



SEPTEMBER 2009
STAGE - IV
CLUSTER - V

Final Report
for
City Corporate cum Business Plan
for
Arakkonam Town
(Vellore District)



Submitted by:



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EXECUTIVE SUMMARY

1. CITY CORPORATE CUM BUSINESS PLAN – CONTEXT and CONTENT

The Tamil Nadu Urban Infrastructure Financial Services (TNUIFSL) aims to assist municipality in strengthening and improving its financial position for effective capital investment management and urban service delivery. The CMA and TNUIFSL have initiated the process of preparing the CCCBP for the municipality to enhance the vision of stakeholders in the growth of the town. The objective of this study is

1. To assess the present status of infrastructure facilities available in the ULB and to suggest a comprehensive infrastructure plan with capital investment plan to meet the future needs.
2. To outline issues in revenue realization in the ULB and suggest measures for revenue enhancement & financial improvement in the ULB
3. In consultations with Stake holders and Council, suggest Action Plan and FOP to implement the infrastructure plan.

2. SWOT and VISION

Arakkonam, a Grade I Municipality located in Vellore District, at a distance of about 68 km from Chennai. The area of the town is 9.06 sq. km and the population is 78,686 as per census 2001. The latitude and longitude of this town are 13° 6' 0" North, 79° 40' 0" East respectively.

Arakkonam is one of the fast growing town and major node in Southern Railway network. The Tamil Nadu government has given a lot of impetus for growth to Arakkonam municipality to become a prime outlying suburb of Chennai.

Confederation of Indian Industry (CII), Tamil Nadu State Council is proposed for the development of 'MAP' region (comprising Marakkanam, Arakkonam, and Pulicat) to build a strong **Greater Chennai Region** for balanced and inclusive regional development in Tamil Nadu.

A town level SWOT analysis, with reference to its regional context has been done based on feedback from stakeholder workshops and analysis of the status of various sectors of the city.

SWOT Analysis for Arakkonam Municipality

Strength	Weakness
Good connectivity to cities and major urban centers	Absence of National Highway Linkage
Chennai city Suburban rail connectivity	High percentage of slum population
Location of Arakkonam Naval Air Station	Inadequate institutional capabilities
Second biggest FCI (Food Corporation of India) in Tamil Nadu	Traffic congestion due to encroachments on road
MAP – Greater Chennai region	Absence of national highway linkage
Center for Engineering Excellence	Link roads in bad Shape
Established rail connectivity to major urban centres in South India.	Inadequate and poor quality infrastructure
Opportunities	Threat
Employment opportunities due to new industrial establishments and SEZ for the IT/ITES/Electronic Hardware & Warehousing.	Drastic reduction in agricultural activities due to land pollution and lucrative industrial jobs.
Excellent talent pool due to well established educational base	Poor road surfaces leading to dusty / unsafe conditions and stagnation during monsoons.
Prime outlying suburb of Chennai	Inadequate infrastructure provision
Ability and willingness of representatives to spearhead reforms	High rate of land conversion due to urbanisation
Availability of land for future development	Rise in land values
Enterprising, motivating and dedicated Municipal staff.	Dissatisfaction among public due to problems in service delivery

Source : Feedback from stakeholders meeting and analysis.

The town of Arakkonam is visualized as " **A regional nodal center for the MAP region of Greater Chennai supported with world class infrastructure for achieving better investment climate and sustainable living conditions**".

Supporting this vision is a set of development objectives, defined along various sectors of infrastructure. It covers the current status, issues in the sector, likely future demand, strategies for improvement and identified projects to meet these objectives. The sectors covered in the report for Arakkonam include water supply, sewerage and sanitation, solid waste management, storm water drains, street lights, slum improvement and other remunerative and social projects.

3. CITY INVESTMENT PLAN

The summary of sector-wise investment requirements and prioritisation is given in the following table. The total investment required would be over **Rs. 11655.71 lakhs**.

Capital Investment Needs for Arakkonam

S.N	Project Description	Rs.in lakhs
1	Water Supply	4873.00
	Mettur CWSS	2658.00
	Water Supply Improvement Scheme	2215.00
2	Sewerage	3100.00
3	Storm Water Drain	658.00
4	Solid Waste Management	754.30

5	Roads and bus stand	1169.00
6	Street light	85.66
7	Slum Improvement	203.00
8	Education	288.25
9	Park	46.00
10	Market	245.50
a	Improvements to fish market	50.00
b	Renovation of Daily market	50.00
c	Shopping complex at Old bus stand	100.50
d	Community hall at Old bus stand	45.00
11	Slaughter House	35.00
12	Public Convenience	70.00
13	Burial Ground	78.00
14	E-Governance	20.00
15	GIS Mapping for Comprehensive Property Database	20.00
16	Mobile tax collection vehicle	10.00
	Total	11655.71

4. FINANCIAL PERFORMANCE OF ARAKKONAM MUNICIPALITY

The summary of the financial status of Arakkonam municipality is as follows:

- It is observed that the Municipality has shown deficit in 4 out of last 6 years. The deficit is mainly on account of depreciation, which is on increasing trend over the years. Though the deficit has reduced over the years, it has again increased in the year 2006-07. The Municipality needs to undertake lot of fiscal reforms and full leverage of its assets over the next few years to improve its financial strength. Prior to depreciation, the Municipality has incurred surplus for the last 5 years and the surplus is on the increasing trend over the years, which is a good sign of recovery.
- The average current collection efficiency of the municipality is poor, with 65% efficiency in property tax, 60% efficiency in water charges and 55% in all non tax income. The arrears collection performance is also poor.
- The broad financial analysis of the Arakkonam Municipality finances reveal that the Municipality has further scope for increasing its own sources of income and collection efficiency for servicing the additional borrowings in the future.
- The Municipality's borrowings are low at Rs. 87.87 lacs. As a result the current debt service capacity is good. The municipality can resort to further borrowings for new project identified.

To summarise, the overall income pattern of the Arakkonam Municipality indicates more negative features than positive features. The positive trends are on the income side, where the Municipality has higher growth rate in income than growth in expenditure. But

the growth in income is higher mainly on account of growth in Grants income comprising Devolution Fund and Assigned Revenue.

5. PROPOSED REFORMS

The proposed mandatory municipal reforms are broadly classified under the heads of:

a. Reforms in resource mobilization

i. Reforms in Taxation

- Property mapping - Onetime assessment of all unassessed and under assessed properties.
- Regular and periodic increment of property tax at the rate of 15% every 5 years

ii. Improving revenue from user charges

- The Municipal council may assume charge of increase in water charges, to recover full O&M Cost of water supply and UGSS.
- Increase in the connections to at least 85% of total assessments.
- Pre-mobilization of deposits for the proposed WS or UGSS project
- Implementation of conservancy fee for SWM for hotels, marriage halls, industries and other commercial establishments
- Revenue generation from sale of compost and scrap.

Reforms in Energy and Resource efficiency

- Conducting energy audits, leak detection studies, enforce regulations on illegal tapping of water, fixing flow control valves and meters.
- Provision of energy saving lights and equipments, privatizing the maintenance of street lights to ESCO companies.

iii. Formation of new sustainable revenue sources

- The remunerative proposals identified are
 - Construction of Heavy vehicle and car parking stand
 - Parking at Nehruji Nagar and KalavariKandigai area
 - Improvement to existing bus stand
 - Improvements to fish market
 - Renovation of daily market
 - Chopping complex at old bus stand
 - Community hall at old bus stand
 - New slaughter house with treatment facilities at Hosur road

iv. Reforms in Audit and Accounting

- Timely auditing of accounts - August 30th of next fiscal year
- Appointing a private Chartered Accountant as consultant
- Publishing audited statement in municipal website - September 30th of next fiscal year

v. Regular and mandatory capacity buildings sessions for elected representatives & municipal officials

6. BORROWING AND INVESTMENT CAPACITY

The borrowing and investment capacities of the town are arrived considering the revenue income and expenditure under the sustainable scenario, after implementation of the mandatory reforms proposed in this report.

The investment capacity for the sustainable scenario assuming entire capital and O&M of Mettur CWSS is as grant, the following is summed up as below:

Summary of Borrowing and Investment Capacity

Description	Base case Scenario 1	Sustainable Scenario 2	Sustainable Scenario 3
	No project	With Mettur	Without Mettur
Borrowing Capacity	Rs. 2600.16 lacs	-	Rs. 1358.37 lacs
Investment Capacity (BC/0.04)	Rs. 10400.63 lacs	-	Rs. 3671.32 lacs
Investment Requirement	-	Rs. 11656.71 lacs	Rs. 8998.71 lacs
Sustainable Investment Capacity % - IC / IR	-	-ve	41%

- The investment capacity of Arakkonam Municipality on 'As is where Basis' works out to Rs.10400 lacs.
- The investment capacity of Arakkonam Municipality works to Nil in case of Scenario II (With Mettur CWSS project) and 41% in case of Scenario III (Without Mettur CWSS project).
- In value terms the investment capacity works out to Nil under Scenario II and Rs. 3671 lacs under Scenario III.
- Thus it can be inferred that the investment capacity of the Municipality is around 41% of the total investment requirement, which works out to Rs. 3671 lacs.
- Based on the above, it can be inferred that the Municipality can take up all projects identified as 'A' category in the priority list of CCP and certain other projects as listed below

Projects Identified for Implementation based on financial position

S.N.	Particulars	Total	Priority	Means of Finance	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
A	Physical Infrastructure Facilities			L : G : M					
I	Water Supply								
a)	Improvements to Water Supply	2215.00	A	65:30:5					
IV	Solid Waste Management								
a)	Purchase of Land Fill site	56.30	A&B	100% ULB					
b)	Land Fill site and compost yard development	443.00	A&B	100% ULB					
c)	Vehicles & Equipment for primary and secondary collection	256.00	A&B	0:50:50					
VI	Bus Stand								
a)	Upgradation to B Grade	150.00	A	90:0:10					
b)	New Bus Shelters	35.00	B	100% Grant					
c)	Heavy Vehicle & Car Parking	38.00	A	BOOT					
d)	Parking Kalavari Kandigai Area	5.00	C	100% ULB					
VII	Street Lights								
a)	Proposed new lights & fittings	40.00	B	100% ULB					
b)	Solar street lights (10 Nos.)	30.00	B	0:75:25					
c)	Retrofitting existing lights & energy saving devices	15.66	B	ESCO					
B	Social Infrastructure Facilities								
V	Market								
a)	Improvement to fish market	50.00	A	BOOT					
b)	Renovation of Daily Market	50.00	A	BOOT					
c)	Shopping Complex at Old Bus Stand	100.50	A	BOOT					
d)	Community Hall at Old Bus Stand	45.00	A	BOOT					
VI	Slaughter House								
a)	Construction of Slaughter House with Treatment Plant	35.00	B	0:50:50					
VII	Public Convenience								
a)	Public Convenience	70.00	A&B	0:50:50					
C	Other Projects								
I	Vehicle								
a)	Mobile tax collection van	10.00	A	100% ULB					
II	E-Governance								
a)	E-Governance	20.00	A	100% Grant					
	GIS Mapping for Comprehensive Property Database								
III	Database								
a)	Property mapping	5.00	A	0:90:10					
b)	GIS database	15.00	C	0:90:10					
	Total	3684.46							

- As regards other major projects like Underground Sewerage Scheme, storm water drains, roads, slum improvement etc., the Municipality would require additional support from the Government for undertaking these projects.
- Mettur CWSS project can be taken up by the Municipality only if both capital cost and operation & maintenance expenses is supported by the Government.

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1 BACKGROUND AND METHODOLOGICAL FRAMEWORK OF THE STUDY

1.1. BACKGROUND

The Tamil Nadu Urban Infrastructure Financial Services Limited (TNUIFSLS) aims to assist **Arakkonam** Municipality in strengthening and improving its financial position for effective capital investment management and urban service delivery. The municipality has good potential for immediate implementation of financial reforms for which it is essential to formulate a City Corporate Cum Business Plan (CCCBP).

The CMA and TNUIFSLS have initiated the process of preparing CCCBP for the municipality with the vision of stakeholders growth of the town.

1.2. OBJECTIVES

The objective of this exercise is to visualise the town in the next 25 -30 years and

1. Define the growth direction and service up-gradations in relation to the activity mix / growth;
2. Assess the demand for the projects specified by the ULB, and come out with gap in services with respect to the vision;
3. Broadly outline the infrastructure needs;
4. Define specific rehabilitation of infrastructure and capital improvement needs with regard to provision of infrastructure in slums and other areas;
5. Indicate the priority of projects
6. Define revenue enhancement and revenue management improvements required to sustain the rehabilitation proposed;
7. Suggest reforms required in local administration and service delivery including public private partnership in infrastructure development
8. Suggest Measures to address common growth and infrastructure issues and to promote integrated development

1.3. SCOPE OF WORK:

The scope of work covers the following:

1. To assess the demand for the Projects listed out by these municipalities.

2. Financial Assessment of the ULBS- an assessment of the ULB finances for the past 5 years, in terms of sources and uses of funds, base and basis of levy, revision history and impacts, state assignment and transfer-base and basis of transfer and its predictability; use of funds outstanding liabilities (loans, power dues, pension etc) and a review of revenue and service management arrangements. Levels of service and quality of municipal services in both poor and non-poor localities. Staffing and management arrangements in delivery of services.
3. Outline issues in revenue realisation, quality of existing assets in relation to service levels and coverage and institutional constraints. Develop quick indicators of performance, based on the following:
 - Current coverage and additional population during medium term (10 years)
 - Unit cost indicates city level investment requirements for Up-gradation of city wide infrastructures.
 - To improve service coverage and asset quality
 - Define priority assets and indicative costs of rehabilitation
 - Conduct fiscal impact analysis of investments: life-cycle of O&M costs, revenues from project and costs/impacts on finances and of not doing the project.
 - Explore funding options for rehabilitation facilities.
4. Prepare a financial and operating plan (FOP). The FOP in the medium time frame works for the ULBs and shall present the following.
 - A. Areas of reduction in expenditure
 - Energy audit resulting in savings energy.
 - Leak detection resulting either in connection or in the tariff (or)
 - Privatizing the MSW collection and identifying a BoT operator for eliminating, composting etc, items of revenue can be identified.
 - Laying of cement concrete road /Fly ash and savings on a maintenance cost resulting in increasing operating surplus.
 - Water recycling /refuse
 - Rejuvenation of tanks and reduction of cost/liters of water produced
 - Privatization & options for raising revenue
 - C. Options for increasing the revenues through non traditional methods
 - Land development for raising revenues
 - Suggestions for improvement of revenues.
5. Prepare a draft Memorandum of Association (MoA) between ULB and TNUIFS. The MoA will act as the base line (based on the situation Analysis) and the Performance Benchmarks to be monitored along with other financial targets and outputs from the financial and operating plan.

5. Initiate consultations with council and local stakeholders on the priorities redefine priorities.
6. Finalize Action plan for the city, with a resolution from the council on the priorities and commitment to implement revenue and management improvement measures.

1.4. STAGE III: DRAFT FINAL STAGE

Under this stage of City Corporate cum Business Plan has two tasks.

- In the **First Task, Financial and Operating Plan (FOP)** will be prepared outlining the revenue enhancement measures required to sustain proposed investments after accounting for O&M and debt servicing requirements. Suggest suitable actions for project sizing and/or project implementation and action plan to sustain investments based on capital investment needs listed above. It will also suggest suitable actions for project sizing and/or project implementation and action plans to sustain investments based on the capital investment needs.
- In the 2nd Task **Draft MoA** between ULB and TNUISL will be prepared.

The final stage would incorporate the Municipal Council resolution passed by the Municipal Council to effectively implement the proposed urban reforms in the CCCBP.

1.5. PRESENTATION AND DISCUSSION WITH REVIEW COMMITTEE

The review meeting on Revised Draft Final Report was held on 24th June 2009 at the office of TNUISL. The minutes of the meeting and the consultants reply are given below:

COMMON POINTS

1. To correct the grade of the ULBs as revised by the Government.

The grades of the Municipalities have been updated as per the latest revisions.

2. To highlight the requirement of capital / revenue grant to implement and operate all the new schemes.

The actual requirement of capital / revenue grant for each town along with the funding pattern has been clearly indicated in section 14.1 & 14.3 of chapter 14.

3. To indicate following in the executive summary of the report

- a) List of projects under the sustainable scenario along with the year wise phasing of the projects identified.
- b) The assumption made on the means of finance.

The list of projects, year wise phasing and the assumptions made on the means of finance have been added in the executive summary under the table ' Projects Identified for implementation based on financial position' in the executive summaries.

TOWN SPECIFIC COMMENTS

Ranipet

- Address the requirement of staff quarters and indicate the same as a project in CIP in consultation with the ULB.

The staff quarters (24 units) at a proposed cost of Rs.150.00 lakhs has been added to the CIP in consultation with the ULB.

- Update the details on the Bus Stand project at Muthukadai adjoining Pinji Lake in consultation with the ULB.

As bus stand cannot be proposed on 'land under water bodies ', an alternate site for the proposed bus stand needs to be identified by the Municipality. The details are given in section 10.1.6 chapter -10

- Highlight the impact on discharge of polluted water in to Palar river.

The impact of effluent discharge into River Palar has been highlighted in section 5.3 of chapter 5 based on various reports prepared by NEERI, TNPCB , CPCB and Palar River Basin Management and Development Board.

Thiruvathipuram

The consultants were requested to

- Update the details on the assets in consultation with the ULB.

The details of assets have been updated under section 13.2.1 of chapter 13.

- Revise the Bus Stand improvement project in consultation with the ULB.

The cost for proposed shopping complex and lodge inside the bus stand is revised in consulting with ULB and revised cost is mentioned in section 10.1.6 chapter – 10.

Madhavaram

- The consultants were requested to revise the assumptions on means of finance in accordance with JNNURM norms and revise the FOP accordingly.

The means of Finance for Madhavaram have been revised as per JnNURM scheme. The assumptions are give in the table 'Projects Identified for implementation based on financial position' in the executive summary.

The minutes of meeting for review committee held during this period of study is given in Annexure I d.

1.6. DISCUSSION WITH STAKEHOLDERS

The Stakeholder meeting was arranged with Municipal chairman, Vice Chairman, commissioner, Councillors and NGO's of the project town. A base plan was prepared for the visit to the project towns during the month of October '08. The objective of the stack holder meeting was to discuss about the needs of CCCBP and to highlight the basic issues on infrastructure such as water supply, sewerage, drainage, roads, social infra structures, etc.



Stakeholder's Meeting

Further, in order to collect ward wise issues, proformae were distributed during the meetings and the councillors and NGO's were requested to mention the issues on physical and social infrastructure. Based on the issues mentioned in the proformae and discussion with the Municipal Chairman, Vice Chairman, Commissioner, Councillors, NGO's and Engineers, infrastructure requirements for the present and future were arrived. Accordingly proposals have been formulated which is given in the following chapters.

2 TOWN PROFILE

2.1 ARAKKONAM . . . TOWN PROFILE

Arakkonam municipality is a Grade I municipality located in the district of Vellore at a distance of about 68 Km from Chennai with a population of 78,686. Arakkonam municipality is one of the biggest junctions in Southern Railway. The present municipality has been functioning from 1958 with an area of 9.06 Sq. km. This Municipality has 36 wards. Arakkonam municipality is the head quarters of Arakkonam Taluk. The distance from district headquarter is 60 km and from Bangalore is 226 km.

Arakkonam municipality is geographically located at 13° 6' 0" North, 79° 40' 0" East Longitude in the North Arcot Region. The average elevation of the town is 295.00 meter above MSL

2.2 REGIONAL CONNECTIVITY

Arakkonam municipality has good transport linkages in all directions through National Highways, MDR and village roads. These roads provide access to surroundings urban centers such as Tiruvallur, Kanchipuram, Ranipet, Arcot, Vellore and Katpadi. It also connects metro cities, Chennai and Bangalore.

Rail

Arakkonam is one of the biggest junctions in Southern Railway, where the Chennai to Mumbai and Chennai to Cochin/ Bangalore railway lines branches out. The town is well-connected by trains with Indian cities such as Mumbai, Bangalore, Goa, Tiruvandrum, Mysore, Mangalore, Palghat, Kaniyakumari, Tirupati, Vellore, Coimbatore, Hubli, Ooty.

Air

The Nearest airport is at Meenampakkam, Chennai about 70 Km away from Arakkonam. INS Rajali, an air base of the Indian Navy is located at Arakkonam and has the longest runway in South Asia (4500 meters) .

