources**				
1	Transfer from Revenue Account	-	-	-	-
2	Sale of Municipal Property	-	-	-	-
	Own Sources- Capital	-	-	-	-
	Total- Capital Income	**126.12**	**19.96**	**138.23**	**214.98**
	Water and Drainage Fund				
D	**Capital Loans**				
1	Water Supply	-	-	-	-
2	Sewerage & Sanitation	-	-	-	-
	Capital Loans W&D Fund	-	-	-	-
E	**Capital Grants and Contribution**				
1	Water Supply	-	-	9.49	11.49
2	Sewerage & Sanitation	-	-	-	-
	W&D -Capital Grants and Contribution	-	-	*9.49*	*11.49*
F	**Own Sources**				
1	Water Connection Charge	16.24	11.46	11.47	4.04
2	Sewerage Connection Charge	-	-	-	-
	W&D Own Sources- Capital	*16.24*	*11.46*	*11.47*	*4.04*
	Total W&D Fund- Capital Income	**16.24**	**11.46**	**20.96**	**15.52**
	Total- Capital Income	**142.36**	**31.42**	**159.19**	**230.50**

Appendix IV: Municipal Finance					
17- Kovilpatti Municipality - Abstract of Accounts		***1- Income and Expenditure Statement***			
	Head of Account	**2000-01**	**2001-02**	**2002-03**	**2003-04**
			Rs. Lakh		
IV	**Capital Expenditure**				
1	General	25.43	-	4.58	2.54
2	Remunerative Schemes	-	-	-	-
3	Public Works and Roads	86.15	28.31	230.98	45.23
4	Street Lighting	3.75	0.91	13.53	21.27
5	Public Health & Conservancy	0.00	-	-	-
6	Education	4.21	-	14.22	14.41
6	Others	-	0.53	-	-
	Total - Capital Expenditure Excl W&D Fund	**119.55**	**29.76**	**263.31**	**83.45**
	Water and Drainage Fund				
8	Water Supply	74.02	25.28	52.07	36.51
9	Sewerage & Sanitation	63.93	69.70	33.35	10.49
	Total W&D Fund- Capital Expenditure	**137.95**	**94.98**	**85.42**	**47.00**
	Total - Capital Expenditure	**257.50**	**124.74**	**348.73**	**130.45**
	Operating Surplus (W&D Capital Account)	(121.72)	(83.52)	(64.46)	(31.48)
	Operating Surplus (Capital Account)	(115.15)	(93.32)	(189.54)	100.05
	Operating Surplus (Over all excl.revenue a/c transfer)	(171.37)	7.51	62.54	155.38
	EXTRAORDINARY ACCOUNT				
V	**EA Income**				
1	Cash at Bank/ in Hand	13.05	161.57	140.49	116.77
2	Cess Income	13.84	-	8.89	3.61
3	Cash Deposit	10.65	16.17	6.58	6.94
4	Staff Advance	4.17	3.06	2.23	16.84
5	Security Deposit	-	18.32	-	10.67
6	Miscellaneous	-	-	-	-
	Total- EA Income	**41.71**	**199.12**	**158.19**	**154.84**
VI	**EA Expenditure**				
1	Cess Transfers	-	-	-	15.00
2	Other- Deposits	-	0.10	-	5.50
3	PF and Pension	-	-	0.04	5.96
4	Miscellaneous	1.65	20.34	89.11	128.60
	Total- EA Expenditure	**1.65**	**20.44**	**89.15**	**155.06**
	Operating Surplus (Extraordinary Account)	**40.06**	**178.68**	**69.04**	**(0.22)**
	Closing Balance (excl O/B)	**(131.30)**	**186.19**	**131.58**	**155.16**

Appendix IV: Municipal Finance						
17- Kovilpatti Municipality - Abstract of Accounts		***2- Income and Expenditure -Sectoral Contribution***				
	Head of Account	**2000-01**	**2001-02**	**2002-03**	**2003-04**	**Average**
		Percentage to Total				
	Opening Balance					
	REVENUE ACCOUNT					
I	**Revenue Income**					
A	**Tax- Own Sources**					
1	Property Tax (General Purpose) - 38% of Total PT	29.61	21.16	15.10	14.67	**20.14**
2	Property Tax (Education Purpose) - 17% of Total PT	13.46	9.62	6.87	6.67	**9.15**
3	Profession Tax	7.72	5.17	3.39	3.89	**5.04**
4	Other Taxes & Charges	0.01	0.00	0.00	0.00	**0.01**
	Tax- Own Sources	*50.80*	*35.96*	*25.36*	*25.22*	**34.34**
B	**Assigned Revenues**					
1	Entertainment Tax	-	12.24	2.87	2.37	**4.37**
2	Surcharge on Stamp Duty	-	-	15.32	12.20	**6.88**
3	Other Transfers	-	-	-	-	**--**
	Assigned Revenues	-	*12.24*	*18.19*	*14.57*	**11.25**
C	**Non Tax- Own Sources**					
1	Income from Municipal Properties and Markets	19.03	15.17	12.84	14.12	**15.29**
2	License Income (Trade, etc.)	2.46	2.15	1.15	1.11	**1.72**
3	Income from Special Services	-	-	-	0.10	**0.03**
4	Income from Sale Proceeds	0.01	-	0.00	-	**0.00**
5	Income from Fees and Fines	9.96	3.93	4.98	4.84	**5.93**
6	Income from Interest on Deposits	-	0.04	0.21	0.17	**0.11**
7	Income from Investments(Excl. Interest)	-	-	-	-	**--**
8	Miscellaneous Income	3.69	11.57	5.58	5.01	**6.46**
	Non Tax- Own Sources	*35.14*	*32.86*	*24.76*	*25.36*	**29.53**
D	**Revenue Grants**					
1	State Finance Commission Grant	14.06	18.82	31.48	34.84	**24.80**
2	Other Grants	-	0.12	0.20	-	**0.08**
	Revenue Grants	*14.06*	*18.94*	*31.68*	*34.84*	**24.88**
	Total- Revenue Income (Excl. W&D Fund)	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
E	**Water and Drainage Fund**					
1	Water & Drainage Tax - 45% of Total PT	62.32	67.34	62.85	64.38	**64.22**
2	Water Charges	37.63	32.55	37.10	35.42	**35.68**
3	Drainage Charges	-	-	-	-	**--**
4	Income from Interest on Deposits	0.05	0.09	0.05	0.19	**0.09**
5	Water Supply & Sanitation Grant	-	0.01	-	0.01	**0.01**
6	Other Income	-	-	-	-	--
	Total- W&D Fund Revenue Income	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
	Total- Revenue Income	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Appendix IV: Municipal Finance						
17- Kovilpatti Municipality - Abstract of Accounts		***2- Income and Expenditure -Sectoral Contribution***				
	Head of Account	**2000-01**	**2001-02**	**2002-03**	**2003-04**	**Average**
		Percentage to Total				
II	**Revenue Expenditure**					
A	**General Administration**					
1	Staff Salary and Employee Related Expenses	71.69	67.49	64.83	64.32	**67.08**
2	Allowances to Elected Representatives	0.44	0.47	0.45	0.34	**0.42**
3	General Expenses	2.26	3.09	1.28	1.32	**1.99**
4	Pensions and Gratuities	9.61	11.62	12.04	4.78	**9.51**
5	Education - Staff Salary	-	-	-	-	**--**
6	Miscellaneous	0.79	0.75	1.62	1.87	**1.26**
	Establishment	*84.79*	*83.41*	*80.23*	*72.64*	**80.27**
B	**Operation & Maintenance**					
1	General Expenses	0.71	0.93	0.52	1.27	**0.86**
2	Public Works and Roads	1.45	2.23	2.96	9.69	**4.08**
3	Public Health and Conservancy	0.37	0.94	1.65	2.48	**1.36**
4	Contractor Payment- Conservancy	-	-	-	-	**--**
5	Street Lighting (including Electricity Charges)	9.26	9.68	13.68	9.70	**10.58**
6	Education	-	-	-	2.30	**0.57**
7	Vehicle and Equipment Maintenance	2.06	2.32	0.69	1.63	**1.67**
8	Miscellaneous	1.37	0.48	0.28	0.30	**0.60**
	Operation & Maintenance	*15.21*	*16.59*	*19.77*	*27.36*	**19.73**
C	**Debt Servicing**					
1	Public Works and Roads	-	-	-	-	**--**
2	Public Health and Conservancy	-	-	-	-	**--**
3	Others	-	-	-	-	**--**
	Debt Servicing	-	-	-	-	**--**
	Total- Revenue Expenditure (Excl. W&D Fund)	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
D	**Water and Sanitation Fund**					
1	Staff Salary & Employee Related Expenses	0.87	15.53	22.44	12.28	**12.78**
2	Administration Expenses	-	-	-	0.27	**0.07**
3	Equipment Maintenance & Repairs	0.05	3.83	33.32	7.35	**11.14**
4	Board Payment	-	-	-	26.93	**6.73**
5	Electricity Charges	75.07	79.72	-	43.43	**49.55**
6	Vehicle Maintenance & Repairs	-	0.93	0.20	0.81	**0.49**
7	Miscellaneous	0.01	-	0.29	1.06	**0.34**
8	Debt Servicing- Old	24.01	-	43.75	7.86	**18.90**
	Total- W&D Fund Revenue Expenditure	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
	Total- Revenue Expenditure	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
	Operating Surplus (W&D Revenue Fund)					
	Operating Surplus (Revenue Account)					
	Closing Balance-(Revenue Account)					
	Transfer to Capital Account					

Appendix IV: Municipal Finance						
17- Kovilpatti Municipality - Abstract of Accounts		***2- Income and Expenditure -Sectoral Contribution***				
	Head of Account	**2000-01**	**2001-02**	**2002-03**	**2003-04**	**Average**
		Percentage to Total				
	CAPITAL ACCOUNT					
III	**Capital Income**					
A	**Capital Loans**					
1	Public Works and Roads	-	-	-	-	--
2	Street Lighting	-	-	-	-	--
3	Public Health & Conservancy	-	-	-	-	--
4	Education	-	-	-	-	--
5	Others	52.15	-	-	-	**13.04**
	Capital Loans	*52.15*	-	-	-	**13.04**
B	**Capital Grants and Contribution**					
1	Public Works and Roads	-	-	-	2.91	**0.73**
2	Education	-	-	-	-	--
3	Others	47.85	100.00	100.00	97.09	**86.23**
4	Tenth/Eleventh Finance Commission Grants	-	-	-	-	--
	Capital Grants and Contribution	*47.85*	*100.00*	*100.00*	*100.00*	**86.96**
C	**Own Sources**					
1	Transfer from Revenue Account	-	-	-	-	--
2	Sale of Municipal Property	-	-	-	-	--
	Own Sources- Capital	-	-	-	-	--
	Total- Capital Income	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
	Water and Drainage Fund					
D	**Capital Loans**					
1	Water Supply	-	-	-	-	--
2	Sewerage & Sanitation	-	-	-	-	--
	Capital Loans W&D Fund	-	-	-	-	--
E	**Capital Grants and Contribution**					
1	Water Supply	-	-	45.27	74.00	**29.82**
2	Sewerage & Sanitation	-	-	-	-	--
	W&D -Capital Grants and Contribution	-	-	*45.27*	*74.00*	**29.82**
F	**Own Sources**					
1	Water Connection Charge	100.00	100.00	54.73	26.00	**70.18**
2	Sewerage Connection Charge	-	-	-	-	--
	W&D Own Sources- Capital	100.00	100.00	54.73	26.00	**70.18**
	Total W&D Fund- Capital Income	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
	Total- Capital Income	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Appendix IV: Municipal Finance						
17- Kovilpatti Municipality - Abstract of Accounts		***2- Income and Expenditure -Sectoral Contribution***				
	Head of Account	**2000-01**	**2001-02**	**2002-03**	**2003-04**	**Average**
		Percentage to Total				
IV	**Capital Expenditure**					
1	General	21.27	-	1.74	3.04	**6.51**
2	Remunerative Schemes	-	-	-	-	**--**
3	Public Works and Roads	72.06	95.14	87.72	54.20	**77.28**
4	Street Lighting	3.14	3.07	5.14	25.49	**9.21**
5	Public Health & Conservancy	0.00	-	-	-	**0.00**
6	Education	3.52	-	5.40	17.27	**6.55**
6	Others	-	1.79	-	-	**0.45**
	Total - Capital Expenditure Excl W&D Fund	*100.00*	*100.00*	*100.00*	*100.00*	*100.00*
	Water and Drainage Fund					
8	Water Supply	53.66	26.62	60.96	77.69	**54.73**
9	Sewerage & Sanitation	46.34	73.38	39.04	22.31	**45.27**
	Total W&D Fund- Capital Expenditure	*100.00*	*100.00*	*100.00*	*100.00*	*100.00*
	Total - Capital Expenditure	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
	Operating Surplus (W&D Capital Account)					
	Operating Surplus (Capital Account)					
	Operating Surplus (Over all excl.revenue a/c transfer)					
	EXTRAORDINARY ACCOUNT					
V	**EA Income**					
1	Cash at Bank/ in Hand	31.29	81.14	88.81	75.41	**69.16**
2	Cess Income	33.17	-	5.62	2.33	**10.28**
3	Cash Deposit	25.54	8.12	4.16	4.48	**10.58**
4	Staff Advance	10.00	1.54	1.41	10.88	**5.96**
5	Security Deposit	-	9.20	-	6.89	**4.02**
6	Miscellaneous					
	Total- EA Income	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
VI	**EA Expenditure**					
1	Cess Transfers	-	-	-	9.67	**2.42**
2	Other- Deposits	-	0.49	-	3.55	**1.01**
3	PF and Pension	-	-	0.04	3.84	**0.97**
4	Miscellaneous	100.00	99.51	99.96	82.94	**95.60**
	Total- EA Expenditure	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
	Operating Surplus (Extraordinary Account)					
	Closing Balance (excl O/B)					