2.3 HISTORY OF THE MUNICIPALITY

The Arakkonam Municipality was constituted as 3rd Grade Municipality on 01.10.1958, it was upgraded as 2nd grade municipality on 1.5.74 and now it is a 1st grade municipality from 17.4.1984. The area of this municipality is 9.06 sq. km. The population is 78,686 as per the census 2001.

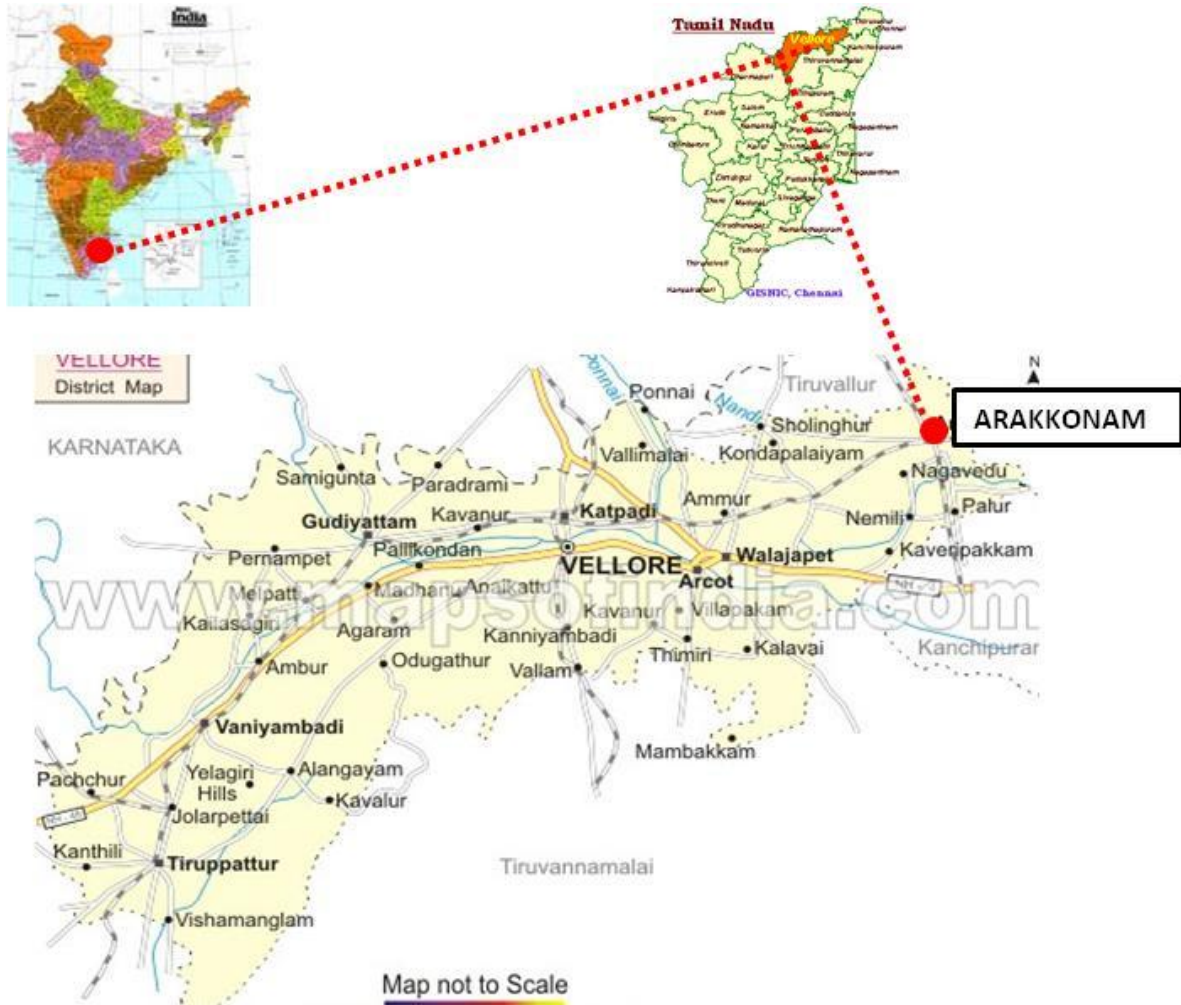


Figure 2-1: Location Map of Arakkonam

2.4 POPULATION CHARACTERISTICS

2.4.1 Population Distribution

The **Table 2.1** shows the distribution of population in Tamil Nadu and Vellore District.

Table 2-1: Urban Population Share in the Town and the Region

NAME	Total Population	% Distribution of Urban Population wrt District
Tamil Nadu Urban	27483998	-
Vellore District	3477317	100
Vellore District Urban	1307998	37.62
Arakkonam (M)	78686	2.26

Source: Primary Census Abstract of Tamil Nadu, Census of India - 2001

2.4.2 Population Growth

The town's population growth rate is not uniform and 1% to 4%. The growth rate during 1961-71 and 1971-81 are high due to the fast development of industrial establishments in the town.

Table 2-2: Population Growth in Arakkonam Municipality

Census Year	Population	Variation	AAGR (%)
1951	23032	-	-
1961	30658	7626	3.31
1971	43347	12689	4.41
1981	59405	16058	3.70
1991	71500	12095	2.04
2001	78686	7186	1.01

Source: Compiled from Master Plan, Arakkonam, 1990, Primary Census Abstract of Tamil Nadu, Census of India - 2001

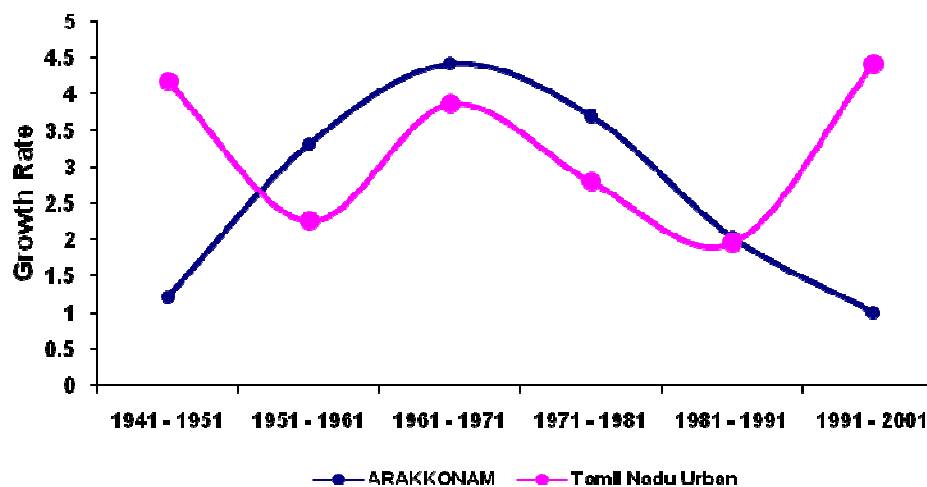


Figure 2-2: Decadal trend of population growth

Source: Compiled from Master Plan, Arakkonam Town, 1990

2.4.3 Population Projections

Based on the growth rate for the past few decades, the future population of the town has been projected and given in the table below

Table 2-3: Population projection

Year	Population	Growth Rate (AAGR)
1991	71,500	-
2001	78,686	1.01

2007	86446	1.58
2009	89463	1.73
2011	92932	1.92
2016	102654	2.01
2020	112826	2.39
2025	128151	2.58
2030	145699	2.60
2035	165813	2.62

Source: Estimated

Table 2-4: Scenario 2: DPR

Year	Ambur Town	
	Population	Growth Rate (%)
1991	71500	-
2001	83500	1.68
2009	84400	0.13
2024	97000	0.99
2039	108000	0.76

2.4.4 Population Density

The population density in Arakkonam municipality in 1991 was 79 persons per ha which has increased to 87 persons per ha in 2001. Compared to the District's urban population density the density of Arakkonam municipality is high according to the census figure.

Table 2-5 Comparative Population Density

Attributes	Area (Sq. Km)	Total Population	Density (Persons per Sq. Km)	Density (Persons per Ha.)
India	3,287,590	1,028,610,328	313	-
Tamil Nadu	1,30,058	6,24,05,679	480	-
Vellore District	4,314	34,77,317	806	-
Arakkonam Municipality	Area (Sq. Km)	Total Population	Density (Persons per Sq. Km)	Density (Persons per Ha.)
1991	9.06	71,928	7,939	79.00
2001	9.06	78,686	8,685	87.00

Source: Compiled from Arakkonam Municipality data and Primary Census Abstracts of Tamil Nadu 1991-2001

2.4.5 Slum Population

In Arakkonam municipality, there are 12 slums with a population of 21,196 which accounts for 27% of the total population in the town. Griblespet, Winterpet and Ambedkar Nagar have higher proportion of slum population compared to the other nine slums.

2.4.6 Sex Ratio

Sex ratio in Arakkonam municipality is 989 females per 1000 males. But there is a considerable decrease in the child sex ratio, which is a cause for concern. The details are as shown in the table below:

Table 2-6: Comparative Sex Ratio

NAME	Sex Ratio	Sex Ratio 0-6	Sex Ratio SC	Sex Ratio ST
Tamil Nadu	987	942	999	980
Tamil Nadu Urban	982	955	1001	997
Vellore District	997	943	1014	979
Vellore District Urban	1003	960	1027	997
Arakkonam (M)	989	946	1008	950

Source: Compiled from Primary Census Abstract, Census of India-1991, 2001

2.4.7 Literacy

Literacy is one of the important social indicators for development. There are 62,239 literates in the Arakkonam municipality. The literacy rate in the town is 88%, which is higher as compared to district urban literacy rate in 2001 census. The reason for higher literacy rate is due to the availability of good educational facilities in the town. The literacy rates of State, District and the town is given in the table below

Table 2-7: Comparative Literacy

NAME	Literacy Rate		
	Person	Male	Female
Tamil Nadu	73.45	82.42	64.43
Tamil Nadu Urban	82.53	88.97	75.99
Vellore District	72.36	81.99	62.79
Vellore District Urban	80.46	87.77	73.22
Arakkonam (M)	88.32	94.42	82.19

Source: Compiled from Primary Census Abstract, Census of India-1991, 2001

3 ECONOMIC DEVELOPMENT AND PHYSICAL PLANNING

3.1 URBAN ECONOMIC DEVELOPMENT - SITUATION ANALYSIS

'Arakkonam' derived from the Tamil term 'Aaru konam' which signifies hexagon, since it has six important places on its six sides. Nearby towns include Kanchipuram, Tiruttani, Tiruvalangadu, Thakkolam, Manavoor and Sholingur. The ancient name of this town is *Arunthamizh kundram*.

Arakkonam is one of the fast growing town and major node in Southern Railway network. The town also boasts of having one of the biggest workshops of the railways, known as Engineering Work Shop (EWS). Arakkonam has the longest runway in South Asia (4500 meters) at INS Rajali, a naval Air base of the Indian Navy. Several industries like Ramco Cement factory, MRF Ltd, Tiruvalangadu sugar factory, TTL, Ultratech cements are also set up in this town.

3.1.1 Occupational Pattern

According to 2001 census, the work force participation rate in Arakkonam is 29%. There are 22,539 workers, out of which there are 20,502 main workers and 2,037 marginal workers. The percentage of main workers and marginal workers accounts for 91% and 9% of the total workforce respectively. In comparison to the district urban work force participation rate and state urban work force participation rate which are 38% and 34%, Arakkonam municipality is quite low. **Table 3.1 and 3.2** shows the work force participation rate and Occupation pattern in the town.

Table 3-1: Work Force Participation Ratio in Arakkonam municipality

NAME	Total	Total	WFPR	% Main	%
Tamil Nadu	62405679	27878282	44.67	85.22	14.78
Tamil Nadu Urban	27483998	10318514	37.54	91.75	8.25
Vellore District	3477317	1427180	41.04	82.17	17.83
Vellore District Urban	1307998	444958	34.02	91.91	8.09
Arakkonam (M)	78686	22539	28.64	90.96	9.04

Source: Compiled from Primary Census Abstract, Census of India-1991, 2001

Out of the main workforce about 0.46% of population are cultivators, 0.36% is agricultural labourers and 1.17% of workers are engaged in household industries. The remaining 98.01% workers are included in 'other workers' category.

Table 3-2: Occupational classification of Main Workers in Arakkonam municipality

NAME	Main Workers	Cultivators	Agricultural Laborers	Workers in Household Industry	Other Workers
Tamil Nadu	23757783	19.95	25.52	5.31	49.23
Tamil Nadu Urban	9467240	3.41	9.11	6.05	81.43
Vellore District	1172645	19.86	19.85	11.64	48.66
Vellore District Urban	408969	2.17	4.47	13.69	79.67
Arakkonam (M)	20502	0.46	0.36	1.17	98.01

Source: Compiled from Primary Census Abstract, Census of India 2001

3.2 PHYSICAL PLANNING

3.2.1 Physical Growth Trend

The town is divided into two parts by the railway track passing through the town in the east-west direction. The Naval air station is located in the south towards Kancheepuram. All the major industries and industrial estates are located outside the municipal limits except the Railway Engineering Workshops. The small scale and service Industries are located along the Arakkonam-Sholingur Road and Arakkonam-Kancheepuram Road.

Further, Arakkonam form a part of the **MAP region** around Chennai (Marakkanam, Arakkonam and Pulicat). This plan is being developed by Confederation of Indian Industry, Tamil Nadu State Council to build a strong Greater Chennai Region for balanced and inclusive regional development in Tamil Nadu.

The major arterials in the town connecting to various urban nodes are Arakkonam – Ocheri road, Arakkonam-Sholingur Road in the west, Tiruttani road SH 58 in the north and Arakkonam-Kanchipuram Road in the south.

The major growth directions of the town are Tituttani road on the North and the Ambattur road on the east connecting Chennai city. Although the presence of Naval Air Station in the south forms the physical barrier to the town, the residential and commercial developments area growing fast in this direction towards Kanchipuram and Ocheri .

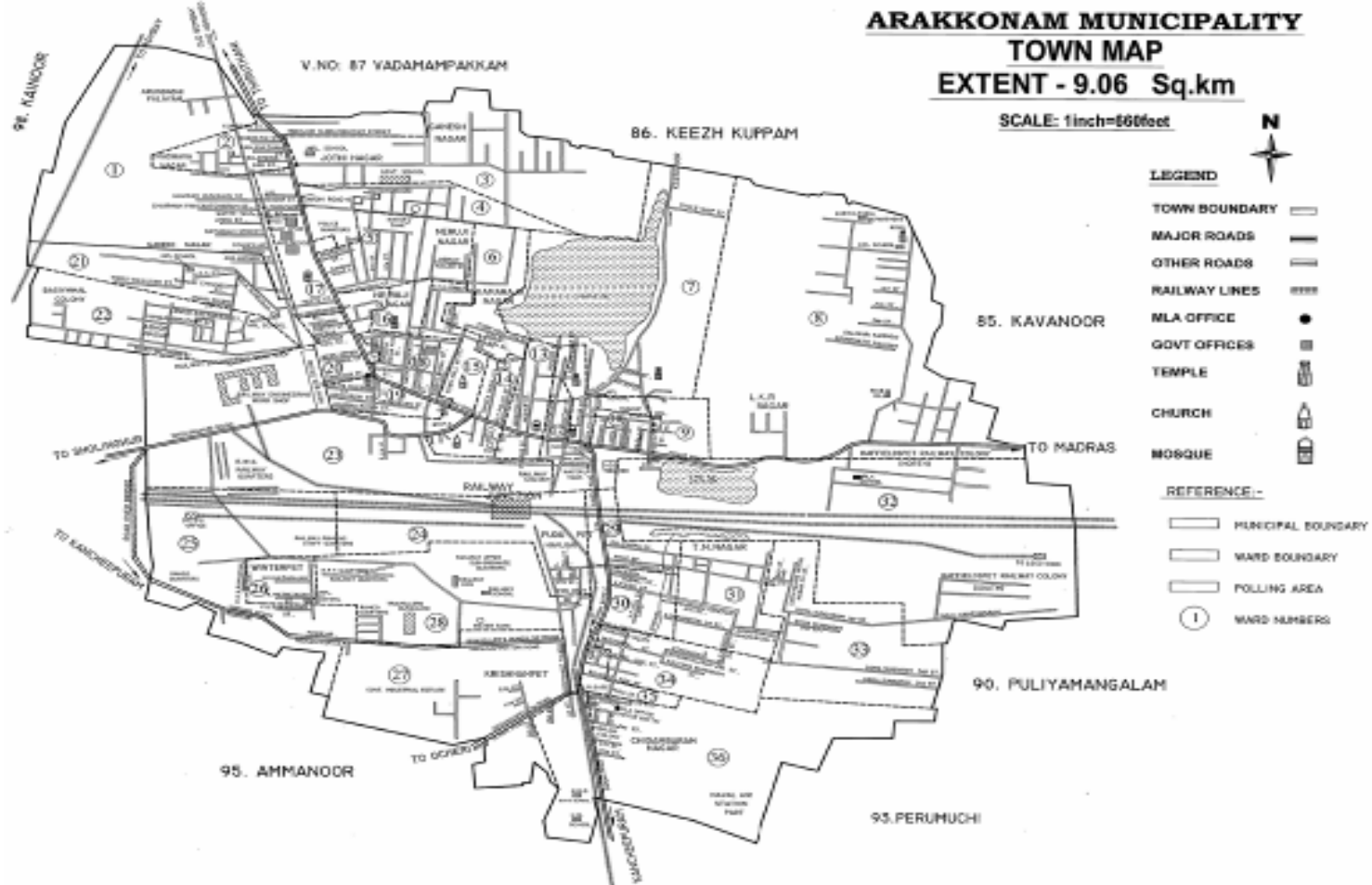


Figure 3-1: Town Map – Arakkonam Municipality

3.2.2 Land Use Analysis

Existing Land Use 1994 (Approved Master Plan 1995)

Arakkonam Municipality area encompasses about 906.00 Ha within its limit, out of which the developed area is about 654.80 Ha (72%). The remaining 251.20 Ha covers vacant lands, agricultural land and water bodies.

Out of the total developed area, Residential use covers about 278.92 Ha i.e. about 43% of the total developed area. Area under public & semi-public covers 8% of the total developed area. Educational area of the town is 2% and the area under commercial use is 2% of the developed area. Table below shows the existing land use pattern as per Master Plan, 1994.

Table 3-3: Land Use Allocation- Arakkonam-1994

S. No	Land use	Area	Percentage of	Percentage to Total
1	Residential	278.92	42.60	30.80
2	Commercial	13.24	2.02	1.45
3	Industrial	35.87	5.48	3.95
4	Educational	14.11	2.15	1.55
5	Public & Semi Public	51.20	7.82	5.65
Developed area		654.80	100	72.25
6	Vacant land	0	0	0
Total urbanized Area		654.80	100	72.25
7	Agricultural	216.28	86.10	23.90
8	Land under Water	34.92	13.90	3.85
Non-unrealizable Area		251.20	100	27.75
Total Area		906.00	--	100

Source: Master Plan Arakkonam, 1994

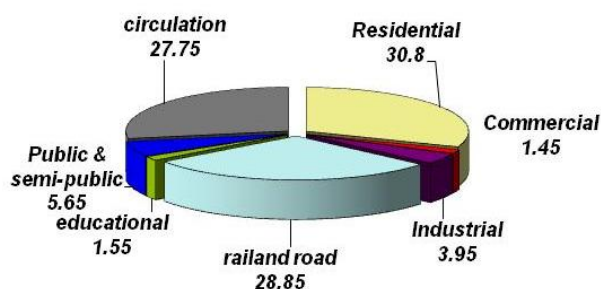


Figure 3-2: Land Use Allocation- Arakkonam-1994

Source: Master Plan Arakkonam 1994

The area under non-urbanized area is 251.20 ha, which is 27.75% of the total town area. Out of this 34.92 ha is under the water bodies. Rest 216.28 ha land is under agricultural use and under the private ownership, which can be developed for future requirement.

3.2.3 Land rates

As per the guidelines of Land registration department, the guideline values for Arakkonam varies from Rs. 3000 to Rs 40,000 for commercial areas and varies from Rs.1000 to Rs 14000 for residential areas depending on the locality.

3.3 GROWTH MANAGEMENT ISSUES

- The upcoming industrial developments and the transport linkages are expected to further boost the economic development of the region. This will lead to the rapid increase in migrated population. There is also the need for updation of Master plan (1994) and Preparation of comprehensive regional development plan to sustain the future industrial growth and immigration stimulated by the proposed MAP region.
- Rapid encroachment upon agricultural lands due to the growing demand for housing and industries. Retaining existing agricultural base in the surrounding rural areas for equitable growth is a must .Controlling and guiding urban sprawl in a phased manner applying modern principles of physical planning and growth management is suggested.
- Necessary basic infrastructure facilities including housing, health, education and recreational facilities need to be provided to achieve better standard of living. Need for extension of NH to the town and improvement of other link roads for capitalising on the economic development of the region.