Appendix IV: Municipal Finance						
17- Kovilpatti Municipality - Abstract of Accounts		***3- Income and Expenditure -Growth Trends***				
Head of Account		**2000-01**	**2001-02**	**2002-03**	**2003-04**	**Average**
			Percentage increase over previous year			
Opening Balance						
	REVENUE ACCOUNT					
I	**Revenue Income**					
A	**Tax- Own Sources**					
1	Property Tax (General Purpose) - 38% of Total PT	--	16.27	3.05	(3.27)	**5.35**
2	Property Tax (Education Purpose) - 17% of Total PT	--	16.27	3.05	(3.27)	**5.35**
3	Profession Tax	--	8.91	(5.30)	14.18	**5.93**
4	Other Taxes & Charges	--	(27.85)	(7.22)	28.47	**(2.20)**
	Tax- Own Sources	--	*15.14*	*1.85*	*(0.94)*	**5.35**
B	**Assigned Revenues**					
1	Entertainment Tax	--	--	(66.10)	(17.76)	**(41.93)**
2	Surcharge on Stamp Duty	--	--	--	(20.65)	**(20.65)**
3	Other Transfers	--	--	--	--	**--**
	Assigned Revenues	--	--	*114.52*	*(20.20)*	**47.16**
C	**Non Tax- Own Sources**					
1	Income from Municipal Properties and Markets	--	29.68	22.16	9.56	**20.47**
2	License Income (Trade, etc.)	--	42.32	(22.81)	(3.46)	**5.35**
3	Income from Special Services	--	--	--	--	**--**
4	Income from Sale Proceeds	--	--	--	--	**--**
5	Income from Fees and Fines	--	(35.82)	83.05	(3.16)	**14.69**
6	Income from Interest on Deposits	--	--	594.94	(17.72)	**288.61**
7	Income from Investments(Excl. Interest)	--	--	--	--	**--**
8	Miscellaneous Income	--	410.52	(30.39)	(10.53)	**123.20**
	Non Tax- Own Sources	--	*52.10*	*8.79*	*2.04*	**20.98**
D	**Revenue Grants**					
1	State Finance Commission Grant	--	117.79	141.56	10.25	**89.87**
2	Other Grants	--	--	141.40	--	**141.40**
	Revenue Grants	--	*119.17*	*141.56*	*9.55*	**90.09**
	Total- Revenue Income (Excl. W&D Fund)	**--**	**62.67**	**44.38**	**(0.38)**	**35.56**
E	**Water and Drainage Fund**					
1	Water & Drainage Tax - 45% of Total PT	--	16.27	3.05	(3.27)	**5.35**
2	Water Charges	--	(6.92)	25.86	(9.85)	**3.03**
3	Drainage Charges	--	--	--	--	**--**
4	Income from Interest on Deposits	--	108.09	(38.22)	248.33	**106.07**
5	Water Supply & Sanitation Grant	--	--	--	--	**--**
6	Other Income	--	--	--	--	--
	Total- W&D Fund Revenue Income	**--**	**7.60**	**10.42**	**(5.58)**	**4.15**
						-
	Total- Revenue Income	**--**	**42.87**	**35.19**	**(1.53)**	**25.51**

Appendix IV: Municipal Finance						
17- Kovilpatti Municipality - Abstract of Accounts		***3- Income and Expenditure -Growth Trends***				
	Head of Account	**2000-01**	**2001-02**	**2002-03**	**2003-04**	**Average**
		Percentage increase over previous year				
II	**Revenue Expenditure**					
A	**General Administration**					
1	Staff Salary and Employee Related Expenses	--	(4.99)	9.29	11.61	**5.30**
2	Allowances to Elected Representatives	--	8.67	9.86	(15.38)	**1.05**
3	General Expenses	--	37.85	(52.99)	16.00	**0.29**
4	Pensions and Gratuities	--	22.10	17.88	(55.31)	**(5.11)**
5	Education - Staff Salary	--	--	--	--	**--**
6	Miscellaneous	--	(4.31)	146.43	30.13	**57.41**
	Establishment	--	*(0.70)*	*9.41*	*1.86*	**3.52**
B	**Operation & Maintenance**					
1	General Expenses	--	33.05	(36.14)	171.88	**56.27**
2	Public Works and Roads	--	55.06	51.07	268.64	**124.92**
3	Public Health and Conservancy	--	158.23	98.47	69.15	**108.62**
4	Contractor Payment- Conservancy	--	--	--	--	**--**
5	Street Lighting (including Electricity Charges)	--	5.51	60.77	(20.20)	**15.36**
6	Education	--	--	--	--	**--**
7	Vehicle and Equipment Maintenance	--	13.99	(66.33)	166.91	**38.19**
8	Miscellaneous	--	(64.60)	(34.34)	20.11	**(26.28)**
	Operation & Maintenance	--	*10.07*	*35.61*	*55.67*	**33.78**
C	**Debt Servicing**					
1	Public Works and Roads	--	--	--	--	**--**
2	Public Health and Conservancy	--	--	--	--	**--**
3	Others	--	--	--	--	**--**
	Debt Servicing	--	--	--	--	**--**
	Total- Revenue Expenditure (Excl. W&D Fund)	**--**	**0.94**	**13.76**	**12.50**	**9.06**
D	**Water and Sanitation Fund**					
1	Staff Salary & Employee Related Expenses	--	1,185.76	(25.66)	185.56	**448.55**
2	Administration Expenses	--	--	--	--	**--**
3	Equipment Maintenance & Repairs	--	5,147.68	348.16	15.16	**1,837.00**
4	Board Payment	--	--	--	--	**--**
5	Electricity Charges	--	(23.85)	--	--	**(23.85)**
6	Vehicle Maintenance & Repairs	--	--	(88.80)	2,007.04	**959.12**
7	Miscellaneous	--	--	--	1,814.81	**1,814.81**
8	Debt Servicing- Old	--	--	--	(6.28)	**(6.28)**
	Total- W&D Fund Revenue Expenditure	**--**	**(28.29)**	**(48.54)**	**421.92**	**115.03**
	Total- Revenue Expenditure	--	**(6.71)**	**1.22**	**54.38**	**16.30**
	Operating Surplus (W&D Revenue Fund)					
	Operating Surplus (Revenue Account)					
	Closing Balance-(Revenue Account)					
	Transfer to Capital Account					

Appendix IV: Municipal Finance						
17- Kovilpatti Municipality - Abstract of Accounts		***3- Income and Expenditure -Growth Trends***				
	Head of Account	**2000-01**	**2001-02**	**2002-03**	**2003-04**	**Average**
		Percentage increase over previous year				
	CAPITAL ACCOUNT					
III	**Capital Income**					
A	**Capital Loans**					
1	Public Works and Roads	--	--	--	--	--
2	Street Lighting	--	--	--	--	--
3	Public Health & Conservancy	--	--	--	--	--
4	Education	--	--	--	--	--
5	Others	--	--	--	--	--
	Capital Loans	--	--	--	--	--
B	**Capital Grants and Contribution**					
1	Public Works and Roads	--	--	--	--	--
2	Education	--	--	--	--	--
3	Others	--	(66.93)	592.67	50.99	**192.24**
4	Tenth/Eleventh Finance Commission Grants	--	--	--	--	--
	Capital Grants and Contribution	--	*(66.93)*	*592.67*	*55.52*	**193.75**
C	**Own Sources**					
1	Transfer from Revenue Account	--	--	--	--	--
2	Sale of Municipal Property	--	--	--	--	--
	Own Sources- Capital	--	--	--	--	--
	Total- Capital Income	**--**	**(84.18)**	**592.67**	**55.52**	**188.00**
	Water and Drainage Fund					
D	**Capital Loans**					
1	Water Supply	--	--	--	--	--
2	Sewerage & Sanitation	--	--	--	--	--
	Capital Loans W&D Fund	--	--	--	--	--
E	**Capital Grants and Contribution**					
1	Water Supply	--	--	--	21.08	**21.08**
2	Sewerage & Sanitation	--	--	--	--	--
	W&D -Capital Grants and Contribution	--	--	--	*21.08*	***21.08***
F	**Own Sources**					
1	Water Connection Charge	--	(29.43)	0.10	(64.81)	**(31.38)**
2	Sewerage Connection Charge	--	--	--	--	--
	W&D Own Sources- Capital	--	(29.43)	0.10	(64.81)	**(31.38)**
	Total W&D Fund- Capital Income	**--**	**(29.43)**	**82.89**	**(25.93)**	**9.18**
	Total- Capital Income	**--**	**(77.93)**	**406.72**	**44.80**	**124.53**