4 STAKEHOLDERS CONSULTATIONS

The purpose of stakeholder consultation is to provide an opportunity for the stakeholders to involve in preparation of development plan for the town. The planning process need to be a consultative one, with stakeholders representing a wide spectrum of interests in the formulation of a vision, development objectives and identification of priority projects.

4.1 CITY OPINION SURVEY

The CCCBP consultants conducted city opinion surveys in 2 phases, first in the inception stage and second in the interim stage to get the views of the stakeholders of the Municipality. The rationale behind conducting surveys in two stages was to evolve a broad vision for the municipality considering the problems, prospects, aspirations and vision of different sections of the society. The initial finding of the surveys conducted was included in the inception report. The analysis and findings of stake holder's consultations are detailed below:

4.1.1 Key Issues Highlighted in the Consultation Meeting

The issues highlighted by the elected representatives and the municipal staff are summarized as follows:

1. Improvement to the link roads for better access to surrounding urban centers
2. Extension of National Highway to the town
3. Lack of UGD in the town.
4. The untreated water flowing in the Vannivedu Eri and finally to Palar River.
5. Unhygienic and inadequate facilities in the Govt hospital.
6. Old and damaged public conveniences in ward 2
7. Water stagnation during monsoon
8. Lack of proper drainage facility in most of the wards
9. Municipality area lacks recreation facilities
10. Need for a public library
11. Inadequate street lights in ward 18
12. Need to upgrade the bus stand with modern basic facilities
13. Removal of encroachments on major roads to ease congestion
14. Arrangements for solid waste segregation and preparation of compost
15. Maintenance of parks through private partnerships and SHGs
16. Desilting of lakes and ponds required
17. Proper disposal for storm water need to be done

4.1.2 Sector Prioritisation

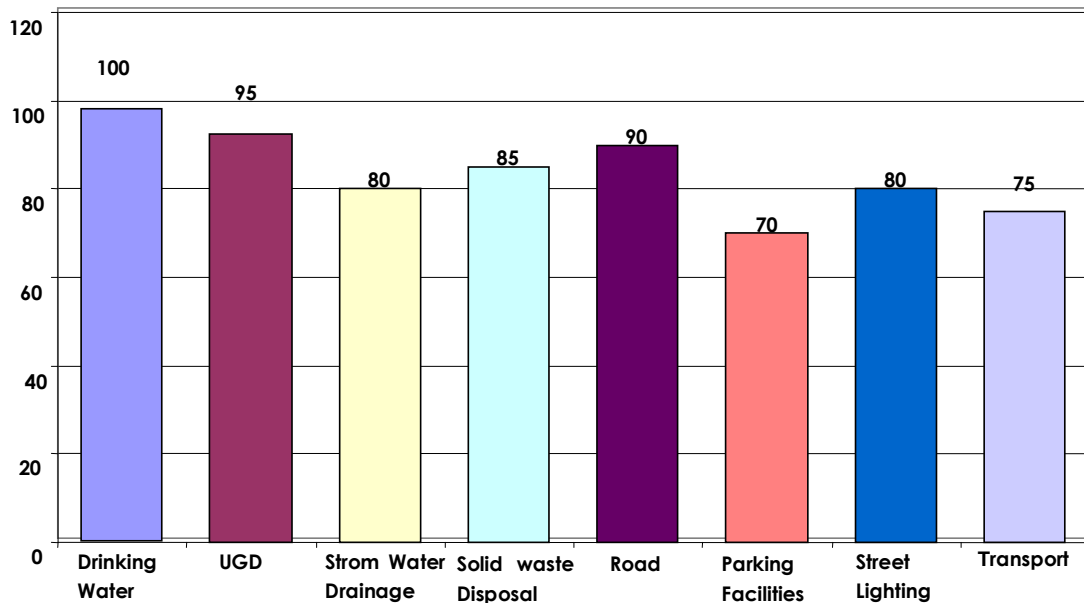
Projects identified in the CCCBP cannot be taken at one step for implementation due to constraints like finance, institutional capabilities etc. Thus, phasing of the projects based on stakeholder's priority would be a viable option for implementing projects. During City Opinion Surveys, Stakeholders were asked to prioritise the sectors pertaining to Physical infrastructure, Social Infrastructure and Environment and is presented in a scale of 0-100* scores.

4.1.3 Physical Infrastructure Priority

Based on City Opinion Survey findings, stakeholders have given priority to the sectors related to Physical infrastructure on the following order:

1. Drinking Water
2. Under Ground Drainage
3. Road
4. Solid Waste Disposal
5. Street lighting and Storm water Drainage
6. Transport
7. Parking facilities

Aforesaid sector is highly prioritised by the Stakeholders if it gets 100 score and least prioritized if it gets 0 score.



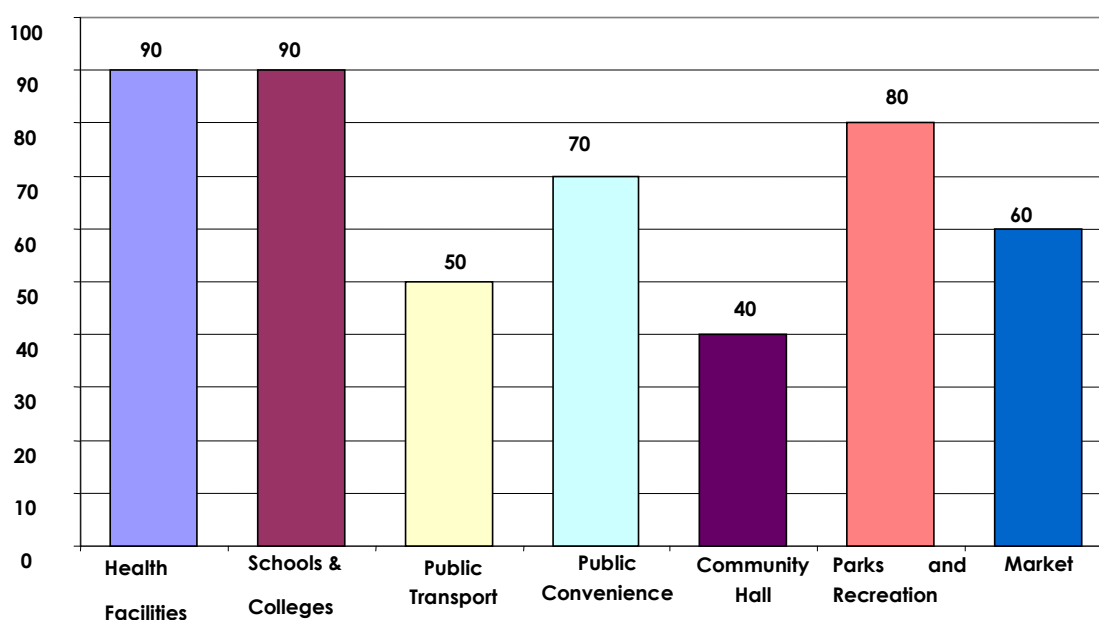
Source: From Stakeholder's Survey

Figure 4-1: Priorities for Physical Infrastructure

4.1.4 Social Infrastructure priority:

Based on meetings and Opinion Survey findings, stakeholders have given priority to the sectors related to Social infrastructure on the following order:

1. Health facilities, Schools and Colleges
2. Parks and recreation
3. Public Conveniences
4. Market
5. Public transport
6. Community hall



Source: From Stakeholders Survey

Figure 4-2: Priorities for Social Infrastructure

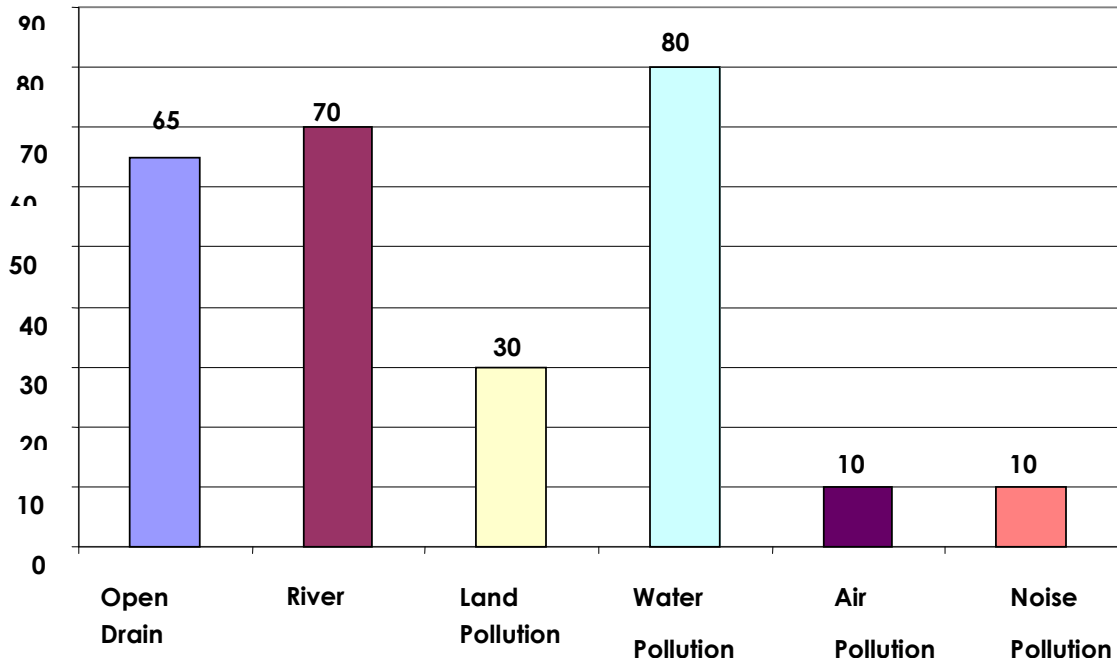
Since the town lacks basic infrastructure facilities like adequate treated water, sewerage and sanitation, Solid Waste treatment plant, etc. citizens are susceptible to various health hazards. Hence, they have insisted Health facilities as one of their high priority sector.

4.1.5 Environmental Issues

Based on City Opinion Survey findings, stakeholders have given priority to the Environmental Issues in the following order:

1. Water Pollution

2. River / lake
3. Open drainage
4. Land pollution
5. Air pollution
6. Noise Pollution
7. Open space (unavailability)
8. Flood problem (water logging)



Source: From Stakeholder's Survey

Figure 4-3: Priorities for Environmental Issues

5 VISION AND STRATEGIC PLAN

A vision statement is a primary step to where a town wishes to be in the next 25-30 years as its preferred future. It is a realistic and reliable statement, reflects the competitive advantages, preferences & values of city dwellers, physical characteristics, historic and cultural characteristics and relation to regional and local economies. Vision gives a sense of direction and purpose to the plan, focus on and encourage creative solutions in an open manner building in interest and commitment.

One of the key steps involved in the formulation of vision is the SWOT analysis, which is based on stakeholder feedback and analysis of the town.

5.1 TOWN LEVEL SWOT

The SWOT for **Arakkonam Municipality** with reference to its regional context is given in the table below:

Table 5-1: Town level SWOT

Strength	Weakness
Good connectivity to cities and major urban centers	Absence of National Highway Linkage
Chennai city Suburban rail connectivity	High percentage of slum population
Location of Arakkonam Naval Air Station	Inadequate institutional capabilities
Second biggest FCI (Food Corporation of India) in Tamil Nadu	Traffic congestion due to encroachments on road
MAP – Greater Chennai region	Absence of national highway linkage
Center for Engineering Excellence	Link roads in bad Shape
Established rail connectivity to major urban centres in South India.	Inadequate and poor quality infrastructure
Opportunities	Threat
Employment opportunities due to new industrial establishments and SEZ for the IT/ITES/Electronic Hardware & Warehousing.	Drastic reduction in agricultural activities due to land pollution and lucrative industrial jobs.
Excellent talent pool due to well established educational base	Poor road surfaces leading to dusty / unsafe conditions and stagnation during monsoons.
Prime outlying suburb of Chennai	Inadequate infrastructure provision
Ability and willingness of representatives to spearhead reforms	High rate of land conversion due to urbanisation
Availability of land for future development	Rise in land values
Enterprising, motivating and dedicated Municipal staff.	Dissatisfaction among public due to problems in service delivery

5.2 VISION FORMULATION

Using the results of the analysis combined with consultations with key stakeholders and civic societies, vision formulation is meant to develop a perspective for development of the town.

The vision for the town is proposed as **” A regional nodal center for the MAP region of Greater Chennai supported with world class infrastructure for achieving better investment climate and sustainable living conditions”**.

However to achieve this vision and to translate it into Strategies and Projects, the mission statements are evolved.

Mission 1 :

To achieve a Sustainable Environment by the year 2015 in the town and prepare Arakkonam as competing City for induced investments

Mission 2 :

To develop identified areas both within as well as outside the town limit. The following action areas are required to achieve the above mentioned missions.

- ❖ Improved level of Urban service delivery
- ❖ Regulating Physical Growth
- ❖ Strengthening Municipal finance
- ❖ Improving Urban environment
- ❖ Strengthening of Industrial sector
- ❖ Creating Investment friendly Environment
- ❖ Strengthening the ULB and Improving Urban governance practices.
- ❖ Improved Transport Infrastructure

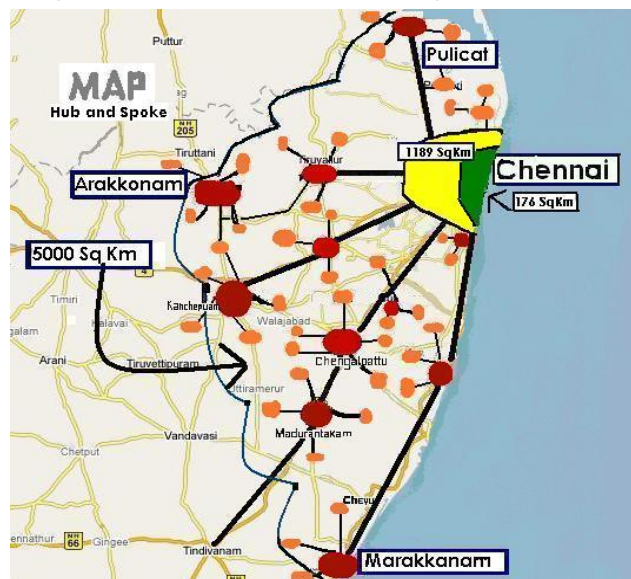
5.3 STRATEGY OPTION FOR ECONOMIC DEVELOPMENT

The Tamil Nadu government has given a lot of impetus for growth to Arakkonam municipality to become a prime outlying suburb of Chennai, on the lines of Noida and Gurgaon for Delhi and Navi Mumbai for Mumbai.

1. Expedite Development of MAP Region – Greater Chennai region

Confederation of Indian Industry (CII), Tamil Nadu State Council is proposed for the development of 'MAP' region (comprising Marakkanam, Arakkonam, and Pulicat) to build a strong **Greater Chennai Region** for balanced and inclusive regional development in Tamil Nadu.

INFRA 2007, organized by the CII presented the MAP idea - "Tomorrow's Chennai", with an objective to evolve a regional plan to fuel the growth of the region as well as ease Chennai City.



Key areas of deliberation in INFRA 2007 are

- Reforms in PPP policy in creating new urban frontiers.
 - Benefit of MAP for the local communities
 - Road map to ensure livelihood opportunities and employment generation through inclusive industrial development
 - Need for a regulator, clear project structuring, single window clearances, etc
- Various aspects of infrastructure planning needed for long term planning

The MAP area covers 5000 sq km spread over 5 districts encompassing urban and rural areas. This region houses number of industrial clusters and Special Economic Zones. These towns and industrial clusters will be linked to Chennai with high-speed rail and road transport corridors can bring in socio economic benefits to the people in the region. This will facilitate the government and non-government organisations to develop respective clusters of excellence.

Key Features of MAP

- High-speed rail and road (8 lane provision) transport corridor connecting 8-10 nodes
- Sustainable communities encompassing places of work, stay and assembly
- Clusters of economic activity and livelihood possibilities (with appropriate skill training) for the local communities.
- Proactive physical and social infrastructure provisioning.
- Ability to attract private capital for the regional development plan through enabling frameworks for Public Private Participation (PPP).

Benefits

- The transportation network connecting the towns and industrial clusters will act as development catalysts for surrounding rural areas
- Counter Magnet to the City – will ease the city from growing pressures and demand on infrastructure.
- Bulk Employment Generation leading to economic development of the region.
- Channel for for industries to provide skill development initiatives.
- Opportunity to economic and social weaker sections to participate in overall development of the region.

Strategies for the development of MAP region

a. Reforms to improve the investment climate

- Simplified system of obtaining clearances for industrial units
- Infrastructure development, providing quality power supply, taxation reforms, labour reforms and business deregulations.
- Improving the infrastructure in existing industrial estates
- Attention should also be given in the service sector such as health, education and recreational facilities and municipal/local body services which would not only increase employment opportunities but also improve standards of living.

b. Development of comprehensive Regional Development plan focusing on

Development of comprehensive Regional Development plan focusing on

- Balanced infrastructure connectivity
- Decongesting Chennai city
- Development of rural business hubs
- Conservation of wetlands and water bodies
- Road – Rail transport connectivity within the region

c. Development of Regional Traffic Operation and Management Plan

Preparation of Regional Traffic Operation and Management Plan is necessary comprising

- Corridor for high-speed rail connectivity
- High speed road transport corridors
- Parking management plans including Truck and bus terminals

d. Strengthening of Vocational Education and Training institutions

Numbers of unskilled and semi-skilled workers are bound to rapidly increase due to migration from rural areas. Creating strong education base and

development of vocational skills oriented towards the unorganized sector and economically weaker section will support for the development of local communities.

2. Improving and strengthening regional connectivity

Establishment of high-speed rail and road transport corridors connecting the city and surrounding industrial towns will support for enhancement of industrial investments and regional economic development

3. Promote Economic development by Capitalizing proximity to Chennai City and surrounding industrial towns

The municipality situated 69 km west of Chennai serves as centre for engineering excellence. The town has good rail connectivity to major urban centres in South India. Also, the town comes under the proposed MAP region plan. Thus improving the service sector such as local body services, health, education and recreational facilities, establishment of regional linkages would not only increase the employment opportunities but also improve standards of living in this suburb.

4. Establishment of new Industrial Estates

Arakkonam, which has the largest engineering workshop of Indian Railways, also houses a number of manufacturing plants. Tamil Nadu Small Industries Development Corporation Ltd has planned to establish new industrial estate in Arakkonam Phase II. Regional study need to conducted to identify potential for new industrial cluster development in the region.

6 HOUSING AND SLUMS

6.1 EXISTING HOUSING SCENARIO

6.1.1 Housing Condition

The Town has 16,383 residential units of which only 10% residential units are Temporary structures. 82% of all residential units are permanent structures while 8% constitute Semi-Permanent (Ref. Figure 6.1)

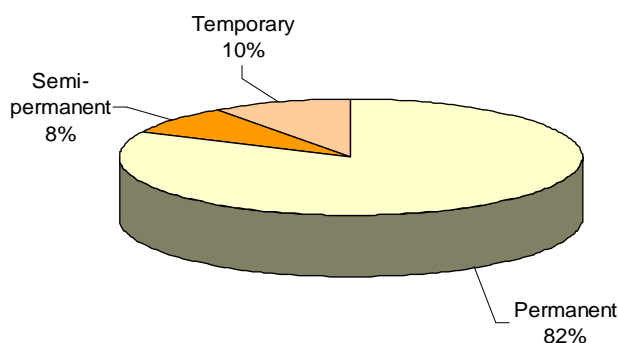


Figure 6-1: Housing Condition

Source: Compiled from Housing and Household amenities census, Census of India, 2001

6.1.2 Housing Stock

As mentioned earlier, there are 16,383 residential units in the town out of which 15,667 are used by the people for living purposes as per census 2001. Average Occupancy rate per house is 5.10 for the town which is little Lower than Occupancy rate of District Urban area which is 5.42 per house. The Household size of Arakkonam Town is 4.44, which is less than district Urban i.e. 4.79 in the year 2001.