Appendix IV: Municipal Finance						
17- Kovilpatti Municipality - Abstract of Accounts		***3- Income and Expenditure -Growth Trends***				
	Head of Account	**2000-01**	**2001-02**	**2002-03**	**2003-04**	**Average**
		Percentage increase over previous year				
IV	**Capital Expenditure**					
1	General	--	--	--	(44.58)	**(44.58)**
2	Remunerative Schemes	--	--	--	--	**--**
3	Public Works and Roads	--	(67.14)	715.85	(80.42)	**189.43**
4	Street Lighting	--	(75.64)	1,379.85	57.23	**453.81**
5	Public Health & Conservancy	--	--	--	--	**--**
6	Education	--	--	--	1.35	**1.35**
6	Others	--	--	--	--	**--**
	Total - Capital Expenditure Excl W&D Fund	--	*(75.11)*	*784.84*	*(68.31)*	*213.81*
	Water and Drainage Fund					
8	Water Supply	--	(65.84)	105.93	(29.88)	**3.40**
9	Sewerage & Sanitation	--	9.02	(52.15)	(68.56)	**(37.23)**
	Total W&D Fund- Capital Expenditure	--	*(31.15)*	*(10.07)*	*(44.98)*	*(28.73)*
	Total - Capital Expenditure	--	**(51.56)**	**179.57**	**(62.59)**	**21.80**
	Operating Surplus (W&D Capital Account)					
	Operating Surplus (Capital Account)					
	Operating Surplus (Over all excl.revenue a/c transfer)					
	EXTRAORDINARY ACCOUNT					
V	**EA Income**					
1	Cash at Bank/ in Hand					
2	Cess Income	--	--	--	(59.37)	**(59.37)**
3	Cash Deposit	--	51.80	(59.28)	5.46	**(0.67)**
4	Staff Advance	--	(26.58)	(27.28)	656.14	**200.76**
5	Security Deposit	--	--	--	--	**--**
6	Miscellaneous					
	Total- EA Income	--	**377.36**	**(20.56)**	**(2.12)**	**118.23**
VI	**EA Expenditure**					
1	Cess Transfers	--	--	--	--	**--**
2	Other- Deposits	--	--	--	--	**--**
3	PF and Pension	--	--	--	15,251.97	**15,251.97**
4	Miscellaneous	--	1,132.33	338.02	44.32	**504.89**
	Total- EA Expenditure	--	**1,138.37**	**336.07**	**73.94**	**516.13**
	Operating Surplus (Extraordinary Account)					
	Closing Balance (excl O/B)					

Appendix IV: Municipal Finance					
17- Kovilpatti Municipality - Abstract of Accounts		***4- FOP Assumptions***			
	Head of Account	**SAGR**	**CAGR**	**CAGR**	**Variable**
		% pa	*% pa*	*Rs. pc/ pa*	*%pa*
	Opening Balance				
	REVENUE ACCOUNT				
1	**Revenue Income**				
A	**Tax- Own Sources**				
1	Property Tax (General Purpose) - 38% of Total PT	5.35	5.04	3.61	
2	Property Tax (Education Purpose) - 17% of Total PT	5.35	5.04	3.61	
3	Profession Tax	5.93	5.60	4.17	6.00%
4	Other Taxes & Charges	(2.20)	(4.90)	(6.19)	5.00%
	Tax- Own Sources	*5.35*	*5.12*	*3.69*	
B	**Assigned Revenues**				
1	Entertainment Tax	(41.93)	(47.20)	--	5.00%
2	Surcharge on Stamp Duty	(20.65)	(20.65)	--	15.00%
3	Other Transfers	--	--	--	5.00%
	Assigned Revenues	*47.16*	*30.84*	--	
C	**Non Tax- Own Sources**				
1	Income from Municipal Properties and Markets	20.47	20.18	18.54	15.00%
2	License Income (Trade, etc.)	5.35	1.98	0.59	5.00%
3	Income from Special Services	--	--	--	5.00%
4	Income from Sale Proceeds	--	(100.00)	(100.00)	5.00%
5	Income from Fees and Fines	14.69	4.39	2.97	5.00%
6	Income from Interest on Deposits	288.61	139.12	--	6.00%
7	Income from Investments(Excl. Interest)	--	--	--	5.00%
8	Miscellaneous Income	123.20	47.05	45.05	5.00%
	Non Tax- Own Sources	*20.98*	*19.08*	*17.46*	
D	**Revenue Grants**				
1	State Finance Commission Grant	89.87	79.67	77.22	15.00%
2	Other Grants	141.40	(100.00)	--	5.00%
	Revenue Grants	*90.09*	*79.67*	*77.22*	
	Total- Revenue Income (Excl. W&D Fund)	**35.56**	**32.76**	**30.95**	
E	**Water and Drainage Fund**				
1	Water & Drainage Tax - 45% of Total PT	5.35	5.04	3.61	
2	Water Charges	3.03	1.83	0.45	
3	Drainage Charges	--	--	--	
4	Income from Interest on Deposits	106.07	64.83	--	6.00%
5	Water Supply & Sanitation Grant	--	(23.75)	--	5.00%
6	Other Income	--	--	--	5.00%
	Total- W&D Fund Revenue Income	**4.15**	**3.91**	**2.49**	
	Total- Revenue Income	**25.51**	**23.89**	**22.21**	

Appendix IV: Municipal Finance						
17- Kovilpatti Municipality - Abstract of Accounts			***4- FOP Assumptions***			
	Head of Account		**SAGR**	**CAGR**	**CAGR**	**Variable**
			% pa	*% pa*	*Rs. pc/ pa*	*%pa*
	II	**Revenue Expenditure**				
	A	**General Administration**				
	1	Staff Salary and Employee Related Expenses	5.30	5.04	3.61	8.00%
	2	Allowances to Elected Representatives	1.05	0.34	(1.03)	5.00%
	3	General Expenses	0.29	(9.07)	(10.31)	5.00%
	4	Pensions and Gratuities	(5.11)	(13.68)	(14.85)	5.00%
	5	Education - Staff Salary	--	--	--	5.00%
	6	Miscellaneous	57.41	45.31	43.34	15.00%
		Establishment	*3.52*	*3.44*	*2.03*	
	B	**Operation & Maintenance**				
	1	General Expenses	56.27	32.19	30.40	15.00%
	2	Public Works and Roads	124.92	105.16	102.37	20.00%
	3	Public Health and Conservancy	108.62	105.43	102.63	20.00%
	4	Contractor Payment- Conservancy	--	--	--	5.00%
	5	Street Lighting (including Electricity Charges)	15.36	10.62	9.11	10.00%
	6	Education	--	--	--	5.00%
	7	Vehicle and Equipment Maintenance	38.19	0.81	(0.57)	5.00%
	8	Miscellaneous	(26.28)	(34.65)	(35.54)	5.00%
		Operation & Maintenance	*33.78*	*32.45*	*30.65*	
	C	**Debt Servicing**				
	1	Public Works and Roads	--	--	--	
	2	Public Health and Conservancy	--	--	--	
	3	Others	--	--	--	
		Debt Servicing	--	--	--	
		Total- Revenue Expenditure (Excl. W&D Fund)	**9.06**	**8.91**	**7.43**	
	D	**Water and Sanitation Fund**				
	1	Staff Salary & Employee Related Expenses	448.55	201.09	196.99	8.00%
	2	Administration Expenses	--	--	--	5.00%
	3	Equipment Maintenance & Repairs	1,837.00	547.00	538.19	15.00%
	4	Board Payment	--	--	--	10.00%
	5	Electricity Charges	(23.85)	3.67	2.26	10.00%
	6	Vehicle Maintenance & Repairs	959.12	53.65	--	15.00%
	7	Miscellaneous	1,814.81	548.10	539.28	15.00%
	8	Debt Servicing- Old	(6.28)	(14.26)	(15.43)	
		Total- W&D Fund Revenue Expenditure	**115.03**	**24.41**	**22.72**	
		Total- Revenue Expenditure	**16.30**	**13.39**	**11.84**	
		Operating Surplus (W&D Revenue Fund)				
		Operating Surplus (Revenue Account)				
		Closing Balance-(Revenue Account)				
		Transfer to Capital Account				

Appendix IV: Municipal Finance						
17- Kovilpatti Municipality - Abstract of Accounts			***4- FOP Assumptions***			
	Head of Account		**SAGR**	**CAGR**	**CAGR**	**Variable**
			% pa	*% pa*	*Rs. pc/ pa*	*%pa*
		CAPITAL ACCOUNT				
	III	**Capital Income**				
	A	**Capital Loans**				
	1	Public Works and Roads	--	--	--	
	2	Street Lighting	--	--	--	
	3	Public Health & Conservancy	--	--	--	
	4	Education	--	--	--	
	5	Others	--	*(100.00)*	--	
		Capital Loans	--	(100.00)	--	
	B	**Capital Grants and Contribution**				
	1	Public Works and Roads	--	--	--	5.00%
	2	Education	--	--	--	5.00%
	3	Others	192.24	51.23	49.17	5.00%
	4	Tenth/Eleventh Finance Commission Grants	--	--	--	5.00%
		Capital Grants and Contribution	193.75	*52.72*	*50.65*	
	C	**Own Sources**				
	1	Transfer from Revenue Account	--	--	--	
	2	Sale of Municipal Property	--	--	--	
		Own Sources- Capital	--	--	--	
		Total- Capital Income	**188.00**	**19.46**	**17.83**	
		Water and Drainage Fund				
	D	**Capital Loans**				
	1	Water Supply	--	--	--	
	2	Sewerage & Sanitation	--	--	--	
		Capital Loans W&D Fund	--	--	--	
	E	**Capital Grants and Contribution**				
	1	Water Supply	21.08	21.08	--	5.00%
	2	Sewerage & Sanitation	--	--	--	5.00%
		W&D -Capital Grants and Contribution	*21.08*	*21.08*	--	
	F	**Own Sources**				
	1	Water Connection Charge	(31.38)	(37.12)	(37.98)	
	2	Sewerage Connection Charge	--	--	--	
		W&D Own Sources- Capital	*(31.38)*	*(37.12)*	*(37.98)*	
		Total W&D Fund- Capital Income	**9.18**	**(1.49)**	**(2.83)**	
		Total- Capital Income	**124.53**	**17.43**	**15.83**	

Appendix IV: Municipal Finance						
17- Kovilpatti Municipality - Abstract of Accounts			***4- FOP Assumptions***			
	Head of Account		**SAGR**	**CAGR**	**CAGR**	**Variable**
			% pa	*% pa*	*Rs. pc/ pa*	*%pa*
	IV	**Capital Expenditure**				
	1	General	(44.58)	(53.61)	(54.24)	
	2	Remunerative Schemes	--	--	--	
	3	Public Works and Roads	189.43	(19.33)	(20.43)	
	4	Street Lighting	453.81	78.30	75.88	
	5	Public Health & Conservancy	--	(100.00)	(100.00)	
	6	Education	1.35	50.65	48.60	
	6	Others	--	(100.00)	--	
		Total - Capital Expenditure Excl W&D Fund	*213.81*	*(11.29)*	*(12.50)*	
		Water and Drainage Fund				
	8	Water Supply	3.40	(20.99)	(22.06)	
	9	Sewerage & Sanitation	(37.23)	(45.26)	(46.00)	
		Total W&D Fund- Capital Expenditure	*(28.73)*	*(30.16)*	*(31.11)*	
		Total - Capital Expenditure	**21.80**	**(20.28)**	**(21.37)**	
		Operating Surplus (W&D Capital Account)				
		Operating Surplus (Capital Account)				
		Operating Surplus (Over all excl.revenue a/c transfer)				
		EXTRAORDINARY ACCOUNT				
	V	**EA Income**				
	1	Cash at Bank/ in Hand				
	2	Cess Income	(59.37)	(36.09)		
	3	Cash Deposit	(0.67)	(13.29)		
	4	Staff Advance	200.76	59.23		
	5	Security Deposit	--	(23.68)		
	6	Miscellaneous				
		Total- EA Income	**118.23**	**54.84**		
	VI	**EA Expenditure**				
	1	Cess Transfers	--	--		
	2	Other- Deposits	--	642.36		
	3	PF and Pension	15,251.97	15,251.97		
	4	Miscellaneous	504.89	327.08		
		Total- EA Expenditure	**516.13**	**354.57**		
		Operating Surplus (Extraordinary Account)				
		Closing Balance (excl O/B)				

Appendix V: Ward Level Priorities - Short Term Projects Details						
	Sector		**Component**	**Quantity**	**Unit**	**Cost (Rs. Lakhs)**
Ward 1	1	CIP-Roads				
		i	Widening	0.94	Km	1.87
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	0.01	Km	0.10
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	-	Km	-
		vii	New Formation - WBM Roads	-	Km	-
	2	CIP-Water				
		i	Distribution Network Reach	-	Km	-
	3	CIP-Storm water Drains				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	1.14	Km	11.35
		iv	New Formation - Pucca Open	-	Km	-
		v	New Formation - Pucca Closed	-	Km	-
	4	CIP-Street Lights				
		i	No. of Tube Lights	-	No.s	-
		ii	No. of High Power Lamps	13.00	No.s	1.17
	5	CIP-Slums				
		i	Seats of Public Conveniences	-	No.s	-
Ward 2	1	CIP-Roads				
		i	Widening	-	Km	-
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	-	Km	-
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	0.80	Km	8.03
		vii	New Formation - WBM Roads	-	Km	-
	2	CIP-Water				
		i	Distribution Network Reach	1.63	Km	5.06
	3	CIP-Storm water Drains				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	0.79	Km	7.89
		iv	New Formation - Pucca Open	-	Km	-
		v	New Formation - Pucca Closed	1.40	Km	20.24
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	46.00	No.s	2.07
		ii	No. of High Power Lamps	23.00	No.s	2.07
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 3	**1**	**CIP-Roads**				
		i	Widening	-	Km	-
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	0.41	Km	4.11
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	4.16	Km	41.60
		vii	New Formation - WBM Roads	0.85	Km	5.75
	2	**CIP-Water**				
		i	Distribution Network Reach	3.96	Km	12.29
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	-	Km	-

Appendix V: Ward Level Priorities - Short Term Projects Details						
	Sector		**Component**	**Quantity**	**Unit**	**Cost (Rs. Lakhs)**
		iv	New Formation - Pucca Open	3.51	Km	42.95
		v	New Formation - Pucca Closed	4.25	Km	61.63
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	122.00	No.s	5.49
		ii	No. of High Power Lamps	40.00	No.s	3.60
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	22.90	No.s	14.31
Ward 4	**1**	**CIP-Roads**				
		i	Widening	-	Km	-
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	0.03	Km	0.27
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	1.04	Km	10.39
		vii	New Formation - WBM Roads	-	Km	-
	2	**CIP-Water**				
		i	Distribution Network Reach	1.02	Km	3.16
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	-	Km	-
		iv	New Formation - Pucca Open	0.40	Km	4.88
		v	New Formation - Pucca Closed	1.97	Km	28.53
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	14.00	No.s	0.63
		ii	No. of High Power Lamps	2.00	No.s	0.18
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 5	**1**	**CIP-Roads**				
		i	Widening	-	Km	-
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	0.11	Km	1.10
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	4.41	Km	44.13
		vii	New Formation - WBM Roads	-	Km	-
	2	**CIP-Water**				
		i	Distribution Network Reach	3.42	Km	10.61
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	-	Km	-
		iv	New Formation - Pucca Open	3.58	Km	43.87
		v	New Formation - Pucca Closed	4.08	Km	59.17
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	93.00	No.s	4.19
		ii	No. of High Power Lamps	42.00	No.s	3.78
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 6	**1**	**CIP-Roads**				
		i	Widening	-	Km	-
		ii	Up-gradation - BT to CC	0.16	Km	0.16
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	-	Km	-
		v	New Formation - CC Roads	-	Km	-