Table 6-1: Existing Housing Stock

Particulars	Population	No. of Households	Average HH Size
Tamil Nadu Urban	27483998	6381600	4.31
Vellore District	3477317	756365	4.60
Vellore District Urban	1307998	272982	4.79
Arakkonam (M)	78686	17712	4.44

Source: Compiled from Primary Census Abstract, Census of India, 2001

6.1.3 Existing Housing Demand- Supply Gap

Housing shortage is estimated on the basis of availability of 'minimum standard house' that excludes dilapidated dwelling units and houses in slum areas. In Arakkonam town provision for 15,667 residential units exist for a Total of 17,712

households that indicates a clear demand supply gap of 2,045 DUs. In addition, out of the Total residential units, 4,239 dwelling units (i.e. 24% of the Total available Dwelling Units) exist in slum areas which, again, as per the criteria accounts for housing shortage. The demand-supply gap has been further widened by additional 36 dilapidated dwelling units. Hence, in Total, Arakkonam town needs an additional housing stock of 2,090 dwelling units.

Table 6-2: Existing Demand- Supply Gap

Total Census Houses	Total Occupied Residential Units ¹	Total No. of HH	Demand Supply Gap (No. of HHS)	Number of dwelling units in slum	Dilapidated Residential Units	T.Demand (No. of HHS)
16383	15667	17712	2045	4239	36	2090

Source: Compiled from Housing and Household amenities census & Compiled from Primary Census Abstract, Census of India, 2001

There are few wards (ward no. 9, 25, 32 and 36) having more household size than average and less no. of households indicating shortage in that area.

6.2 EXISTING SLUM SCENARIO

6.2.1 Slum Population

12 slums are indicated with a population of 21,196 which account for 26.97% of the Total population in the town.

Table 6-3 Slums and their Population in Arakkonam Town

S.No	Name of the Slum	Male	Female	Total population
1	Winterpet	1820	1780	3600
2	Pudupet	860	840	1700
3	ABM Chrch	1070	1030	2100
4	Somasundaram nagar	1054	1020	2074
5	Sathiyavani muthu nagar	860	840	1700
6	Griblespet	1603	1597	3200
7	Galiwari kandigai	86	80	166
8	Jaibeem, Periyar nagar	438	420	858
9	Ambedkar nagar	1966	1892	3858
10	Thole shop	174	164	338
11	Rajive gandhi nagar	478	470	948
12	Kamarajar nagar	334	320	654
Total		10743	10453	21196

Source: Arakkonam Municipality

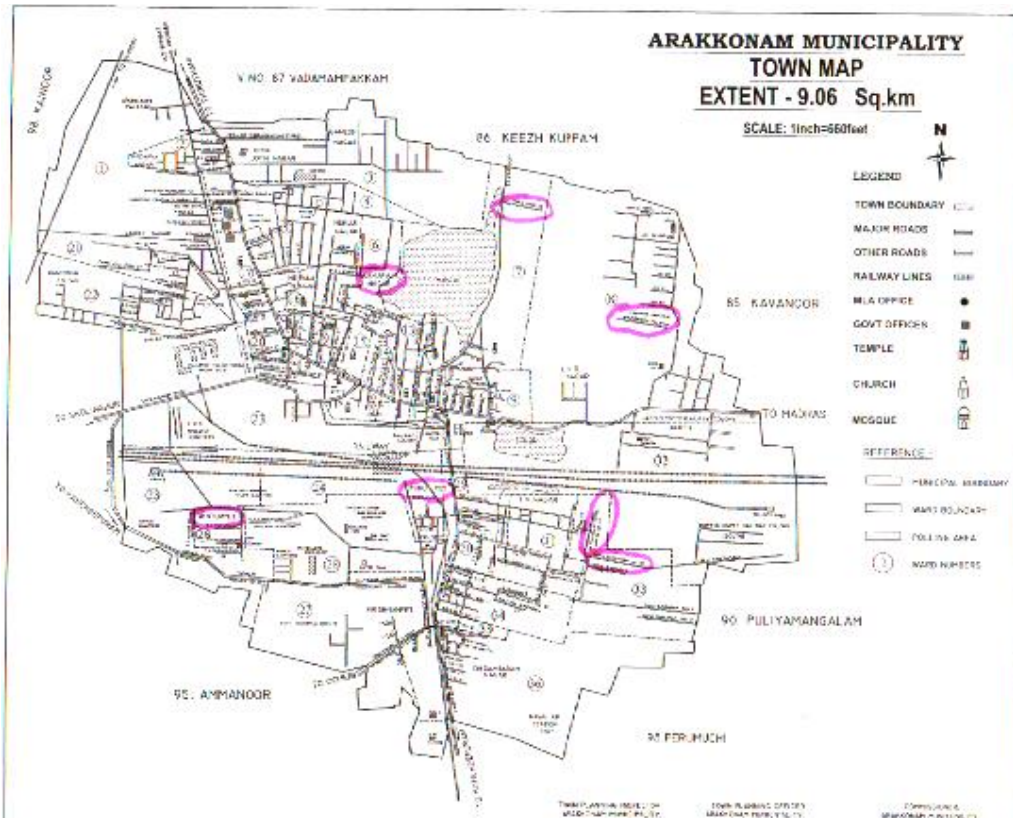


Figure 6-2: Location of slums in Arakkonam

6.2.2 Slum Profile

Slums are located on different part of the town. Due to ineffective development control regulations slums have developed in the name of ABM church, ambedkar nagar and winterpet resulting into degrading urban environment and unhealthy living conditions.

Most of the slum dwellers are migrants from hinterland of the town and from the neighbouring districts and more than half of them have been staying for more than 10 years in the town.

6.2.3 Slum Improvement Programmes

Currently only the Integrated Housing and Slum Development Program (IHSDP) is in operation for slum improvement in Arakkonam. This programme is taken up by Arakkonam Municipality and now under operation.

6.3 ISSUES

The problems and issues relating to housing and slums have been identified on the basis of secondary data collected and synthesis of stakeholder discussions. The issues

mainly focus on basic urban services, supply of affordable services land for housing, development guidelines and awareness amongst slum dwellers.

- Due to improper monitoring and implementation of development regulation more than one-third of the town population lives in slums
- Most of the slum population is dependant on the informal trade and granite industries for livelihood
- Lack of access to services in wards where dominance of slum prevails and on the land developed for housing by private developers
- Lack of basic services leads to open defecation and garbage disposal within the municipal limits
- lack of awareness among slum dwellers regarding health and hygiene
- Lack of planned interventions in the past
- Dominance of sub-standard urban basic services
- Increasing informal settlements on public lands by low income in-migrants due to unaffordable land supply within municipal limits
- Increasing inadequate serviced land for housing within municipal limits

6.4 SLUM IMPROVEMENT PROPOSAL

The proposed cost for slum improvement is given in the below table. The proposal includes of building reneovation, water supply arrangement, street lighting, water supply and other basic facilities.

Table 6-4: Slums and their Proposed Cost in Arakkonam Town

S.No	Name of the Slum	Cost in Lakh
1	Winterpet	20.00
2	Pudupet	12.00
3	ABM Chrch	15.00
4	Somasundaram nagar	25.00
5	Sathiyavani muthu nagar	25.00
6	Griblespet	30.00
7	Galiwari kandigai	5.00
8	Jaibeem, Periyar nagar	15.00
9	Ambedkar nagar	40.00
10	Thole shop	2.00
11	Rajive gandhi nagar	8.00
12	Kamarajar nagar	6.00
	Total	203.00

7 INSTITUTIONAL FRAMEWORK

In order to give effect to the provisions of 74th CAA, the municipal structure was revised to include elected council to the already existing administrative setup. For this purpose elections were held in every municipality under the new act once in every 5 year. The organizational structure of the **Arakkonam** Municipality generally consists of Elected Council and Executive wing.

7.1 ELECTED COUNCIL

The Elected Council, the political wing consists of **36** elected councilors. Each Councilor represents one electoral ward. The Councilors in turn elect the Chairperson as head of the Municipal Council. The chairman is the head of the municipal council and he is assisted by vice chairman.

To assist the council in its functioning, the following 4 administrative committees have been constituted namely:

- Appointment committee
- Agreement/Contract Committee
- Taxation Appeal Committee
- Local Planning Authority

The committees consist of the Chairman, the Municipal Commissioner and elected Councilors as members. Appointment Committee is a statutory committee, and the Chairman of the Municipality is also the Chairman of the committee. The Committee is responsible for making appointments for posts which fall under the purview of the Appointing Committee. Contract Committee is another statutory committee and quotation of works is finalized by the Contract Committee. The Taxation Appeal Committee is responsible for hearing of appeals of the tax items. The Council is the decision making as well as policy making body.

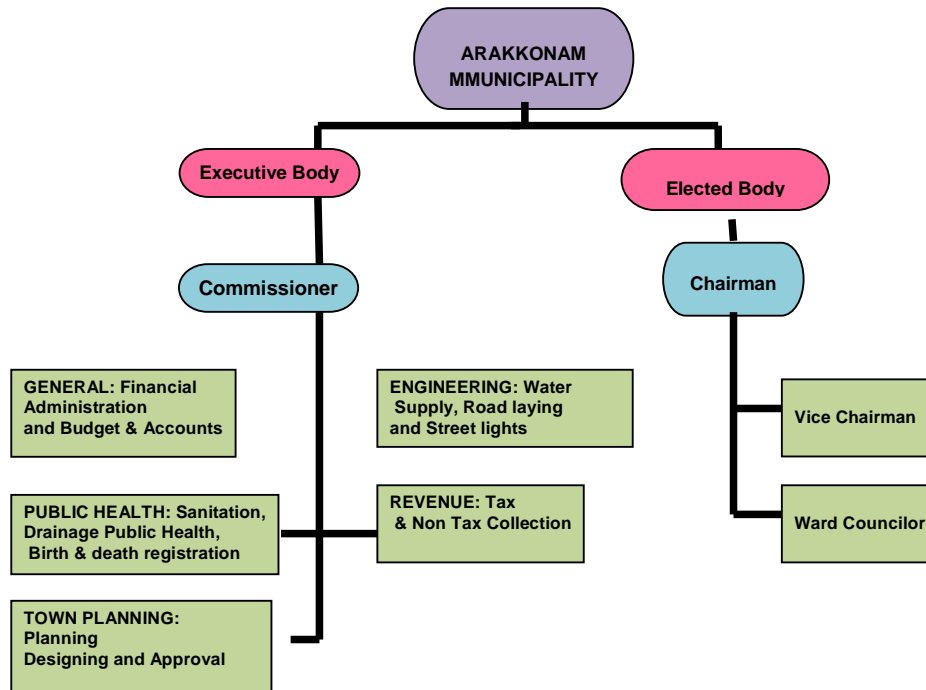


Figure 7-1: Organisational structure of Arakkonam Municipality

7.2 EXECUTIVE WING

The executive wing is responsible for the Municipal operations and maintenance. The Commissioner is the administrative head of the executive wing and is supported mainly by 5 department heads in the Municipal operation and maintenance. The organization structure of the Municipality comprises of 5 functional departments namely,

1. General Administration
2. Engineering and Water Supply section
3. Accounts Section
4. Public Health Section and
5. Town Planning Section

7.2.1 General Administration

The municipal commissioner is the executive head of the ULB. He is supported by department head like, Municipal Engineer, Town Planning Officer and Manager. Manager is the head of the General Administration next to Commissioner and he is responsible for general supervision and Administration of Office. The Administrative wing looks after general administration of the Municipality including establishment matters such as appointments, pay and allowances etc., correspondence with

Government and other departments, public relations, redressing of public grievances, legal matters and lawsuits and all matters related to office administration. All establishment matters are dealt with in the General Administration.

7.2.2 Health Section

The Municipal Sanitary officer is the overall in-charge of the Health Section. He looks after the prevention of Food Adulteration, conservatory work including sweeping of Streets maintenance of Drainage, controlling of epidemic diseases, ensuring of license to D&O trades, Birth and Death Registration, issuing birth and death certificate and also responsible for removing of dead animals and stray animals. The Sanitary Supervisor and Sanitary Workers are assisting the Municipal Health Officer. The Municipal Health Officer is also responsible for solid waste management.

7.2.3 Engineering Section

The Municipal Engineer is the over-all in-charge of Engineering Section. Municipal Engineer will control the Assistant Engineer, Technical Assistant, Road Mazdoor, Electrical Superintendent, Wireman, Helper and Fitter working in the section. The Municipal Engineer looks after the maintenance of Street lights, Road laying, construction of building, drainage, maintenance of parks, head works and municipal vehicles. The other subordinate officers are assisting the Engineer to look after the above work.

7.2.4 Town Planning Section

In Arakkonam Municipality, the Town Planning Officer is the over all in-charge of the section. He looks after the work of preparation of Master Plan, maintaining the land use as per the approved master plan, Licensing of plan building, booking of unauthorized construction, approval of lay out in the town limit, controlling and removing the encroachment in the town. The Town Planning Inspector will assist the Town Planning Officer in the planning of future development of the town and allied works.

7.2.5 Accounts Section

The Accounts section is included in General Section. The Accountant is the Head of the wing and controlling financial matters. It involves into preparation of Budget discipline and the Actual based Accounting System.

The Revenue section is headed by the Revenue Inspector and the inspector is supported by Bill Collectors with the task collection of taxes and Non-taxes and is held responsible for the entire collection of Revenue.

7.3 CITIZEN'S CHARTER

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

- Provide fast and quality services to citizens
- Inform the public about time limits to address the problems
- To provide transparency in administration

7.4 INFORMATION CENTRE

In order to provide all the relevant information to the town citizens, the Municipal Office has a reception cum information centre which also supplies various forms required by public to submit applications to the ULB. This reduces the time required on the part of the public and also provides information needed by the people on the spot.

7.5 STAFF STRENGTH POSITION AND VACANCY POSITION

As of now, there are 232 personnels are working in various sections of the municipality against the sanctioned strength of 242 post. There are 10 vacancies in the proposed staff strength norms. The details are given in the table below:

Table 7.1: Existing Staff Strength

Sl. No	Name of the Post (Service wise)	Sanctioned Staff strength	Present staff strength
General Services			
1	Manager	1	1
2	Revenue Officer	1	0
3	Accounts officer (A.D. in the cadre of LF Accounts)	0	0
4	Accountant	1	1
5	Assistant Accountant	1	0
6	Assistants	2	2
7	Revenue Inspector	1	1
8	Market Superintendent	1	0
9	Junior Assistant	8	8
10	Cashier	1	0
11	Typist	2	2
12	Revenue Assistant (Bill Collector)	10	10
13	Store Keeper	0	0
14	Record Clerk	1	1
15	Office Assistant	8	8
16	Assistant Programmer	1	1

Sl. No	Name of the Post (Service wise)	Sanctioned Staff strength	Present staff strength
17	Data Entry Operator	1	1
18	Night Watchman (Office)	2	2
	Total	42	38
Engineering Services			
1	Municipal Engineer Gr-I	1	1
2	Assistant Engineer / Junior Engineer (Public Works / Water Supply)	2	2
3	Draughtsman	0	0
4	Work Inspector	1	1
5	Tap Inspector	1	1
	Total	5	5
Health Services			
1	Sanitary Officer	1	1
2	Health Visitor	2	0
3	Sanitary Inspector	3	3
	Total	6	4
1	Maternity Assistant (Material & Child Health)	3	3
2	Field Assistant	1	1
3	Driver (Lorry, Motor or Tractor)	5	5
4	Sanitary Supervisor	6	6
5	Public Health Peon	1	0
6	Ayah (Maternity and Child health)	3	3
7	Sanitary Workers (All type)	164	165
	Total	183	183
Maternity Centre , General Dispensary, Ayurvedic / Siddha Dispensary			
1	Medical Officer	0	0
2	Pharamacist	0	0
3	FNA/MNA	1	0
4	Night Watchman	1	0
5	Sanitary Worker	1	0
	Total	3	0
Town Planning Services			
1	Town Planning Officer Grade - II	1	1
2	Town Planning Inspector	1	1
3	Chainman	1	0
	Total	3	2
	Total	242	232

7.6 ADDITIONAL STAFF REQUIREMENT:

Taking into consideration of the implementation of the proposed projects under the City Corporate cum Business Plan, the vacant posts in Engineering Section, Public Health Section, and Town Planning Section need to be filled up expeditiously.

In view of appointing Project Management Consultant for the proposed water supply and UGSS projects, Privatization of Solid Waste Management and Maintenance of street lights through ESCO/ Private agency, the various sections of the municipality need to be strengthened with the following personnel:

Table 7.2: Additional Staff Requirement

SI No	Name of the Post	Section	No. of Personnel
1	Accountant for Infrastructure project	General	1
2	Revenue Inspector	General	2
3	Assistant Engineer/ Junior Engineer (WS, UGSS, UIDSSMT & IHSDP Projects)	Engineering	1
4	Overseers (UIDSSMT & IHSDP Projects)	Engineering	2
	Total		6

Source: Analysis and discussions with Municipal officials

7.7 INSTITUTIONAL FRAMEWORK FOR SERVICE DELIVERY

The responsibility for good governance and management is vested with the Municipality. Although, the municipality is responsible for overall development of the town including provision and maintenance of services, there are other agencies responsible for planning, development and provision of specific services. Such key stakeholders include:

Table 7.3: Institutional Framework for Urban Service Delivery

S.No	Services	Planning and design	Implementing agency
1	Master plan preparation and Updation	DTCP	Municipality
2	Water Supply	TWAD	TWAD
3	Sewerage	TWAD	TWAD
4	Drainage	ULB	ULB
5	Solid waste Management	ULB/CMA/TNUIFSL	ULB
6	Roads and Highways	Highways dept / Municipality	Highways dept / Municipality
7	Bridges and water bodies	Municipality / CMA/PWD	Municipality / PWD
8	Street Lighting	Municipality/TNUIFSL	Municipality
9	Parks and playfields	Municipality	Municipality

10	Health and Education	GoTN / Municipality	GoTN / Municipality
11	Slum Development	Municipality/ TNSCB	Municipality
12	Environmental protection	TNPCB	

7.8 ORGANIZATION MANAGEMENT

As been seen from various sections of the report particularly relating to service deliveries, there are gaps of various sizes which result in a shortage in the delivery system. This could be overcome by certain specific options:

- In most of the service sections of the Municipality, there are vacancies which could be filled up. This alone may not ensure a totally satisfactory delivery of the services as it requires an efficient personnel management.
- The organization and delivery mechanism in some of the important personnel intensive service sectors has to be modernized. To mention the important few particulars relate to Solid Waste Management, where large no. of workers and staff are involved, could be modernized resorting to localized and more efficient composting and Landfill system. This could be assigned to NGOs, voluntary organizations or even the respective resident associations in the various colonies. This is a remunerative venture as is proved in many places. This process not only will significantly reduce the burden of the Municipality in engaging workers and staff but also will improve its resource position either through substantial reduction in a cost of solid waste management and / or could improve in the resource position as a remunerative venture.
- Tamil Nadu Urban Infrastructure and Financial Services initiated action to identify Landfill site through GIS in combination with 2 or more municipality as a centralized disposal of solid waste. This will reduce the cost of solid waste management for each municipality.
- Privatizing the operation and maintenance of water supply system, collection of taxes and fees and maintenance of public assets particularly sanitary and public health units is a well known option. This could be taken up under joint venture between urban local body and private sector.

8 URBAN INFRASTRUCTURE AND SERVICES

8.1 WATER SUPPLY

8.1.1 Existing Scenario for Water Supply

In Arakkonam Town, nearly 80% of population is dependent on protected Water Supply while the rest are dependent on unprotected sources of water supply. The most dominant source of water supply to Arakkonam Town is underground water pumped from the bank of Palar River. The present water supply schemes were implemented utilizing the water from Kallar Head works and Kesawaram Head works during the year 1939 and 1970 respectively. Water Supply Scheme exists in Arakkonam town since 1939. These sources located at a distance of 8-16 Km away from the town. A number of tube wells have been installed at different locations for water supply through pipe-network which serve about 99% of the town's Total road length.

At present the Arakkonam Municipality has provided 7200 individual connections, of which 98% connections are domestic and 2% connections are non-domestic connections. Also Municipality has provided 146 public fountains. The maximum water connections are in the domestic sector. Apart from this municipality has provided 240 hand pumps and 11 power pumps.

Table 8-1: Details of Source and Head works

S. N	Source	Place of Installation of Intake Pump	Collection Well	Infiltration Well(Nos)	Bore Well (Nos)	Pumping Main
1	Confluence point of kallar river and varaga nathi	thakkolam head works	1 (not functioning)	2 (not functioning)	21 (13 nos not functioning)	200 to 300 mm CI Pipes 450 mm dia
2	kallar	Kallar head works	1 (not functioning)	1 (not functioning)	1	200 mm CI pipes

Table 8-2: Break up of Water Supply Connections

S. No.	Type	No. of Connections	Percentage of Total
1.	Domestic	7145	99.24
2.	Non-Domestic	55	0.75
	Total	7200	100.00

Source: Arakkonam Municipality

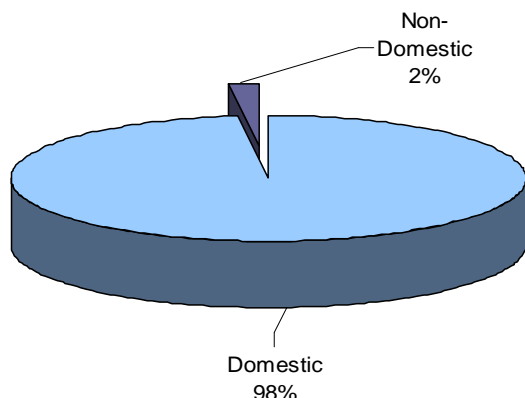


Figure 8-1: Break up of Water Supply Connections

Table 8-3 Classification of Sources of Water by type in Arakkonam

Location	Total no. of house holds	Sources of drinking water				
		Protected		Unprotected		
		Tap	Hand pump	Tube well	Well	Any other
Within Premises	12,030	8,772	1,380	414	1,452	12
Near Premises	3,021	1,540	754	189	509	29
Away	1,332	399	197	173	490	73
Total	16,383	10,711	2,331	776	2,451	114
% of House Hold		65.38	14.23	4.74	14.96	0.70

Source: compiled from Housing and Household Amenities, Census of India 2001

8.1.2 Sources and Treatment

The source of water supply at a junction of Kallar River with Varadakshiyar River near pudukesavaram. The quality of water is tested and after distributed to the public from the reservoir. The water PH value 7.5. It is used for drinking purpose. The water used to get chlorinated before distribution. The town has been provided with localised water supply. This is a combined scheme for the town and the continuous treatment plant implemented at a cost of Rs.48.33 Lakhs, which is maintained by TWAD board. This scheme supplies 21 Lakhs litres a day to the northern part of the town. Therefore the water supply schemes using the above river were contemplated and implemented in the town.

Table 8-4 Location of Reservoirs

S. No.	Name of local reservoir	Installed capacity in lakhs liters
1	Jublee Road OHT	5.63
2	Municipal Office OHT	5.00
3	S.R. Gate OHT	1.00
4	Winterpet OHT	2.27
5	Tamil Nadu Housing board OHT	1.00
Total		14.90

Source: Compiled from data provided by Municipality, Arakkonam

8.1.3 Storage and Distribution Network

The existing distribution system comprises of distribution network from the service reservoirs to the individual house service connections and public fountains, which covers 99% of the Total municipal road length (57.89 Km.) in the town. The existing network system is laid out to cover dense population located in the different parts of the town. At present, the water is distributed for duration of 1 ½ hour once in three days. **Table 8.5** shows the water supply connection details in the town

Arakkonam Municipality Water Supply
Head works and Overhead tanks

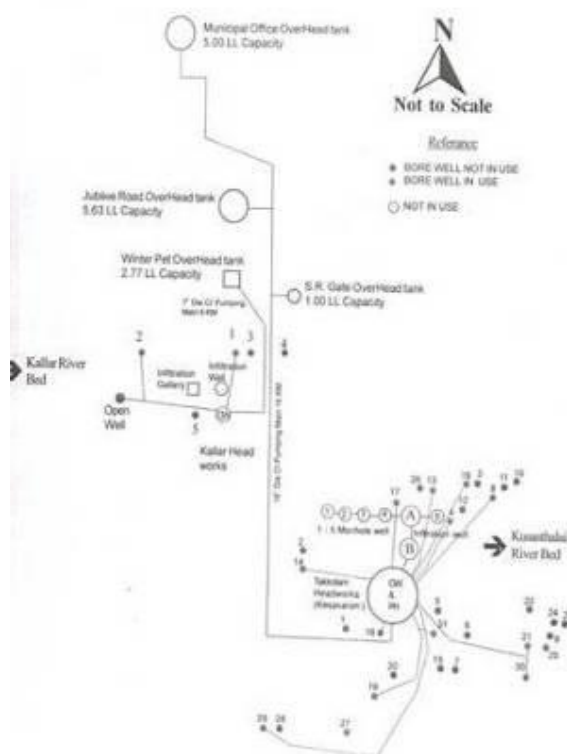


Table 8-5 Water Supply Distribution Details in Arakkonam Town

Distribution system	Details
Network length	58.27 Km
Storage capacity	14.90 Lakh LD
Storage reservoirs	5 Nos.
Public fountains	146
No of hand pumps	240
No of mini power pumps	11
No of house service connection	7200

Source: Compiled from data provided by Municipality, Arakkonam

8.1.4 Demand Supply Scenario



At present, the municipality supplies 59.80 Lakhs LD water to its residents. Municipality is considering that people are getting 76 LPCD water. But in the real scenario the people are getting 72.00 lpcd water and can be considered shortage of supplies in order to meet the current level of demand. Though to meet the demand municipality is maintaining 240 hand pumps and 11 mini power pumps yet the scenario of water supply is on shorter side. Because of insufficiency of quantum of water supplied by municipality, people use unprotected water for their other domestic needs.

Table 8-6 Existing Demand and supply in the town

Type	Demand (KLD)
Total Population(2008)	83500
Supply Scenario	
Current Supply of Water	59.80 Lakh LD
Present Supply of Water	72 LPCD
Demand Scenario	
Current Demand @ 135 LPCD	112.57 lakh LD
Additional Demand from Offices, Schools and commercial establishments	5.20 lakh LD
Total Demand	117.77 Lakh LD
Demand Supply Gap	-57.97 Lakh LD

It can be inferred from the table 8-7, there is a large gap between current demand and supply of water. Present supply as per municipal officials is 76 lpcd but as per calculations it is coming around 62.00 LPCD that too in every 48 hours. Apart from the low supply, the quality of water supplied is also very poor as the TDS levels in the water supplied to the town are to the tune of 2000 whereas according to standards laid by World Health Organisation (WHO) the Total TDS in water should be in the range of 0 to 500.

Table 8-7 Demand and supply in the town

Year	2007-08 (Current Year)	2009 (Base year)	2024 (Intermediate year)	2039 (Ultimate Year)
Population	83500	84400	97000	108000
Per Capita(LPCD)	71.61	135	135	135
Demand(LLD)	117.77	119.38	136.95	152.16
Supply of Water(LLD)	59.80	59.80	59.80	59.80
Gap(LLD)	57.97	59.58	77.15	92.36

8.1.5 Performance Indicators

Attributes	Components	Indicator	Formula	Value	unit
Service Level	Service Delivery	Water supply per day	Total supply to the town per day / Total population of the town	72	Liters per capita per day
		Average hours of supply per day	hours of supply on supply day / number of days between two supply day	1.5	hours/day
		Average number supply days in a week		2	Day
	Storage capacity	Storage capacity adequacy	(Total storage capacity(ML)/Total water supplied (MLD)* 100	25	Percent
Service Coverage	Population coverage	Percentage of Households covered by water connections	(Number of water connection/Total number of Households)* 100	44	Percent
	Physical coverage	Percentage of water supply pipe Length to Total Road Length	(Length of water supply pipelines/Total Road length)* 100	99	Percent

8.1.6 Issues

- Large number of household depends on piped water supply which is inadequate and people are forced to use alternative water sources, which may be infected by microbial pollution
- Pumping main for 2 kms from Kallar river to Winterpet OHT in poor condition
- In rettamalai srinivasan street taps are fully damaged

- Due to construction of culvert between Thakkolam and Arakkonam pumping main need to be changed for 2 kms
- The old water supply scheme can not sustainably fulfill the demand of the town. And in future it will not be able to withstand pressure for additional demand
- Pumping main from Sivapuram to Thakkolam has to be changed for 1km long
- 120 HP pump in Thakkolam collection well is has lost is life, so need to be changed

8.1.7 Proposal by Municipality

To achieve the demand a combined water supply improvement scheme to Arakkonam municipality in Vellore district and thiruthani municipality in Thiruvallur district have been proposed. The sharing cost of Arakkonam is shown in below table.

Table 8-8 Water supply augmentation and distribution system for Arakkonam

S. No	Description	Amount in rs.	Sharing of cost Rs for Arakkonam
1	Head Works	27044000	16902500
2	Gravity main and sump 7.00 ll	55805000	34865625
3	Pump room,pump set and pumping main	13308670	13308670
4	Service reservoir for arakkonam	4766000	4766000
5	Distribution system for arakkonam	4432000	4432000
6	Pumping main,pumpset,pump room and others for thiruthani	13918000	-
7	Telephone connection and other miselieous	401330	250500
	sub Total-1	119678000	74525295
	Petty supervision charges @2.5%	2994875	1863132
	Unforeseen items @about 2.5%	2981273	1824536
	sub Total-2	125648148	78212963
	Centage charges @8.0%	10051852	6257037
	Grand Total	135700000	84470000
Sharing Of Arakkonam Municipality Cost Rs 8.44 crores			

Apart from the combined scheme, there is a small scheme with ground as a sources is proposed in the below table.

Table 8-9 Source augmentation within municipality

S. No	Description	Cost In Lakhs
1	Mini power pump 20 Nos	20.00
2	Borewell with Handpump 36 Nos	10.80
	TOTAL	30.80

The main draw back of the proposal by the TWAD board is in terms of water supply side they proposed 90 lpcd through public fountains for horizon year 2036 population. The revised proposal for water supply is given in **chapter 10**.

8.2 SEWERAGE AND SANITATION

8.2.1 Sewerage



At present, Arakkonam town does not have a Sewerage network. Under the predominant system of open drainage disposal the untreated sewage effluent dispose into the irrigation tank (periya eri), part of effluent over flows to pollute the residential and commercial area of the town. The Govt. of TN has decided to provide Under Ground Drainage with treatment plant to prevent wastewater pollution in all the towns.

8.2.2 Sanitation

Septic tank is the most common mode for disposal of sanitary waste adopted in Arakkonam town. The other modes of disposal and household distribution are shown in Table 8-10. It is evident that about 67.90% of households have access to safe mode of sanitary disposal i.e. by the means of Septic tanks and Pit latrines. However, about 32.10 % of households do not have an access to safe mode of sanitation.



As per the municipal records nearly 9,500 houses have water closet and the remaining houses do not have a safe sanitation facility.

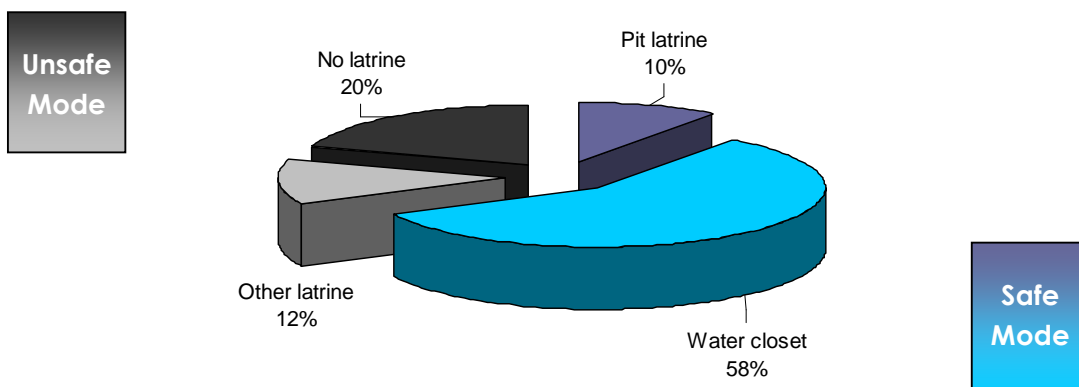
Table 8-10 Classification of Modes of Sanitary Waste Disposal by Type

Particulars	Facility by Type	Households	Percentage	Mode
Safe mode of disposal	Pit latrine	1629	9.94	67.90
	Water closet	9495	57.96	
Unsafe mode of disposal	Other latrine	1966	12.00	32.10
	No latrine	3293	20.10	
Total Households		16383	100	100

Source: compiled from Household and Housing Amenities Census, Census of India 2001

Table 8-11: Existing Public Convenience Units (Toilet)

S. No	Type of Toilet	Toilet Nos
1	Public toilet	11
2	ISP toilet	2
3	Pay and use toilet	2
	Total	15

**Figure 8-2: Status of Toilet Facility in Arakkonam Town**

Apart from this, municipality maintains 15 public toilets in different areas of the town. However, considering the floating population, there will arise a need for provision of public toilets and Pay and Use toilets especially in the commercial localities and other public places like bus stand, rickshaw stand etc. Another area where the sanitation standard needs to be improved is in educational institutions. It is absolutely essential that this aspect is given immediate attention.

8.2.3 Performance Indicators

Attributes	Components	Indicator	Value	unit
Service level	Level of hygiene	Percentage of pay and use toilet to Total public toilets	13	Percentage
Service coverage	Population coverage	Percentage of population covered by individual septic tank	70.10	Percentage

8.2.4 Issues in Sewerage and Sanitation Provisions

- Septic tank is the major mode of disposal which may pollute the ground water with microbial pollution
- Public toilet at market is in poor condition needs improvement
- Public conveniences are not adequate in the town
- Most of population do not have an access to sanitary facilities and thus follow open defecation
- Lack of sewerage system and inadequate safe mode of sanitation facilities
- Public toilet at old bus stand is fully damaged so need to be demolished
- Somasundharam public toilet needs renovation of building

8.2.5 Proposal

The proposal for underground sewerage system by TWAD board is under progress for approval, the proposal for horizon year including public toilet construction and improvement are given in chapter 10.

8.3 STORM WATER DRAINAGE

8.3.1 Existing Condition of Storm Water Drainage



The storm water drains are constructed and maintained by the municipality. As such, the Arakkonam Town is covered by network of surface drains of lined and unlined drains—leading to different directions along the slopes. In the town, the waste water is carried through open drains. The present condition of storm water drain carries sullage and sewage, which ultimately discharged in Periya Yeri.

This pose a health and environmental hazard to the natural water system need to be addressed through a proper treatment facility for the sewage water into the yeri. No comprehensive drainage plan has been made till date. Existing surface drainage network is quite inadequate to cater to the present day needs.

Table 8-12: Existing condition of storm water drainage

S. No	Status of storm water drains and roads	Length in Km
1	Total length of roads & streets in the town	57.893
2	Total length of storm water drain required in the town	75.26
3	Length of existing storm water drain	75.83

8.3.2 Drainage Connectivity

The table 8-13 shows that there are 17.83% of the houses are not connected with any type of drainage system while 48.62% of the houses are connected by open drainage i.e. earthen drainage. In the town, 33.55% of the houses are closed drains. Apart from absence of comprehensive drainage system, the town is also lacking a treatment plan and the drainage ultimately flows in to the Palar River.

Table 8-13: Existing Drainage Scenario

S. No.	Type of Drainage	No. of Houses	Percentage
1.	Closed drainage	5496	33.55
2.	Open drainage	7966	48.62
3.	No drainage	2921	17.83

Source: Housing & Household Amenities Census, 2001

8.3.3 Performance Indicators

Attributes	Components	Indicator	Value	Unit
Service level	Storm water drains	percentage of road length having storm water drains	130%	%
Service coverage	physical coverage	percentage of town area covered by storm water drains	80%	%

8.3.4 Issues in Storm Water and Household Drainage Provisions

- Water stagnation is increasing in the katcha drains rather than the pucca drains in the town. And most of the households either have a kutchra drain or drainage facility which needs a comprehensive planning
- Water stagnation is increasing due to dumping of garbage and solid waste into the drains and due to increasing urbanisation
- The untreated water is flowing in the Vannivedu Yeri and finally to Palar River.
- Construction of new CC Main drains from Gandhi nagar to periyar eri and from Palanipet to TN nagar
- In Perumal kovil street drainage is fully damaged
- Renovation of existing drainage at back of the government school

8.3.5 Proposal

About 50 % of municipality is covered with open drainage. The proposal for storm water drainage system for horizon year is shown in chapter 10.

8.4 SOLID WASTE MANAGEMENT

Solid Waste Management is one of the important obligatory functions of any urban local body.

8.4.1 Generation of Solid Waste

The daily average generation of garbage in Arakkonam Town is 32.95 Metric Tonne (Mt). Per Capita Solid Waste Generation in the town is 400 grams. Efficiency of the present mechanism can able to collect 98.00 % of the Total wastes generated in the town. The Urban Local Body also carries out weekly.



Mass waste cleaning programmes to clear the left over wastes by utilising extra vehicular trips in the town. The Total garbage collected constitutes 48% of the domestic wastes, 42% commercial wastes and 10% of construction wastes.

Table 8-14: Type of Waste Generated from Arakkonam Municipality

S.No	Description of Services	Status
1	Total Solid waste generation/day (in MT)	32.95MT
2	Total Solid waste collection-day(in Mt)	32.25 MT
3	% of Coverage	98
4	Frequency of Collection	Daily
5	No. of dustbins provided in the town	69
6	Masonry containers	1
7	Per Capita waste Generation (Grams)	400
8	Per capita waste Collection (Grams)	350

Source: Arakkonam Municipality

Out of the Total waste collected, 20MT of the waster is from House hold, petty shops and establishments, 6MT of the waste is generated from markets, hotels, marriage halls and restaurants (discarded packaging from shops, waste food from eateries, waste generated from vegetable, fruit etc.), 1 MT from Meat, Fish and slaughter house and 3MT from Construction. Waste from Hospital (bio-medical waste) and pathology lab is very low i.e. 0.05 MT and can be considered as negligible as compared to other types of waste.

Table 8-15: Source of Waste Generation

S.No	Waste Composition	Quantity (MT)
1	House holds, petty shops and establishments	20.00
2	Vegetable, Fruit, Flower market	6.00
3	Meat, Fish and Slaughter house	1.00
4	Construction	3.00
5	General Hospital waste	0.05

Source: Arakkonam Municipality

It is also observed that the waste generated from the hotels, fish and meat stalls and vegetable market being used for anaerobic composting “ward level secondary sorting and segregation” of non-Bio, recyclable waste is also being done to remove especially the plastic waste.

Table 8-16 Zone Wise Solid Waste Management

Sanitary Division	Wards Covered	Population Covered	Generation	Collection	% of Collection
I	24,25,26,27,28,29,30,31,32,33,34,35,36	29184	10.00	9.80	98.00
II	7,8,9,10,11,12,13,14	15577	10.00	9.80	98.00
III	1,2,3,4,5,6,15,16,17,18,19,20,21,22,23	33925	12.95	12.50	92.66

Source: Arakkonam Municipality

Zone II achieves 90% of the solid waste collection followed by zone I and then by Zone III.

Table 8-17 Quantity of Solid Waste generation

Year	2007-08 (Current Year)	2009 (Base year)	2024 (Intermediate year)	2039 (Ultimate Year)
Population	83500	84400	97000	108000
Garbage (MT)	32.95	33.76	38.8	43.2

8.4.2 Collection of Solid Waste

The Primary Collection of Solid Waste in the town of Arakkonam is done with the help of Push-carts, Collection Bins and Auto Tippers. The secondary collection is done with the help of Mini Lorries that transfers the waste to the disposal site. The collection efficiency in the town is 98%

Table 8-18: Solid Waste Practices in Arakkonam

Type of Practices	Availability		Practice Duration		
	Yes	No	Daily	Half Weekly	Weekly
House-to-house waste collection	●		●		
Central collection	●		●		
Street sweeping and collection of sweeping wastes	●		●		
Secondary Segregation					
Desilting of storm water drains	●			●	
Desilting of sewer lines		●			
Desilting of service drains	●		●		
Secondary waste collection	●		●		
Transportation of wastes	●		●		
Disposal of wastes	●		●		

Source: Public Health Department, Arakkonam Municipality, 2006-07

The collected waste is then segregated under the category of biodegradable and non-biodegradable waste and transported by Lorries and taken to the waste disposal site. All wastes than dumped in to the dumping ground. As the bio-medical wastes is very low in town so there is no separate mechanism and it is directly thrown at the same place along with biodegradable waste. The waste is collected everyday and adequate vehicles are available for secondary transportation.

Table 8-19: Number and Type of dustbins for waste collection

Vehicle	Nos.	Requirement
Transfer Stations	5	0
Collection Bins	54	6
Collection boxes	Nil	

Source: Arakkonam Municipality

8.4.3 Transportation Facilities

The collected solid waste from secondary storages i.e. concrete collection bins is transported to dumping grounds. A Total of 164 labour/ sweepers are involved in collecting waste.