Appendix V: Ward Level Priorities - Short Term Projects Details						
	Sector		**Component**	**Quantity**	**Unit**	**Cost (Rs. Lakhs)**
		vi	New Formation - BT Roads	-	Km	-
		vii	New Formation - WBM Roads	-	Km	-
	2	**CIP-Water**				
		i	Distribution Network Reach	0.53	Km	1.64
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	0.15	Km	1.48
		iv	New Formation - Pucca Open	-	Km	-
		v	New Formation - Pucca Closed	1.81	Km	26.19
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	-	No.s	-
		ii	No. of High Power Lamps	16.00	No.s	1.44
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 7	**1**	**CIP-Roads**				
		i	Widening	-	Km	-
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	-	Km	-
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	2.22	Km	22.22
		vii	New Formation - WBM Roads	0.13	Km	0.87
	2	**CIP-Water**				
		i	Distribution Network Reach	2.23	Km	6.92
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	0.27	Km	2.69
		iv	New Formation - Pucca Open	-	Km	-
		v	New Formation - Pucca Closed	2.73	Km	39.52
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	52.00	No.s	2.34
		ii	No. of High Power Lamps	32.00	No.s	2.88
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 8	**1**	**CIP-Roads**				
		i	Widening	0.32	Km	0.64
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	0.10	Km	0.47
		iv	Up-gradation - Earthen to BT	0.14	Km	1.42
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	-	Km	-
		vii	New Formation - WBM Roads	-	Km	-
	2	**CIP-Water**				
		i	Distribution Network Reach	0.47	Km	1.46
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	1.70	Km	16.96
		iv	New Formation - Pucca Open	-	Km	-
		v	New Formation - Pucca Closed	-	Km	-
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	-	No.s	-
		ii	No. of High Power Lamps	18.00	No.s	1.62

Appendix V: Ward Level Priorities - Short Term Projects Details						
	Sector		**Component**	**Quantity**	**Unit**	**Cost (Rs. Lakhs)**
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 9	**1**	**CIP-Roads**				
		i	Widening	-	Km	-
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	-	Km	-
		v	New Formation - CC Roads	0.30	Km	17.05
		vi	New Formation - BT Roads	4.70	Km	47.01
		vii	New Formation - WBM Roads	0.59	Km	4.00
	2	**CIP-Water**				
		i	Distribution Network Reach	4.71	Km	14.61
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	-	Km	-
		iv	New Formation - Pucca Open	4.81	Km	58.90
		v	New Formation - Pucca Closed	3.56	Km	51.60
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	84.00	No.s	3.78
		ii	No. of High Power Lamps	39.00	No.s	3.51
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	9.11	No.s	5.69
Ward 10	**1**	**CIP-Roads**				
		i	Widening	0.33	Km	0.65
		ii	Up-gradation - BT to CC	0.05	Km	0.05
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	-	Km	-
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	-	Km	-
		vii	New Formation - WBM Roads	-	Km	-
	2	**CIP-Water**				
		i	Distribution Network Reach	-	Km	-
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	0.65	Km	6.52
		iv	New Formation - Pucca Open	-	Km	-
		v	New Formation - Pucca Closed	-	Km	-
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	-	No.s	-
		ii	No. of High Power Lamps	7.00	No.s	0.63
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 11	**1**	**CIP-Roads**				
		i	Widening	-	Km	-
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	-	Km	-
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	-	Km	-
		vii	New Formation - WBM Roads	-	Km	-
	2	**CIP-Water**				
		i	Distribution Network Reach	-	Km	-

Appendix V: Ward Level Priorities - Short Term Projects Details						
	Sector		**Component**	**Quantity**	**Unit**	**Cost (Rs. Lakhs)**
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	1.15	Km	11.50
		iv	New Formation - Pucca Open	-	Km	-
		v	New Formation - Pucca Closed	-	Km	-
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	-	No.s	-
		ii	No. of High Power Lamps	12.00	No.s	1.08
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 12	**1**	**CIP-Roads**				
		i	Widening	-	Km	-
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	-	Km	-
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	3.76	Km	37.61
		vii	New Formation - WBM Roads	0.42	Km	2.85
	2	**CIP-Water**				
		i	Distribution Network Reach	3.62	Km	11.23
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	-	Km	-
		iv	New Formation - Pucca Open	2.21	Km	27.05
		v	New Formation - Pucca Closed	3.44	Km	49.87
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	92.00	No.s	4.14
		ii	No. of High Power Lamps	33.00	No.s	2.97
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 13	**1**	**CIP-Roads**				
		i	Widening	-	Km	-
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	-	Km	-
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	3.70	Km	37.03
		vii	New Formation - WBM Roads	0.67	Km	4.56
	2	**CIP-Water**				
		i	Distribution Network Reach	3.60	Km	11.17
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	-	Km	-
		iv	New Formation - Pucca Open	2.12	Km	25.96
		v	New Formation - Pucca Closed	3.62	Km	52.48
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	70.00	No.s	3.15
		ii	No. of High Power Lamps	26.00	No.s	2.34
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-

Appendix V: Ward Level Priorities - Short Term Projects Details						
	Sector		**Component**	**Quantity**	**Unit**	**Cost (Rs. Lakhs)**
Ward 14	**1**	**CIP-Roads**				
		i	Widening	-	Km	-
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	-	Km	-
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	-	Km	-
		vii	New Formation - WBM Roads	-	Km	-
	2	**CIP-Water**				
		i	Distribution Network Reach	0.42	Km	1.30
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	0.22	Km	2.19
		iv	New Formation - Pucca Open	-	Km	-
		v	New Formation - Pucca Closed	0.65	Km	9.47
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	-	No.s	-
		ii	No. of High Power Lamps	-	No.s	-
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 15	**1**	**CIP-Roads**				
		i	Widening	2.05	Km	4.10
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	-	Km	-
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	-	Km	-
		vii	New Formation - WBM Roads	-	Km	-
	2	**CIP-Water**				
		i	Distribution Network Reach	0.99	Km	3.07
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	2.46	Km	24.59
		iv	New Formation - Pucca Open	-	Km	-
		v	New Formation - Pucca Closed	-	Km	-
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	48.00	No.s	2.16
		ii	No. of High Power Lamps	25.00	No.s	2.25
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 16	**1**	**CIP-Roads**				
		i	Widening	0.43	Km	0.86
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	-	Km	-
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	-	Km	-
		vii	New Formation - WBM Roads	-	Km	-
	2	**CIP-Water**				
		i	Distribution Network Reach	0.78	Km	2.42

Appendix V: Ward Level Priorities - Short Term Projects Details						
	Sector		**Component**	**Quantity**	**Unit**	**Cost (Rs. Lakhs)**
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	0.74	Km	7.38
		iv	New Formation - Pucca Open	-	Km	-
		v	New Formation - Pucca Closed	-	Km	-
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	2.00	No.s	0.09
		ii	No. of High Power Lamps	7.00	No.s	0.63
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 17	**1**	**CIP-Roads**				
		i	Widening	0.31	Km	0.63
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	-	Km	-
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	-	Km	-
		vii	New Formation - WBM Roads	-	Km	-
	2	**CIP-Water**				
		i	Distribution Network Reach	-	Km	-
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	0.48	Km	4.85
		iv	New Formation - Pucca Open	-	Km	-
		v	New Formation - Pucca Closed	0.05	Km	0.76
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	-	No.s	-
		ii	No. of High Power Lamps	3.00	No.s	0.27
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 18	**1**	**CIP-Roads**				
		i	Widening	-	Km	-
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	-	Km	-
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	3.05	Km	30.51
		vii	New Formation - WBM Roads	0.28	Km	1.88
	2	**CIP-Water**				
		i	Distribution Network Reach	2.84	Km	8.81
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	-	Km	-
		iv	New Formation - Pucca Open	1.75	Km	21.48
		v	New Formation - Pucca Closed	2.74	Km	39.67

Appendix V: Ward Level Priorities - Short Term Projects Details						
	Sector		**Component**	**Quantity**	**Unit**	**Cost (Rs. Lakhs)**
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	59.00	No.s	2.66
		ii	No. of High Power Lamps	26.00	No.s	2.34
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 19	**1**	**CIP-Roads**				
		i	Widening	-	Km	-
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	0.05	Km	0.50
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	3.53	Km	35.33
		vii	New Formation - WBM Roads	0.58	Km	3.89
	2	**CIP-Water**				
		i	Distribution Network Reach	3.44	Km	10.67
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	-	Km	-
		iv	New Formation - Pucca Open	3.59	Km	44.00
		v	New Formation - Pucca Closed	2.75	Km	39.84
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	106.00	No.s	4.77
		ii	No. of High Power Lamps	28.00	No.s	2.52
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 20	**1**	**CIP-Roads**				
		i	Widening	0.26	Km	0.52
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	0.09	Km	0.41
		iv	Up-gradation - Earthen to BT	0.06	Km	0.60
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	-	Km	-
		vii	New Formation - WBM Roads	-	Km	-
	2	**CIP-Water**				
		i	Distribution Network Reach	-	Km	-
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	0.63	Km	6.27
		iv	New Formation - Pucca Open	-	Km	-
		v	New Formation - Pucca Closed	0.08	Km	1.12

Appendix V: Ward Level Priorities - Short Term Projects Details						
	Sector		**Component**	**Quantity**	**Unit**	**Cost (Rs. Lakhs)**
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	-	No.s	-
		ii	No. of High Power Lamps	-	No.s	-
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 21	**1**	**CIP-Roads**				
		i	Widening	-	Km	-
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	-	Km	-
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	-	Km	-
		vii	New Formation - WBM Roads	-	Km	-
	2	**CIP-Water**				
		i	Distribution Network Reach	-	Km	-
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	0.57	Km	5.71
		iv	New Formation - Pucca Open	-	Km	-
		v	New Formation - Pucca Closed	0.08	Km	1.14
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	-	No.s	-
		ii	No. of High Power Lamps	1.00	No.s	0.09
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 22	**1**	**CIP-Roads**				
		i	Widening	0.83	Km	1.66
		ii	Up-gradation - BT to CC	0.03	Km	0.03
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	-	Km	-
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	-	Km	-
		vii	New Formation - WBM Roads	-	Km	-
	2	**CIP-Water**				
		i	Distribution Network Reach	0.73	Km	2.26
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	0.46	Km	4.63
		iv	New Formation - Pucca Open	-	Km	-
		v	New Formation - Pucca Closed	0.56	Km	8.18
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	-	No.s	-
		ii	No. of High Power Lamps	6.00	No.s	0.54
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 23	**1**	**CIP-Roads**				
		i	Widening	-	Km	-
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	-	Km	-

Appendix V: Ward Level Priorities - Short Term Projects Details						
	Sector		**Component**	**Quantity**	**Unit**	**Cost (Rs. Lakhs)**
		iv	Up-gradation - Earthen to BT	-	Km	-
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	-	Km	-
		vii	New Formation - WBM Roads	-	Km	-
	2	**CIP-Water**				
		i	Distribution Network Reach	-	Km	-
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	0.43	Km	4.29
		iv	New Formation - Pucca Open	-	Km	-
		v	New Formation - Pucca Closed	-	Km	-
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	-	No.s	-
		ii	No. of High Power Lamps	2.00	No.s	0.18
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 24	**1**	**CIP-Roads**				
		i	Widening	0.34	Km	0.68
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	0.05	Km	0.50
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	-	Km	-
		vii	New Formation - WBM Roads	-	Km	-
	2	**CIP-Water**				
		i	Distribution Network Reach	0.83	Km	2.57
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	1.17	Km	11.73
		iv	New Formation - Pucca Open	-	Km	-
		v	New Formation - Pucca Closed	-	Km	-
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	-	No.s	-
		ii	No. of High Power Lamps	-	No.s	-
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 25	**1**	**CIP-Roads**				
		i	Widening	-	Km	-
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	-	Km	-
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	-	Km	-
		vii	New Formation - WBM Roads	-	Km	-
	2	**CIP-Water**				
		i	Distribution Network Reach	-	Km	-
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	0.97	Km	9.68
		iv	New Formation - Pucca Open	-	Km	-
		v	New Formation - Pucca Closed	-	Km	-

Appendix V: Ward Level Priorities - Short Term Projects Details						
	Sector		**Component**	**Quantity**	**Unit**	**Cost (Rs. Lakhs)**
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	-	No.s	-
		ii	No. of High Power Lamps	-	No.s	-
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 26	**1**	**CIP-Roads**				
		i	Widening	-	Km	-
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	-	Km	-
		v	New Formation - CC Roads	0.31	Km	17.56
		vi	New Formation - BT Roads	3.37	Km	33.71
		vii	New Formation - WBM Roads	0.61	Km	4.12
	2	**CIP-Water**				
		i	Distribution Network Reach	3.85	Km	11.94
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	-	Km	-
		iv	New Formation - Pucca Open	3.67	Km	44.91
		v	New Formation - Pucca Closed	3.66	Km	53.13
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	96.00	No.s	4.32
		ii	No. of High Power Lamps	25.00	No.s	2.25
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 27	**1**	**CIP-Roads**				
		i	Widening	-	Km	-
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	0.39	Km	1.73
		iv	Up-gradation - Earthen to BT	-	Km	-
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	1.38	Km	13.76
		vii	New Formation - WBM Roads	-	Km	-
	2	**CIP-Water**				
		i	Distribution Network Reach	1.93	Km	5.99
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	0.59	Km	5.86
		iv	New Formation - Pucca Open	-	Km	-
		v	New Formation - Pucca Closed	2.78	Km	40.36
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	-	No.s	-
		ii	No. of High Power Lamps	36.00	No.s	3.24
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 28	**1**	**CIP-Roads**				
		i	Widening	0.91	Km	1.82
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	0.20	Km	0.88
		iv	Up-gradation - Earthen to BT	-	Km	-
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	-	Km	-
		vii	New Formation - WBM Roads	-	Km	-

Appendix V: Ward Level Priorities - Short Term Projects Details						
	Sector		**Component**	**Quantity**	**Unit**	**Cost (Rs. Lakhs)**
	2	**CIP-Water**				
		i	Distribution Network Reach	0.90	Km	2.79
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	1.49	Km	14.86
		iv	New Formation - Pucca Open	-	Km	-
		v	New Formation - Pucca Closed	0.41	Km	5.95
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	-	No.s	-
		ii	No. of High Power Lamps	19.00	No.s	1.71
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 29	**1**	**CIP-Roads**				
		i	Widening	-	Km	-
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	0.27	Km	1.22
		iv	Up-gradation - Earthen to BT	0.07	Km	0.70
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	-	Km	-
		vii	New Formation - WBM Roads	-	Km	-
	2	**CIP-Water**				
		i	Distribution Network Reach	-	Km	-
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	-	Km	-
		iv	New Formation - Pucca Open	0.29	Km	3.55
		v	New Formation - Pucca Closed	2.11	Km	30.55
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	-	No.s	-
		ii	No. of High Power Lamps	23.00	No.s	2.07
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 30	**1**	**CIP-Roads**				
		i	Widening	1.06	Km	2.12
		ii	Up-gradation - BT to CC	0.20	Km	0.20
		iii	Up-gradation - WBM to BT	0.11	Km	0.50
		iv	Up-gradation - Earthen to BT	0.04	Km	0.40
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	-	Km	-
		vii	New Formation - WBM Roads	-	Km	-
	2	**CIP-Water**				
		i	Distribution Network Reach	0.43	Km	1.33
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	1.26	Km	12.59
		iv	New Formation - Pucca Open	-	Km	-
		v	New Formation - Pucca Closed	1.17	Km	16.89
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	18.00	No.s	0.81
		ii	No. of High Power Lamps	27.00	No.s	2.43
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-