The fleet of vehicles for transporting waste is not adequate. And lack of waste collection system to achieve segregation at source leads to non-retrievable collection of the probable reusable waste resources.

Table 8-20: Detail of Vehicles for Solid Waste Management in Arakkonam Municipality

S.No	Using Section	Reg. No	Year of Purchase	Type of Vehicle	Make
1	Public Health	BMJ 6861	1968	Lorry	
2		TN23V 4655	1998	Mini Lorry	
3		TN23X 6607	1997	Mini Lorry	TATA
4		TN23X 9365	1997	Mini Lorry	Ashok Leyland
5		TN23Z 6085	1993	Mini Lorry	DCM Toyoto
6		TN23Z 6086	1993	Mini Lorry	DCM Toyoto
7		TN-23-AX 5632	2005	Auto Tipper	Bajaj
8		TN-23-AX 5634	2005	Auto Tipper	Bajaj
9		TN-23-AX 5635	2005	Auto Tipper	Bajaj
10		TN-23-AX 5636	2005	Auto Tipper	Bajaj
11		TN-23-AX 5637	2005	Auto Tipper	Bajaj
12		TN-23-AX 5638	2005	Auto Tipper	Bajaj
13		TN-23-AX 5639	2005	Auto Tipper	Bajaj
14		TN-23-AX 5640	2005	Auto Tipper	Bajaj
15		TN-23-AX 5641	2005	Auto Tipper	Bajaj
16		TN-23-AX 5643	2005	Auto Tipper	Bajaj
17		TN-23-AX 5644	2005	Auto Tipper	Bajaj

Source: Arakkonam Municipality

Nearly 32.25 MT of waste per day is collected for disposal. Rest of the material like building material is dumped in low lying area and the recyclable material used to send for recycling.

Table 8-21: Number and Type of vehicles used for Transportation

Vehicle	Nos.	Requirement
Lorry	4	0
Auto Tipper	11	1
Tricycle	40	30
Mini Lorry	5	0
Collection Bins	54	190
Dumper Pulsar	0	1

Source: Public Health Department, Arakkonam Municipality

8.4.4 Disposal of Solid Waste

At present, there is no full-fledged compost yard facility available for solid waste dumping and the waste is generally disposed in the near kavanoor road Rajive Gandhi Nagar area, 3 Km away from the town centre, which occupy an area of 10 Acres. The existing compost yard is not provided with adequate infrastructure facilities such as road, Weigh Bridge, Waste Segregation platform, mechanical sewer and security room.

8.4.5 Performance Indicators

Attributes	Components	Indicator	Value	Unit
Service level and coverage	Waste collection	Percentage of waste collection	98.00	Percentage
	Capacity of bins	Percentage of capacity of waste collection bins	28	Percentage
	Coverage	Average road length covered per sweeper	Less than 1	Km per sweeper
Service cost and efficiency	Financial management	Cost per M.T of waste collection/day	1237	Rs per M.T
	Staff efficiency	Manpower per tone	4	Person

8.4.6 Issues in Solid Waste Management

- Improper management of waste at storage points.
- Uncontrolled littering along main roads & streets
- Lack of adequate infrastructure in the transfer station
- Lack of auto tripper vehicles for secondary transportation

- Non – availability of a proper compost yard & land fill with suitable Infrastructure facilities
- Hazardous domestic wastes (like aerosol cans, used batteries, cosmetic items, broken light bulbs, paints, etc.) are dumped together with other waste
- Lack of Safety suits - Injurious to the health of the sanitation workers and reduces the productivity of the manpower
- Bio-medical wastes are also disposed off unscientifically which may pose serious future health hazard
- Transportation of the waste material is by open tractor trolleys
- All the waste is open dumped out from the periyary of the Nagar Palika boundary and it is neither spread nor covered
- Dumping of solid waste in kutchra drain in Gandhi road

8.4.7 Proposal

The proposal for solid waste management for the horizon year 2039 is given in the chapter 10.

8.5 STREET LIGHTING

8.5.1 Status of Street Lighting



There are 1855 street lights in the town of Arakkonam. The major form of lighting on the streets of Arakkonam is tube lights which accounts for 81.35% of Total light fixtures, while the remaining are Sodium Vapour Lamps.

The streets in the residential areas are provided with tube lights. The average distance between the poles is 37.68 meter. However, the average distance between the street light poles on all the roads varies from 20 m to 40m.

Table 8-22: Existing status of street light in arakkonam

S. No	Type Street lights	Nos
1	Tube lights	1509.00
2	70 W Sodium vapour lamp	120.00
3	250 W sodium vapour lamp	211.00
4	250 W Mercury vapour lamp	15.00
	Total	1855.00
1	Automatic timer switches	43.00
2	Distance between poles	37.68

The major problem with these street lights is their placing as there are no specialised poles for these and as a result lights are implanted on electricity poles which are relatively shorter in height and restricts the spread of light to a limited area. Street lights should be removed from electricity poles and separate poles should be raised to maintain its height.

8.5.2 Performance Indicators

Components	Indicator	Formula	Value
Street light coverage	Number of street light per km of road length	Number of street lights /Total road length in kms	27
Maintenance Costs/ Month	Cost per street light	Total operating cost /Total no. of street lights	-
Staff efficiency	Staff per 1000 street lights	Total number of staff /Total number of street lights *1000	NA (services outsourced)

8.5.3 Issues in Street Light Provisions

- Provision of additional street lights is required in Gurusamy street, Nethaji 5th street and East opanakara street
- Strengthening of damaged poles / replacement, rectification of slant poles
- Automatic timer switches/ Energy savers is required for all the street lights
- Electric poles are used for provision of street lights so height of these lights is very low results in low spread of lights.
- Narrow paths where these poles become hindrance to traffic
- The placing of street lights is very near and this results in more spending on infrastructure and more electricity bills.
- Required high mass light at Jothi nagar, Pudhupettai and Palanipettai

8.5.4 Proposal

The proposal for improving street light facilities is given in chapter 10.

8.6 TRAFFIC AND TRANSPORTATION⁹⁰

8.6.1 Regional Linkages- Roads

The Town, the head quarters of Arakkonam Taluk is situated at about 68 Km from Chennai.

8.6.2 Town Level Road Network and Hierarchy



The roads/ streets in the town are looked after by the municipality and partly by Highways and Rural Works Department.

Nearly all the roads in the town are metalled. Arakkonam Municipality maintains 57.89 km of roads.

Municipal Roads

The municipality is maintaining 57.89 Km roads with in the town. The category of the roads maintained by the municipality is given in table below:

Table 8-23: Types of Roads in Arakkonam Municipality

S. No.	Type of Roads	Length in Km
1	BT Road	38.685
2	C.C Roads	8.092
3	Earthen Road	8.457
4	W.B.M Road	2.659
	Total	57.893

Source: Engineering Department, Arakkonam Municipality



Figure 8-3: Road Network in Arakkonam Town

The analysis of road network inventory data is shown in the table 8-24:

Table 8-24: Roads by Hierarchy, 2004

ROADS	Road Lengthy (Km)
National Highways	4.80
State Highways	7.2
Roads length	12

Source: compiled from data collected from Arakkonam Municipality

8.6.3 Parking

There are no authorised parking spaces in the town. Hence, private vehicles as well as auto-rickshaws are generally parked on road intersection or along the road.

8.6.4 Pedestrian Paths



There is no provision of pedestrian along the major and minor roads and people face problem in walking on the main roads also this creates problem for the fast moving traffic. The both sides of the main roads have been encroached by shop owners on the existing carriage way up to 1 meter and it acts as a hindrance for free flow of traffic.

8.6.5 Public Transport System

The major form of public transportation is buses. There are a Total of 19 bus bays in the town which cover an area of 4.02 Acres. The bus stand is of Grade 'C' Class. There is only one taxi stand in the town.

8.6.6 Issues in Traffic and Transportation

- The road junctions at railway quarters required improvement
- Required CC road in Ganesh nagar
- Majority of town roads are narrow and there is no scope of widening. Even these roads has been encroached on both sides by shop owners.
- Conversion of WBM road to CC road is required in the Indian home pipe company road.
- Required conversion of BT road into CC road in the TNHB nagar
- Footpaths along the town are not present and people walk on the roads along side fast moving traffic

- There are no authorised parking plots or demarcated parking areas. Haphazard parking all along the main roads increases congestion.

8.6.7 Proposal

Proposal for conversion of all BT and Eathern road to cement concrete road is given in chapter 10.

8.7 SOCIAL INFRASTRUCTURE FACILITIES

8.7.1 Educational Facilities

5 higher secondary schools, 9 matriculation schools, 3 middle schools and 8 elementary/ Primary schools are present in the town. There are also 5 private schools, 4 technical institutes.

Table 8-25: Details of Education Facilities

S.No	Name	Street
1	Sacred Heart Metric Hr.Sec.School	Vallaikulam street
2	St. Andrews Hr.Sec.School	Mosque street
3	Selvam Hr.Sec.School	Solinghur road
4	SMS vimal Matric Hr.Sec. School	West. Oppanakara st
5	CSI Girls Primary School	Manayakar street
6	St John' s English School, & Typewriting Institute	Townhall 1st street
7	Valluvar Mat.Hr.Sec.School	Thiruvaluvar street
8	Bharathidhasanar Mat.Hr.Sec.School	Townhall 6th street
9	Captains convent	Nehruji nagar 8th st
10	Municipal Primary school, Nehruji Nagar	Nehruji nagar 4th st
11	Seventh Day Christian Mat. Hr.Sec.School	TNHB
12	Kings & Queens Residential School	TNHB
13	NIIT Centre	TNHB Main Road
14	Govt. Girls Hr.Sec.School	Jothi nagar
15	Jothi vallar Middle school	Vallar street
16	Municipal Middle school, Gandhi Nagar	Gandhi Nagar
17	Dhanam Nursery & Primary school & Tuition center	Mettu street
18	M.A. Jain Municipal Middle school	Winderpet
19	Railway mixed primary school	Railway Hospital near
20	Municipal Primary school	Pudupet
21	Govt. Girls Hr.Sec.School	Krishnampet
22	Govt. Boys Hr.Sec. school	Ocheri Road
23	Govt. Primary school (Athidarvida welfare)	S.R. Get - Near
24	Municipal Primary school, Griblespet	Gribles pet
25	Rajeswari Nur. & Primary school	Muthappa reddy st
26	Trinity Matriculation School	Gandhi Road-2
27	Gabrel Middle school,	V.P. Koil street

S.No	Name	Street
28	Good Samaritan English medium school	V.P. Koil street
29	Crown Ambassador Advanced English Institution	T.N. Nagar
30	R.C.M. High school	A.N. Kandigai
31	Municipal Primary School	Somasundaram street
32	Railway mixed High school	Haffielspet
33	Municipal Primary school	Galivari kandigai
34	Infant Jesus English medium school	Kuruji Nagar
35	Municipal Middle school	E. Srinivasan street
36	Municipal Middle school	Polachiamman Koil street
37	Municipal Ele. Scool	Sarojini street
38	Selvam Tution center	Dharmarayan street
39	Municipal Urudu Elementary school	Mosque street
40	Our lady 's Primary School	Vellai kulam street
41	Sri Krishna Mat. School	Arakkonam -Thiruttani road
42	Sri Krishna Polytechnic	Arakkonam -Thiruttani road
43	Sri Krishna ITC	Arakkonam -Thiruttani road
44	SMS Vimal Mat. School	Thirupur kumaran street

Source: Arakkonam Municipality

Table 8-26: Existing Educational facilities in Arakkonam Town

Particulars	No. of Institutions	Population served by 1 school
Elementary / Primary	8	7368
Middle	3	14737
Matriculation	8	14737
Higher secondary	5	14737
College		-
Technical institutions	4	14737

Source: Arakkonam Municipality

8.7.2 Existing Scenario in Educational Facilities



Apart from whatever the statistics reveal there are other problems, like: some of the schools do not have proper buildings; the buildings are mostly poorly maintained and need urgent civil repair works. Sanitation and hygiene is also a cause for great concern. Some schools do not have properly maintained toilets and proper drinking water facilities.

8.7.3 Issues in Educational Sector

- The infrastructure facilities in the school are very poor
- Required New building for schools at Nehruji nagar and Urdu school
- Inadequate furniture/education aids / Audio visual aids/ Computer in elementary and middle school
- School at Somasundaram nagar and Griebiespet school are 70 to 80 years old building so required new building
- Lack of proper school environment
- Inadequate toilets in elementary schools

8.7.4 Proposal

The Proposal for new school buildings and other facilities are given in chapter 10.

8.7.5 Health Facilities



At present, one Government Hospital, 2 private nursing home, 7 private hospitals and 28 private clinics are functioning in Arakkonam Town.

Execution of renovation work in the maternity center is under progress for an estimated cost of 5 lacs. All other medical facilities are also available.

8.7.6 Market



At present the municipality has 2 daily market in Gandhi road and one weekly market with 194 permanent shops.

8.7.7 Issues

- Inadequate shops
- No water supply in the market
- Inadequate lighting arrangement and toilet facilities
- Inadequate infrastructure facilities

8.7.8 Proposal

The proposal for market facilities are given in chapter 10.

8.7.9 Slaughter house facilities



One existing municipal slaughter house under progress for renovation work at an estimated cost of Rs. 20 lacs under part-II scheme. The main draw back is the absence of treatment plant facilities.

8.7.10 Proposal

The proposal for treatment plant in slaughter house is given in chapter 10.

8.7.11 Burial ground facilities



At present municipality have 3 nos of burial ground where renovation work was carried out recently with Rs. 10 lacs.

8.7.12 Issues

- Improper / inadequate upkeep of the burial grounds
- Required Gasifier for all the 3 burial grounds present at Mosur road, Neruji nagar and Rajiv Gandhi nagar
- Inadequate lighting arrangements

8.7.13 Proposal

The proposal for Burial ground facilities are given in chapter 10.

8.7.14 Parks and play ground facilities

Number of Municipal Parks Available is 4.

1. Gandhi park – ward no. 29
2. Vedhachalam park – ward no. 18
3. TNHB park – ward no. 4
4. Rathanachand nagar – ward no. 22

8.7.15 Issues

- Parks uncared for a long time and have become miscreants play fields
- Loss of environment protection
- Gandhi park and Vedhachalam park required light arrangements and improvement children play facilities with seating arrangements
- Housing board park and Rajachandran park needs all the facilities
- Loss recreational facility

8.7.16 Proposal

The Proposal for all the facilities in all 4 parks are shown in chapter 10.

9 MUNICIPAL FINANCE

9.1 OVERVIEW

Arakkonam Municipality maintains a municipal fund for managing the finances of the Municipality. The accounts of the municipal fund were maintained on cash based single entry system till the year 1999-2000. From 1.4.2000 onwards, accrual based double entry book keeping system was implemented. The Municipality maintains accounts separately for General Fund, Water Supply and Sewerage Fund and Education Fund.

9.2 GENERAL DETAILS

Arakkonam is located at Vellore District and the total population as per 2001 census is 78686 Nos. Out of the same the total urban poor is 19275 Nos., comprising 15% of the total population. The total number of slums is 12 Nos. with total slum population of 21196 Nos, which aggregates to 27% of total population.

It is a Grade I municipality.

9.3 RECEIPTS

Receipts under the Revenue Account include taxes and fees, grants, water & sewerage charges, income from properties, service charges & fees and other income.

9.3.1 Property Tax

Property Tax is the single largest tax revenue source and accounts for around 20% of the total revenue. This tax is levied on residential, commercial, industrial and vacant lands. The property tax is levied on the basis of Annual Rental Value of the property. The property tax is levied on the annual value of the property, which is determined on the basis of gross rent at which the property can be reasonably expected to be let out.

The Municipality currently charges property tax @ 15% per annum on the basis of Annual Rental Value. The components of property tax are as below:

Table 9-1 Property Tax Components

S.No	Particulars	% (Per Annum)
1	General	7.00%
2	Scavenging	1.50%
3	Lighting	2.00%

4	Water Tax	2.00%
5	Sewerage Tax	-
6	Education	2.50%
	Total	15.00%

The total number of property tax assessments is 11138 Nos. the breakup of which is as below :

Table 9-2 Property Tax Assessments

Particulars	Nos.
Domestic	8969
Commercial	1016
Industrial	10
State Government Properties	27
Public Sector Undertakings	2
Total	10024

The last revision of Property Tax was carried out on 01.10.1998.

The total property tax collections during the last 6 years ended 2006-07 is as below :

Table 9-3 Property Tax – Growth during last 6 years

Year	Rs. in lacs	% Growth Rate
2001-02	88.99	-
2002-03	95.39	7.19%
2003-04	98.27	3.02%
2004-05	98.89	0.63%
2005-06	102.89	4.04%
2006-07	104.95	2.00%

It may be observed from the above that the average property tax collection is around Rs. 100 lacs per annum and average growth over the years is around 3%.

The demand and collection of property tax over the last 6 years is as below :

Table 9-4 Property Tax – Demand Collection %

Property Tax	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Demand	Rs.in lakhs					
- Current	96.22	102.97	106.19	107.13	107.00	113.70
- Arrears	61.26	74.26	87.82	104.25	125.00	145.11
Total	157.48	177.23	194.01	211.38	232.00	258.81
Collection						
- Current	67.68	71.32	71.33	61.77	63.12	72.15
- Arrears	15.54	18.09	18.42	19.25	23.67	42.12
Total	83.22	89.41	89.75	81.02	86.89	114.27
Collection %						
- Current	70%	69%	67%	58%	59%	63%
- Arrears	25%	24%	21%	18%	19%	29%
Total	53%	50%	46%	38%	37%	44%

The current collection performance of property tax is very poor at around 65-70% and the arrears collection performance is around 20%.

9.3.2 Profession Tax

Profession Tax is another source of revenue to ULB. Profession tax is a tax deducted from the salaries of the employees falling within the Municipality and is collected from all registered organizations, companies or firms, public or private, individuals and State & Central Government Departments. Currently profession tax is deducted on a slab basis.

The total number of profession tax assessments is 3835 Nos., out of which state / central / quasi Govt. employees comprise 2930 Nos., private employers / companies is 13 Nos. and traders / self employed professionals 905 Nos.

During the last 6 years, it has increased from Rs. 17.50 lacs to Rs. 23.50 lacs. It accounts for around 5% of the total revenue. The profession tax for the last 6 years is as below:

Table 9-5 Profession Tax – Growth during last 6 years

Year	Rs. in lacs	% Growth
2001-02	17.57	-
2002-03	19.99	13.77%
2003-04	19.31	(3.40%)
2004-05	23.38	21.08%
2005-06	23.80	1.80%
2006-07	17.21	(27.69%)

The demand and collection of profession tax over the last 6 years is as below :

Table 9-6 Profession Tax – Demand Collection %

Profession Tax	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Demand	Rs.in lakhs					
- Current	17.57	19.99	19.31	23.38	20.00	22.50
- Arrears	7.66	8.92	10.40	12.05	16.18	15.64
Total	25.33	28.91	29.71	35.43	36.18	38.14
Collection						
- Current	15.93	18.40	17.24	20.97	18.13	15.21
- Arrears	0.38	0.49	0.42	0.08	2.41	0.47
Total	16.31	18.89	17.66	21.05	20.54	15.68
Collection %						
- Current	91%	92%	89%	90%	91%	68%
- Arrears	5%	5%	4%	1%	15%	3%
Total	65%	65%	59%	59%	57%	41%

The Municipality has good current collection performance of 90% and the arrears collection performance is low at around 5%.

9.3.3 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 municipal limits.

Surcharge on transfer of immovable properties and entertainment tax are the major items on which these revenues are realized by municipality.

This income varies from year to year. The items under this category accounted for nearly 10% of the total municipal revenue. The assigned revenue for the last 6 years is as below:

Table 9-7 Assigned Revenue – Growth & % of Total Income

(Rs. in lacs)

Particulars	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Assigned Revenue						
Duty on transfer of property	24.78	74.35	37.71	32.10	41.23	18.23
Entertainment Tax	2.17	13.37	3.97	5.62	1.96	0.61
Total	26.95	87.72	41.68	37.72	43.19	18.84
% of Total Income	9%	19%	9%	9%	8%	4%
% Growth	-	225%	(52%)	(10%)	15%	(56%)

It may be observed that Assigned Revenue has increased @ 20% over the years, though it has fallen down in 2006-07. In case of entertainment tax, the Commercial Department collects entertainment tax from cinema halls functioning within municipal limit. The CT Department transfers 90% of total tax collection to municipality and retains 10% towards management charges. In case of Arakkonam Municipality the income from entertainment tax has reduced over the years.

9.3.4 Revenue Devolution Funds in aid of revenue expenditure

Grants in aid of revenue expenditure got boosted up following the 74th CAA and the same is reflected in the Municipality Revenue. The item mainly comprises revenue grants and compensations from State Government under various heads. The regular grants include the SFC grants and 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 adhoc in nature.

This income varies from year to year. The items under this category accounted for nearly 45% of the total municipal revenue. The assigned revenue for the last 6 years is as below:

Table 9-8 Devolution Fund– Growth & % of Total Income

(Rs. in lacs)

Particulars	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Devolution Fund	56.32	129.66	170.82	122.84	225.71	234.41
Total	56.32	129.66	170.82	122.84	225.71	234.41
% of Total Income	19%	29%	36%	29%	42%	47%
% Growth	-	130%	32%	(28%)	84%	4%

As per SFC recommendation, 12% of state revenue under Pool B is transferred to each local body based on formula recommended by SFC. The fluctuation in SFC grant is due to delay and deduction at source.

9.3.5 Water Charges

The water charges and deposits collected by the Municipality are as below :

Table 9-9 Water Tariff & Deposit

Category	Tariff	Deposits
Domestic	Rs. 40/- p.m.	Rs. 2000/-
Commercial	Rs. 80/- p.m.	Rs. 4000/-
Industrial	Rs. 80/- p.m.	Rs. 4000/-

The total number of house service connections (HSC) is 7200 Nos., the breakup of which is as below:

Table 9-10 No. of House Service Connections

Particulars	Nos.
Domestic	7145
Commercial	53
Industrial	2
Total	7200

The percentage of water supply connections to property tax assessments is 72%, which is as per norms. It could be further stepped to around 85%.

The water charges for the past 6 years is as below :

Table 9-11 Water Charges – Growth & % of Total Income

(Rs. in lacs)

Particulars	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Water Charges	47.63	56.77	83.49	83.61	60.23	70.02
Total	47.63	56.77	83.49	83.61	60.23	70.02
% of Total Income	16%	13%	18%	20%	11%	14%
% Growth	-	19%	47%	0.14%	(28%)	16%

It may be observed that water charges account for around 15-18% of total income. There has been average growth of around 10% over the last 6 years.

The water connection charges for the past 6 years is as below:

Table 9-12 Water Connection Charges – Growth & % of Total Income

(Rs. in lacs)

Particulars	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Water Connection Charges	8.41	8.15	3.82	1.01	0.11	12.92
Total	8.41	8.15	3.82	1.01	0.11	12.92
% of Total Income	3%	2%	1%	0.24%	0.02%	2.6%
% Growth	-	(3%)	(53%)	(74%)	(89%)	11645%

It may be observed that water connection charges account for around 1-2% of total income. The income from water connection charges has reduced over the last 6 years.

The last date of revision of water charges was in 2003. The demand collection balance statement of water charges for the last 6 years is as below:

Table 9-13 Water Charges – Demand Collection %

Water Charges	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Demand						Rs.in lakhs
- Current	47.63	56.77	70.00	83.61	63.50	71.73
- Arrears	20.15	26.03	23.69	39.98	36.55	54.94
Total	67.78	82.80	94.69	123.29	100.05	126.67
Collection						
- Current	36.61	43.17	62.76	68.88	40.97	54.58
- Arrears	5.14	9.75	6.22	12.91	11.29	18.75
Total	41.75	52.92	68.98	81.79	52.26	73.33
Collection %						
- Current	77%	76%	90%	82%	65%	76%
- Arrears	26%	37%	38%	33%	31%	34%
Total	62%	64%	73%	66%	52%	58%

The municipality has average collection performance, with current collection charges at around 75%. The arrears collection % is between 30-35%.

9.3.6 Drainage Charges

The Municipality has partly covered under ground drainage system and the total length of the UGD network is 3.273 Kms. At present no charges is being levied for the under ground drainage facility.

9.3.7 Service Charges & Fees

The Municipality receives service charges and fees in the form of trade licence fees, building licence fees, fees for bays in bus etc. The income in the form of service charges and fees received during the last 6 years is as below :

Table 9-14 Service Charges & Fees – Growth & % of Total Income

(Rs. in lacs)

Particulars	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Service Charges & Fees	6.90	10.51	11.74	12.47	18.23	14.85
Total	6.90	10.51	11.74	12.47	18.23	14.85

% of Total Income	2.37%	2.33%	2.49%	2.99%	3.42%	2.96%
% Growth	-	52%	12%	6%	46%	(19%)

It may be observed that service charges & fees accounts for around 2.75% of the total income. There has been growth of around 20% over the last 6 years.

9.3.8 Income from Properties & Other Income

The Municipality receives income by way of market fees – daily market, lease of land, rent on shopping complex & buildings, rent on bunk stalls, fees on pay & use toilets etc.

Other income comprises interest from bank & investments, deposits lapsed, income from cable TV operations, project overhead expenses and interest apportioned, misc. recoveries and other income.

The income from properties and other income received during the last 6 years is as below:

Table 9-15 Income from Properties & Other Income – Growth & % of Total Income

(Rs. in lacs)

Particulars	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Income from Properties and other income	35.14	42.39	43.07	36.95	25.55	26.19
Total	35.14	42.39	43.07	36.95	25.55	26.19
% of Total Income	12%	9%	9%	9%	5%	5%
% Growth	-	21%	2%	(14%)	(31%)	3%

It may be observed that income from properties and other income together accounts for around 7-8% of total income and the same has shown negative growth rate of 5% over the last 6 years.

The demand collection balance statement of income from properties and other income for the last 6 years is as below:

Table 9-16 Non Tax Income – Demand Collection %

(Rs. in lacs)

Other Income	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Demand						
- Current	4.57	22.43	13.82	25.52	21.36	21.46
- Arrears	0.93	56.29	54.13	64.81	61.80	70.28
Total	5.50	78.72	67.95	90.33	83.16	91.74
Collection						
- Current	4.58	12.89	8.08	14.63	12.05	11.90
- Arrears	0.06	3.54	3.32	2.46	0.83	4.38
Total	4.64	16.43	11.40	17.09	12.88	16.28
Collection %						
- Current	100%	57%	58%	57%	56%	55%
- Arrears	6%	6%	6%	4%	1%	6%
Total	84%	21%	17%	19%	15%	18%

On the average, the total current collection performance of other income is 55% and the arrears collection performance is around 5%. The collection performance needs to be improved.

9.4 EXPENDITURE

The revenue expenses mainly comprises of establishment charges, power charges for street lighting, water supply, repairs & maintenance and other revenue expenses on account of maintenance of roads, public health etc.

9.4.1 Establishment Expenses

The major revenue expenditure incurred by the Municipality is establishment expenses comprising personnel cost and terminal benefits. The details of establishment expense for the last 6 years are as below:

Table 9-17 Establishment Expenses – Growth & % of Total Expenditure

(Rs. in lacs)

Estb Expenses	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Personnel – Salaries	165.20	146.39	144.68	156.33	161.39	186.73
Terminal & Retirement Benefits	13.50	45.44	30.86	14.55	25.24	58.38
Total	178.70	191.83	175.54	170.88	186.63	245.11
% of Total Expt	44%	45%	37%	40%	35%	41%
% Growth	-	7%	(8%)	(3%)	9%	31%

The establishment expenses constitute around Rs. 185 lacs per annum and accounts for around 40-45% of the total expenditure.

9.4.2 O&M Expenses – Water Supply

The next major share of expenditure goes for water supply and drainage works. The same accounts for around 18% of the total expenditure.

O&M expenses on account of water supply comprises power charges of head works, pumping stations and booster stations, maintenance expenses for water supply works, vehicle maintenance etc. The O&M expense on account of water supply for the last 6 years is as below:

Table 9-18 O&M Expenses (Water Supply) – Growth & % of Total Expenditure

(Rs. in lacs)

O&M - Water Supply	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Power Charges	15.85	43.15	52.96	69.16	23.29	5.21
Maintenance Exps	11.02	3.15	7.71	20.60	17.27	12.51
Vehicle Maint.	0.26	0.24	0.28	-	-	-
Others	0.42	2.22	0.10	0.45	0.21	0.02
Total	27.55	48.76	61.05	90.21	40.77	17.74
% of Total Expt	7%	11%	13%	21%	8%	3%
% Growth	-	77%	25%	48%	(55%)	(56%)

The O&M Expenses – water supply constitutes around Rs. 50 lacs per annum and the same has grown on an average by 8%, though it has reduced over the last 2 years.

9.4.3 O&M Expenses – Street Lights & Others

The O&M expenses on account of street lights and others comprises power & maintenance charges on street lights & buildings, sanitary & conservancy expenses, vehicle maintenance, repairs & maintenance – buildings, roads and others. The expense on account of street lights & others for the last 6 years is as below:

Table 9-19 O&M Expenses (Street Lights & Others) – Growth & % of Total Expt

(Rs. in lacs)

O&M – Street Lights & Others	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Operative Expenses	9.19	25.61	40.48	8.53	9.36	25.16
Repairs & Maintenance	8.67	8.52	5.65	6.46	44.27	45.95
Total	17.86	34.13	46.13	14.99	53.63	71.11
% of Total Expt	4%	8%	10%	3%	10%	12%
% Growth	-	91%	35%	(68%)	258%	33%

The O&M expenses – street lights and others constitute around Rs. 45-50 lacs per annum and the same has been growing @ 70% p.a.

9.4.4 Administration & Other Expenses

Besides establishment and O&M expenses, administration expenses form the major part of revenue expenditure. The summary of administration expenditure over the last 6 years is given below :

Table 9-20 Administration Expenses – Growth & % of Total Expenditure

(Rs. in lacs)

Particulars	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Administration Expenses	60.63	17.41	60.04	25.97	22.74	29.99
Total	60.63	17.41	60.04	25.97	22.74	29.99
% of Total Expt	15%	4%	13%	6%	4%	5%
% Growth	-	(71%)	245%	(57%)	(12%)	32%

The administration expenses comprise around 7% of the total expenditure and on an average constitute Rs. 30 lacs per annum.

9.5 SUMMARY OF FINANCES:

We summarise below the finances of Arakkonam Municipality for the last 6 years :

Table 9-21 Summary of Finances for last 6 years

(Rs. in lacs)

Particulars	Audited					Unaudited
	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Income	291.72	450.71	472.32	416.98	532.90	501.46
Expenditure	289.11	293.99	343.49	304.31	306.73	368.52
Surplus before Int & Depreciation	2.61	156.72	128.83	112.67	226.17	132.94
Finance Charges	0.01	0.04	16.35	9.14	0.06	0.45
Surplus / (Deficit) before Depreciation	2.60	156.68	112.48	103.53	226.11	132.49
Depreciation	118.86	134.20	117.93	115.91	234.03	234.03
Net Surplus / (Deficit)	-116.26	22.48	-5.45	(12.38)	(7.92)	(101.54)

Note :

The real autonomy of any organisation depends on its financial autonomy. Weak tax base, inadequate tariff level and poor collection performance have continued to be the salient features of local bodies in India.

- In the case of Arakkonam Municipality, it is observed that the Municipality has shown deficit in 4 out of the last 6 years. The deficit is mainly on account of depreciation, which is on increasing trend over the years. Though the deficit has reduced over the years, it has again increased in the year 2006-07. The Municipality needs to undertake lot of fiscal reforms and full leverage of its assets over the next few years to improve its financial strength.
- Prior to depreciation, the Municipality has incurred surplus for the last 5 years and the surplus is on the increasing trend over the years, which is a good sign of recovery.
- The summary of finances of the Municipality under the broad heads of income and expenditure for the last 6 years is as below :

Table 9-22 Head-wise Income & Expenditure for last 6 years

(Rs. in lacs)

Particulars	Audited					Unaudited
	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Income						
Property Tax	88.99	95.39	98.27	98.89	102.89	104.95
Profession Tax	17.57	19.99	19.31	23.38	23.80	17.21
Water & Drainage	56.51	65.05	87.35	84.64	60.35	82.97
Assigned Revenue	26.95	87.72	41.68	37.72	43.19	18.84
Devolution Fund	56.32	129.66	170.82	122.84	225.71	234.41
Serv. Chgs & Fees	6.90	10.51	11.74	12.47	18.23	14.85
Grants & Cont.	3.34	0.00	0.08	0.00	33.17	2.01
Sale & Hire Chgs	0.00	0.00	0.00	0.09	0.01	0.03
Other Income	35.14	42.39	43.07	36.95	25.55	26.19

Total Income	291.72	450.71	472.32	416.98	532.90	501.46
Expenditure						
Personnel Cost	165.20	146.39	144.68	156.33	161.39	186.73
Terminal Benefits	13.50	45.44	30.86	14.55	25.24	58.38
O&M-Street Lights	10.47	26.72	40.86	10.07	11.54	26.31
O&M – Water	15.85	43.15	53.06	69.16	23.50	5.21
Repairs & Maint.	20.37	14.13	13.77	27.66	61.54	58.48
Programme Exps	3.09	0.75	0.22	0.57	0.78	3.42
Administrative Exp	60.63	17.41	60.04	25.97	22.74	29.99
Finance Expenses	0.01	0.04	16.35	9.14	0.06	0.45
Depreciation	118.86	134.20	117.93	115.91	234.03	234.03
Total Expenditure	407.98	428.23	477.77	429.36	540.82	603.00
Surplus / (Deficit)	-116.26	22.48	-5.45	(12.38)	(7.92)	(101.54)

- It may be observed that the deficit over the years is mainly on account of increasing depreciation over the years. Depreciation during the last 6 years has almost doubled from Rs. 118 lacs p.a. to Rs. 234 lacs p.a.
- The assigned revenue of the municipality has doubled over the last 5 years. As regards Devolution Fund, the same has increased by almost 5 times over the last 6 years and is presently around Rs. 225 lacs per annum.
- The municipality's own resource has also shown increase of only around 4% over the last 6 years. The municipality's own revenue comprises property tax, profession tax, water charges and income from properties have all shown growth of around 4% over the last 6 years.
- The total accumulated surplus of the Municipality as on 31st March 2007 stands at Rs. 1790 lacs. As against the same, the total fixed assets comprising land, buildings, plant & machinery, vehicles etc. stands at Rs. 3421 lacs. Out of the total fixed assets, the value of land is only Rs. 1736 lacs.
- The total loans of the Municipality as on 31st March 2007 stands as below :

Table 9-23 Borrowings of the Municipality

(Rs. in lacs)

Loan from	Purpose	Rate of Interest	O/s as on 31.3.07
Government Loan	Const. of Road & Building	13.50%	67.56
TNUDF Loan	Const. of Road & Building	13.50%	17.47
TUFIDCO Loan	Site & Service, Bus Stand	13.50%	2.84
Total			87.87

- As against the same, the contribution by Municipality, contribution by Government and Grants from Government as on 31st March 2007 stands as below :

Table 9-24 Status of Contributions & Grants

Particulars	Rs. in lacs
Contribution by Municipality	355.21
Contribution by Government	266.86
Grants from Government	497.72
Total	1119.79

- It is observed from the above that around 70% of the fixed assets excluding Land have been funded by means of Contribution and Grants from Government over the years and the balance 30% from Loans.
- The average current collection efficiency of the municipality is poor, with 65% efficiency in property tax, 60% efficiency in water charges and 55% in all non tax income. The arrears collection performance is also poor.
- The broad financial analysis of the Arakkonam Municipality finances reveal that the Municipality has further scope for increasing its own sources of income and collection efficiency for servicing the additional borrowings in the future.
- To summarise, the overall income pattern of the Arakkonam Municipality indicates more negative features than positive features. The positive trends are on the income side, where the Municipality has higher growth rate in income than growth in expenditure. But the growth in income is higher mainly on account of growth in Grants income comprising Devolution Fund and Assigned Revenue.
- Besides, the municipality also has very low borrowings at Rs. 87.87 lacs. As a result the current debt service capacity is good. The municipality can resort to further borrowings for new project identified.
- Around 75% of the property tax assesses have water connections, which is a very positive sign. But the population per residential assessment is high at 7.85 persons, which indicates low coverage. The municipality has therefore enough scope for increasing the property tax assessments.
- On the negative side, the municipality has a very poor collection performance in respect of property tax, water charges and non tax income and there is enough scope for improvement. The non tax income is also low compared to other heads of income and the Municipality should look in to ways and means for increasing non tax income. Therefore the municipality has to look at various mechanisms to improve its scope of own income to service the additional borrowings in the coming years.
- With more effective management of resources, there is scope for further enhancing credit worthiness and revenues of the Municipality.

On our review of the past 5 years financials of Arakkonam Municipality, we find the following major variations in the various heads of income and expenditure resulting in disparities in financial results :

Income

There has been an increase in Devolution Fund income by Rs. 50 – 75 lacs for the year 2005-06 and 2006-07. At present SFC Devolution Fund is received from the Government under various heads like Devolution Fund, Reserve Fund, Equalisation Fund and Incentive Fund. While Devolution Fund is received every year, the receipt of other funds is not uniform. Arakkonam Municipality has received funds under Equalisation Fund in the year 2005-06 and 2006-07 resulting in increase in income by Rs. 50 – 75 lacs.

Expenditure

- There has been an increase in depreciation by around Rs. 100 lacs for the years 2005-06 and 2006-07.
- Besides vehicle maintenance charges have increased by around Rs. 25 lacs for the years 2005-06 and 2006-07.

9.6 KEY FINANCIAL INDICATORS

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

a) Resource Mobilisation Indicators

These indicators summarise the performance of the Municipality with regards sources of funds. Arakkonam Municipality derives about 49 percent of its revenue income from own sources, while grants account for just about 51 percent of the revenue income.

Table 9-25 Resource Mobilisation Indicators

Indicators	Value
Per Capital Income	Rs. 279/- p.a.
Share of Own Sources in Total Revenue Income	49%
Share of Property Tax in Total Revenue Income	21%
Share of Revenue Grants & Subsidies in Total Revenue Income	51%
Growth in Revenue Income	14.38% p.a.
Growth of Own Sources of Revenue Income	3.81% p.a.
Per Capital Own Income	Rs. 563/- p.a.

b) Fund Application Indicators

These indicators are a measure to ascertain the utilization from the municipal fund. Around 41% of the revenue expenditure is spent on establishment heads, only 15% for municipal assets and services, leaving around 54% utilized for debt servicing and administration expenses. Establishment expenditure accounts for about 49% of the total revenue generated by the municipality.

Table 9-26 Fund Application Indicators

Indicators	Value
Per Capita Expenditure	Rs. 677/- p.a.
Share of Establishment Expenses in Total Revenue Expenditure	41%
Share of O&M Expenditure in Total Revenue Expenditure	15%
Share of Establishment Expenditure to Total Revenue Income	49%
Growth in Establishment Expenditure	7.43%
Growth in O&M Expenditure	18.55%
Growth in Total Revenue Expenditure	9.56%

c) Liability Management Indicators

These indicators are a measure to ascertain the utilization from the municipal fund regarding debt servicing. The ratio of debt servicing to revenue income is at 9.95% during the assessment period. The per capita average debt outstanding works out to low of Rs. 99/- and the per capita outstanding debt to property tax demand is around 83% of the property tax demand for the current year.

Table 9-27 Liability Management Indicators

Indicators	Value
Per Capita Liability	
- Outstanding Debt per Capita	Rs. 98.70/-
- Outstanding Non Debt Liability per Capita	-
- Total Outstanding Liability per Capita	Rs. 98.70/-
As a proportion of Property Tax Current Demand	
- Outstanding Debt as % of Property Tax Demand	83.73%
- Outstanding Non Debt Liability as % of Property Tax Demand	-
- Total Outstanding Liability as % of Property Tax Demand	83.73%
As a proportion of Property Tax Own Revenue Income	
- Outstanding Debt as % of Own Revenue Sources	35.41%
- Outstanding Non Debt Liability as % of Own Revenue Sources	-
- Total Outstanding Liability as % of Own Revenue Sources	35.41%
Non Debt Liability as % of Total Liability	-
Debt Servicing Ratio	9.95%

d) 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 74%. 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. Arakkonam Municipality has demonstrated 10.39% annual growth in per capita revenue income during the assessment period, while the per capita revenue expenditure has grown at a negative CAGR of 6.13% during the corresponding period, which indicates that as population increases revenue fund will be surplus.