Appendix V: Ward Level Priorities - Short Term Projects Details						
	Sector		**Component**	**Quantity**	**Unit**	**Cost (Rs. Lakhs)**
Ward 31	**1**	**CIP-Roads**				
		i	Widening	-	Km	-
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	0.08	Km	0.80
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	2.85	Km	28.53
		vii	New Formation - WBM Roads	0.24	Km	1.61
	2	**CIP-Water**				
		i	Distribution Network Reach	3.67	Km	11.39
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	-	Km	-
		iv	New Formation - Pucca Open	3.29	Km	40.34
		v	New Formation - Pucca Closed	2.76	Km	39.95
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	16.00	No.s	0.72
		ii	No. of High Power Lamps	30.00	No.s	2.70
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	14.75	No.s	9.22
Ward 32	**1**	**CIP-Roads**				
		i	Widening	-	Km	-
		ii	Up-gradation - BT to CC	0.11	Km	0.11
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	-	Km	-
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	-	Km	-
		vii	New Formation - WBM Roads	-	Km	-
	2	**CIP-Water**				
		i	Distribution Network Reach	0.84	Km	2.61
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	0.10	Km	0.98
		iv	New Formation - Pucca Open	-	Km	-
		v	New Formation - Pucca Closed	1.21	Km	17.55
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	-	No.s	-
		ii	No. of High Power Lamps	14.00	No.s	1.26
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 33	**1**	**CIP-Roads**				
		i	Widening	0.70	Km	1.40
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	-	Km	-
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	-	Km	-
		vii	New Formation - WBM Roads	-	Km	-
	2	**CIP-Water**				
		i	Distribution Network Reach	-	Km	-
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	-	Km	-

Appendix V: Ward Level Priorities - Short Term Projects Details						
	Sector		**Component**	**Quantity**	**Unit**	**Cost (Rs. Lakhs)**
		iv	New Formation - Pucca Open	0.46	Km	5.65
		v	New Formation - Pucca Closed	2.09	Km	30.36
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	34.00	No.s	1.53
		ii	No. of High Power Lamps	22.00	No.s	1.98
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 34	**1**	**CIP-Roads**				
		i	Widening	-	Km	-
		ii	Up-gradation - BT to CC	0.10	Km	0.10
		iii	Up-gradation - WBM to BT	0.30	Km	1.36
		iv	Up-gradation - Earthen to BT	0.05	Km	0.50
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	-	Km	-
		vii	New Formation - WBM Roads	-	Km	-
	2	**CIP-Water**				
		i	Distribution Network Reach	-	Km	-
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	0.20	Km	1.99
		iv	New Formation - Pucca Open	-	Km	-
		v	New Formation - Pucca Closed	0.99	Km	14.31
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	-	No.s	-
		ii	No. of High Power Lamps	13.00	No.s	1.17
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	-	No.s	-
Ward 35	**1**	**CIP-Roads**				
		i	Widening	-	Km	-
		ii	Up-gradation - BT to CC	-	Km	-
		iii	Up-gradation - WBM to BT	-	Km	-
		iv	Up-gradation - Earthen to BT	-	Km	-
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	3.86	Km	38.59
		vii	New Formation - WBM Roads	0.43	Km	2.91
	2	**CIP-Water**				
		i	Distribution Network Reach	3.33	Km	10.33
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	-	Km	-
		iv	New Formation - Pucca Open	2.46	Km	30.16
		v	New Formation - Pucca Closed	3.59	Km	51.99
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	61.00	No.s	2.75
		ii	No. of High Power Lamps	29.00	No.s	2.61
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	7.65	No.s	4.78

Appendix V: Ward Level Priorities - Short Term Projects Details						
	Sector		**Component**	**Quantity**	**Unit**	**Cost (Rs. Lakhs)**
Ward 36	**1**	**CIP-Roads**				
		i	Widening	-	Km	-
		ii	Up-gradation - BT to CC	0.20	Km	0.20
		iii	Up-gradation - WBM to BT	0.08	Km	0.36
		iv	Up-gradation - Earthen to BT	0.08	Km	0.80
		v	New Formation - CC Roads	-	Km	-
		vi	New Formation - BT Roads	-	Km	-
		vii	New Formation - WBM Roads	-	Km	-
	2	**CIP-Water**				
		i	Distribution Network Reach	0.89	Km	2.76
	3	**CIP-Storm water Drains**				
		i	Upgradation - Kutcha to Pucca Open	-	Km	-
		ii	Upgradation - Kutcha to Pucca Closed	-	Km	-
		iii	Upgradation - Pucca Open to Closed	0.67	Km	6.71
		iv	New Formation - Pucca Open	-	Km	-
		v	New Formation - Pucca Closed	1.68	Km	24.29
	4	**CIP-Street Lights**				
		i	No. of Tube Lights	24.00	No.s	1.08
		ii	No. of High Power Lamps	22.00	No.s	1.98
	5	**CIP-Slums**				
		i	Seats of Public Conveniences	15.43	No.s	9.64

Appendices VI: Draft Memorandum of Agreement

DRAFT MEMORANDUM OF AGREEMENT BETWEEN URBAN LOCAL BODY AND TAMILNADU URBAN INFRASTRUCTURE FINANCIAL SERVICES LIMITED

Dated _____

THIS AGREEMENT is made on this _____ day of _____,2006 _____ between the Tamilnadu Urban Infrastructure Financial Services Ltd., and Urban Local Body.

WHEREAS the projects identified in the City Corporate Cum Business Plan seeks financial assistance from the TNUIFSL under the World Bank AID.

WHEREAS the projects identified in the City Corporate Cum Business Plan, in pursuance of the requirements for Comprehensive City Development, fully detailed in the City Corporate Cum Business Plan:

AND WHEREAS the comprehensive infrastructure projects identified in the City Corporate Cum Business Plan has prepare feasibility and detailed project reports:

AND WHEREAS municipality has to implement the reform agenda, as per the timeline indicated in the reform agenda.

AND WHEREAS the projects identified in the City Corporate Cum Business Plan has considered the City Corporate cum Business Plan Report and found them consistent with the goals and objectives of CCP-BP:

NOW THE PARTIES WITNESSED as follows:

1. That the sustainable prioritize infrastructure projects identified in the City Corporate cum Business Plan report will be taken up as given in the Memorandum of Agreement.

(a) _____

(b) _____

(c) _____

2. The TNUIFSL and the Local Body should engage Third party quality control agency to check quality and audit.

3. Local Body is the responsible agency to see the progress of the projects, progress of the ongoing projects and also the implementation of reforms agenda.

4. That the parties to the agreement further covenant that in case of a dispute between the parties the matter will be resolved to arbitration within the provisions of the arbitration and conciliation Act, 1996 and the rules framed there under and amended from time to time. The matter in dispute shall be referred to _____ (Insert a name of an arbitrator) as arbitrator, however, in case such person refuses to act as arbitrator, or is rendered, unable because of sickness or otherwise, or dies, _____ (name of the second person for arbitrator) shall act as arbitrator between the parties and the dispute shall be referred to such person and still in case this second person is not available for any reason to act as arbitrator between the parties, both parties shall name one person of their choice as arbitrator and decision such arbitration shall be final and binding on the parties.

IN WITNESS HEREOF all the parties have put their hands on these presents of Memorandum of Agreement in the presence of witnesses.

WITTNESES:

1. _____ TNUIFSL

2. _____ Or

Urban Local Body

(Government of Tamilnadu)