Table 9-28 Financial Performance Indicators

Indicators	Value
Operating Ratio	73.58%
Growth in Per Capita Own Revenue	1.39%
Growth in Per Capita Grant	31.70%
Growth in Per Capita Total Revenue Income	10.39%
Growth in Per Capital Establishment Expenditure	4.25%
Growth in Per Capita O&M Expenditure	14.07%
Growth in Per Capita Revenue Expenditure	6.13%

e) Efficiency Indicators

These indicators are essentially a measure to assess municipal efficiency with regards revenue base coverage and utilization. Arakkonam Municipality has low collection performance both with regards property tax and water charges (65% and 75% respectively). The average population per residential assessment at 7.85 persons indicates that the property tax base has a very low coverage.

Table 9-29 Efficiency Indicators

Indicators	Value
Tax Collection Performance (Current)	
- Property Tax	65%
- Profession Tax	90%
- Water Charges	75%
- Non Tax Income	55%
No. of Property Tax Assessments per Tax Collection Staff	911 Nos.
Property Tax Demand per Assessment	Rs. 925/- p.a.
No. of Municipal Staff per 1000 Population	2.64 Nos.
Annual Revenue (Own Source) per Municipal Staff	Rs. 1.05 lacs p.a.
Population per Residential Property Tax Assessment	7.85 persons

Note :

The detailed financials of Arakkonam Municipality comprising Income & Expenditure Statement, Balance Sheet, Demand Collection Balance Statement and Growth in Income and Key Indicators for the last 6 years are given as Annexure IX.

9.7 MEASURES TO BE TAKEN FOR IMPROVING COLLECTION EFFICIENCY

The average collection efficiencies under the various heads of revenue work out as below:

Particulars	Current	Arrears
Property Tax	64.50%	22.85%

Profession Tax	86.66%	5.51%
Water Charges	75.18%	32.10%
Other Fees	64.22%	5.04%

The Municipality has average collection efficiency under all heads of revenue.

- Implement door-to-door collection mechanism, whereby property tax and water charges are collected from every household by the municipality staff. A separate collection team to be formed for this purpose, which will visit all the households and collect tax. A mobile collection van has been provided for this purpose in the FOP, which will help the staff in collection mechanism.
- Launch a focused drive on existing arrears.
- Conduct one time settlement scheme for old arrears and incentivise payments through marginal rebates for arrears > 5 years.
- Implement payment due date along with a 90 day grace period during which payments would involve a nominal interest payment.
- Payments beyond the grace period should include a steep penal charge to encourage payments on time.
- Work with GoTN to moot creation of a special tribunal for speedy disposal of properties under litigation.
- In case of disputed property tax, the assessee should first pay the tax under protest as in the case of excise or customs and then take necessary legal course. The Act should be modified in such a way that no legal recourse should be available to the assessee without paying the tax under protest.
- The billing mechanism, accounts and DCB Register should be fully computerized. This will help the Municipality in providing ready information on defaults and help in speedy recovery process.
- With regard to improvement in collection efficiency of water charges, the Municipality should first improve the service levels. The Municipality should conduct a survey on the present service levels and identify places where service levels are good. The Municipality should then do a focused drive on these blocks with good service levels and implement various collection measures given above.
- The Municipality may also consider implementation of late payment fines and in case of extreme overdue situations, disconnecting supply.
- As regards blocks with low service levels, the Municipality should improve the service levels and affect various measures to improve the service levels. Only with improvement in service levels, the collection efficiencies can be improved.
- As regards Other Fees, which basically comprises rent / lease from various assets of the Municipality, the Municipality should send eviction notices to the defaultees. Unlike property tax and water charges, the Municipality can enforce eviction of defaultees.

10 CAPITAL INVESTMENT NEEDS FOR IDENTIFIED PROJECTS

All the projects relating to urban infrastructure, urban growth and development have been identified through a conscious participatory process. The projects are in the form of improvements and, extension of the existing services and facilities such that the present inadequacies as per the norms and standards are made up and, in addition meet the requirements of the projected population of the town during the perspective period of plan.

Each project component, as identified has been verified in the field of their suitability and feasibility in terms of location, coverage and adequacy and finalized with as intensive consultation with the office of the municipality and as suggested and recommended in the review meetings of the previous stage of this exercise in the office of TNUIFSL. The projects thus finalized and firmed up are detailed thus finalized and firmed up are detailed out in their present status, gaps, projected requirements, cost estimates, capital needs, funding pattern etc in the following section. In all the identified projects constituting physical and social infrastructure facilities and other projects including bus stand, remunerating projects are including cost about Rs. 116.56 crores to be implemented starting from the next financial year. These projects have been prioritized as warranted in their importance over the implementation time frame.

The projects, breakup of the investment and implementation schedule are given in the following tables:

Table 10-1: Summary of Capital Investments under CCCBP

S. No.	Focus Area	Total Cost (Rs. In lakhs)
1	Water Supply	4873
2	Sewerage & Sanitation	3170
3	Solid Waste Management	754.34
4	Drainage	658
5	Traffic & Transportation	1169
6	Streetlight	85.66
7	Social Infrastructure	692.75
8	Urban & Municipal Reform	50
9	Slum Upgradation including	203
Total		11655.75

10.1 PHYSICAL INFRASTRUCTURE - IMPROVEMENT NEEDS

In chapter -8 we had identified the problems and issues of the Physical Infrastructure sector and mentioned about the projects identified the municipality for curative measures in this sector. Here we will discuss about the shortcomings in the projects identified by the municipality or by the different agencies i.e. Municipality, TWAD board etc. and discuss about the improvement needs and future proposals.

10.1.1 Water Supply

1. Improvement Needs:

The frequent bursts and leaks in the main from Palar Head Works is causing problem. Though the municipality has meted out temporary repairs, a permanent solution is required for an effective distribution of water supply to the town. The lines were mostly laid more than 30 years before and they need replacement. So there should be a comprehensive study for effective solution for water supply provision and rezoning.

2. Drawbacks of the improvement scheme prepared by TWAD board.

The TWAD Board has estimated additionally 6 numbers of infiltration wells, and distribution line 76.38 Km of sizes varying 90 to 200 mm OD PVC 4 KSC pipes and 8 L L capacity of Service Reservoir. The total cost of the estimate around 8.45 Crores.

The main draw back of the proposal by the TWAD board is in terms of water supply side they proposed 30 lpcd in additional to the existing through public fountains for immediate requirement.

3. Water Supply Proposals

The proposed water supply scheme by TWAD board will supply water upto intermediate year in which the execution work is completed by 90%. As the palar river, Kosasthalai River and kallar river are not perennial river, the tanks and lakes are also completely dry during summer months due to scanty and erratic rain fall. More then the above water quantity can not be drawn from river bed as per the investigation report by TWAD board as water bed will be choked due to tapping of additional water. So we suggest, water quantity shall be drawn for the ultimate Period may be from mettur or Hogenakkal Scheme.

As of now, there has no bulk meter system in exiting system as well as proposed scheme also for the leakage detection. The Bulk metering system required in head works and distribution system will therefore have to be implemented.

It is important to assess consumption at the consumer ends which will helpful for performance of production system and supply side. Installation of good consumer

meters will be starting point of recovery of cost of production and supply. For the horizon year 2039, it requires Rs. 50 Lacs.

The exiting water supply system has not proper disinfection system. As of now, bleaching powder only is used as disinfectant, so the installation of chlorinators will therefore be an important to health aspect. It estimated cost of 20 lacs. The description of fund requirement for the water supply sector is given in the table 10.2: TWAD Board has prepared the DPR for Water Supply up-gradation for Rs. 844.7 Lacs and 50% work is completed. The project cost as per the requirement of horizon year (2039) is 2215 Lacs. This proposal by TWAD Board needs to be revised.

Table 10-2: Capital Investment Needs for the Water Supply System

S. No	Description	Investment Needs In Rs. Lacs
1	Source Augmentation	
	Bore wells	150
2	Transmission System Improvement	
	Pumping Main	325
	Sump	664
	Pump Room	5
	Construction of Service Reservoirs /Overhead tanks	93
	Maintenance of Rising Mains	70
	Technological upgradation of the Pumping Station	50
3	Improvement of Distribution System	
	Supply and installation of bulk water meters	24
	Supply and installation of consumer water meters	26
	Supply and installation of vaccum feed chlorinators	20
	Coverage of services in new areas/ uncovered areas	306
4	Upgradation of Existing System	
	Replacement and improvement with airvalves and chambers of existing distribution and transmission line	282
	Rehabilitation of existing headworks at kallar & Thakkolam	100
	Rehabilitation of existing reservoirs and other buildings	100
	Sub Total	2215
5	Mettur CWSS	2658
	Total	4873

The mettur scheme has been identified for combined water supply scheme for this municipality. The schematic and proportionate cost details of mettur scheme is presented in the below figure 10.1.

The water can be drawn from palar river upto intermediate stage 2024 and after intermediate stage the mettur scheme can be used. The capital cost of mettur scheme is Rs. 1170 crores and O&M cost is Rs 40 crores per annum. The proportionate capital cost of Arakkonam municipality is Rs. 26.58 crores and O&M cost is Rs. 0.91 crores.

The total estimated cost including renovation of existing water supply scheme is Rs. 4873 lacs.

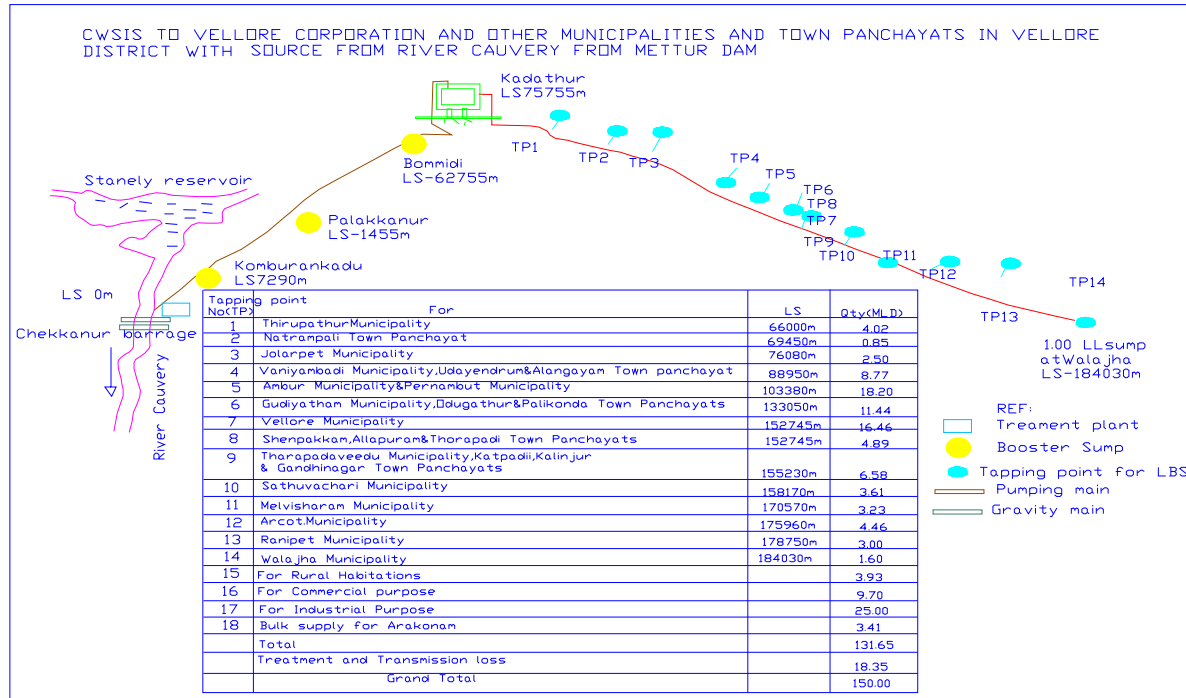


Figure 10-1: Mettur Combined Water Supply Schem

10.1.2 Sewerage System

1. Needs:

At present municipality do not have sewerage system but Government of Tamil Nadu has proposed to lay new system in every municipality in Tamil Nadu. Arakkonam Municipality has prepared the DPR for the sewerage system for the town and sent it to CMA for approval.

2. Sewerage Proposals

The TWAD board has prepared the estimate and submitted to CMA for approval. This proposal is including 2 sub pumping station, 1 major pumping station and 1 lifting station and sewage treatment plant. The description of fund requirement for the Sewerage system is given in the table 10.3: Twad board has estimated Rs. 31 crores for Arakkonam municipality under UIDSSMT Scheme and submitted to CMA for approval under part II scheme but the project cost as per the horizon year 2039 is Rs. 31.70 crores. The proposal by TWAD need to be revised.

Table 10-3: Capital Investment Needs for the Sewerage System

S. No	Description	Cost in Rs. Lacs
	New Sewerage System	
1	Comprehensive sewerage system for entire city	2635
2	Construction of sewage treatment plant	465
	Public Conveniences	
3	New Toilets	50
4	Upgradation of Existing 12 Public Toilets	20
	Total	3170.00

10.1.3 Drainage

1. Needs:

The existing drainage condition of Arakkonam consists of tanks and manmade drainage system (Storm water open drains). Due to the natural slope of the town, all the drains discharge water in Palar River. The present condition of Storm Water Drainage is that it also carried the sludge and sewage water, which ultimately carried to the Peri yeri. This has created enormous environmental problems. Also there are certain length of roads which is unlined and needs to convert them in lined drains to use the Rain Water Harvesting in an effective way.

2. Drainage Proposals

The existing drainage connects only 49 % of house in open earthen drain and closed drain connects only 34 % of house. The existing open drains are closed due to combined flow of sewage with rain water. The major construction is required all over the city. The description of fund requirement for the Sewerage system is given in the table 10.4:

Table 10-4: Capital Investment Needs for the Storm Water Drainage System

S. No	Description	Cost in Rs. Lacs
1	Construction of Major drains	
	Ashok Naagar - Gandhi Road – Periya Eri (3 km)	100.00
	Thanntan Eri - Gandhi Road – Periya Eri (0.5 km)	20.00
	ABM Church - Palanipet – Chitteri (1 km)	40.00
2	Construction of Minor drains	
	Gandhi Road - Old Bus stand – upto Periya Eri (3.5 km)	42.00
	Gandhi Road - Daily Market – Jubilee Road – Chitteri (North) (1.5	20.00
	Winterpet - ABM Church – upto Chitteri (South) (2 km)	26.00
	SR Gate - TVK Street – VP koil street – Chittueri (South) (1.5 km)	20.00
3	Upgradation of Existing drains	80.00
4	Proposed new drains for new layouts	310
	Total	658.00

10.1.4 Solid Waste Management

1. Needs:

Domestic waste consists of wastes generated at the household level, primarily houses. Though municipality is doing its best to manage the solid waste yet it is not up to the mark to manage the solid waste from collection to disposal and lot has to be done for it. The Urban Local Body also carries out weekly Mass waste cleaning programme to clear the left out wastes by utilizing extra vehicles trips in the town. The Total garbage collected constitutes 48% of the domestic wastes, 42% commercial wastes and 10% of construction wastes.

2. Solid Waste Management Proposals

Based on the situation assessment and consultations with stakeholders, following urgent improvement needs has been identified

- House hold dust bin - 48000 nos. to be used for segregation of wastes at source

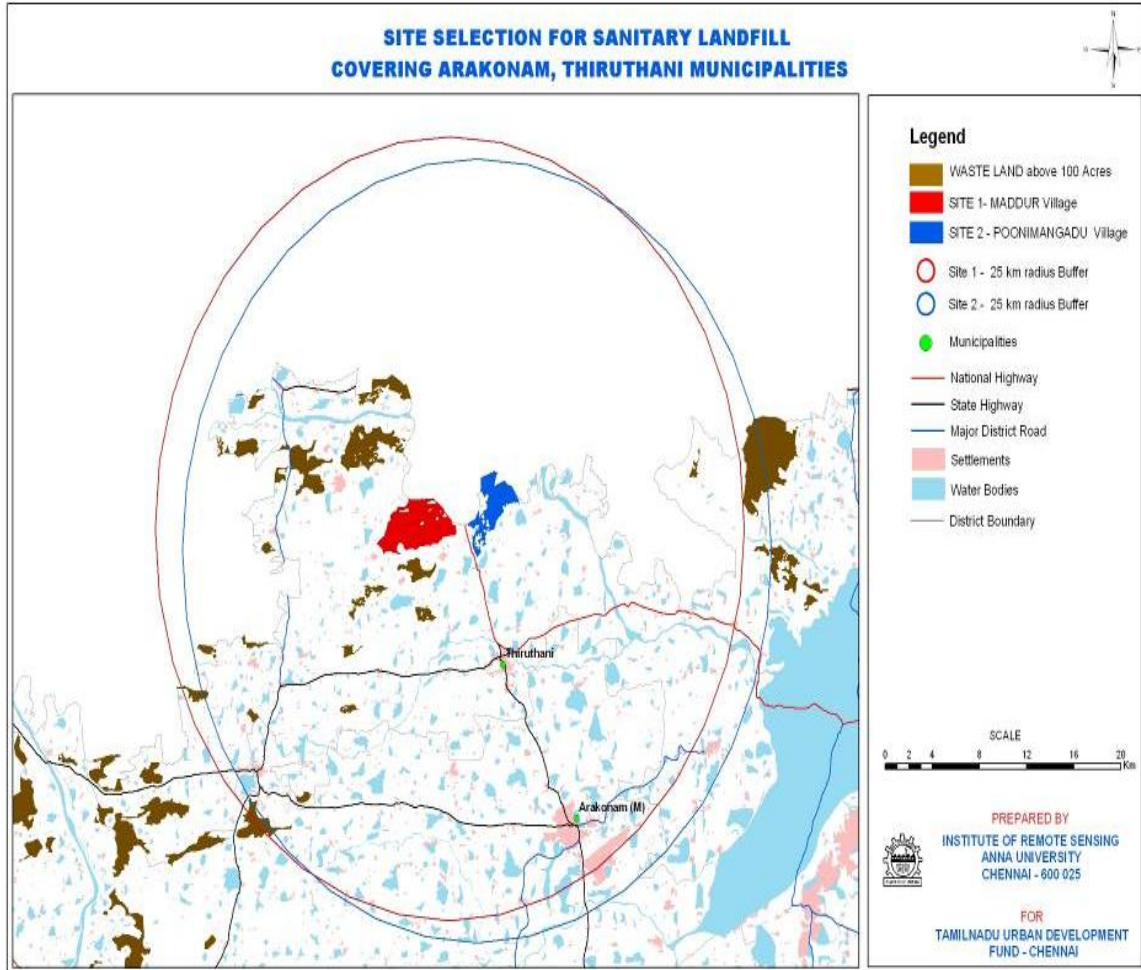
- 30 Tricycles & 62 Push carts shall be used by sweepers in the town
- 25 Auto Tippers to collect wastes from narrow lanes of the town
- 2 new dumper placer to carry secondary collection work
- 3 container body kept in transfer station
- As per standard, for collection yard every 10,000 population required 1 Acers. For present population available land is sufficient, for ultimate stage it requires 1.5 Acres.
- 1 Bulldozer and 1 Dumper pulsar for disposal site and composting operating plant is required.

The estimated amount for improvement of solid waste Management is Rs. 754.34 Lakhs. The sanitary landfill site has been identified for Arakkonam and Thiruttani municipality near maddur village. The proportionate cost for Arakkonam municipality is given in table 10.5.

Table 10-5: Capital Investment Needs for the Solid Waste Management

S. No	Description	Unit /Nos	Amount in Rs Lacs
1	Solid Waste Collection and Transportation		
	Purchase and Distribution of household dustbins i.e. Segregated Format	48000	24.00
	Auto Tippers	25	32.50
	Tricycle	30	5.10
	Push Carts	62	7.44
	Intermedite Collection		
	Collection yard at Rajiv Gandhi nagar (1.5 acre)		18.00
	Collection yard at Mosur road (1 acre)		15.00
	Dumper Placer	2	29.00
Body Container	3	30.00	
2	Improvement of Solid Waste Disposal System		
	Wind Rose Platform		50.00
	Compound Wall		15.00
	Electricity		5.00
	water Supply/ OHT		2.00
	Internal road		10.00
	Watch man Shelter		2.00
	Weigh Bridge		10.00
3	Purchase of Equipments for Compost Yard		
	Dumper Pulsar	1 Nos	15.00
	Bulldozer	1 Nos	70.00
	Turner		10.00
4	LandFill		

	Land cost for landfill (5.63 Acres)		56.3
	Landfill development cost		348
	Total		754.34



10.1.5 Street Light

1. Needs:

In the midst of unplanned growth of the town, there are numerous places with in the town where street light is essential for security. High mass poles of 25m height are to be installed at suitable places with in the town. As the town is under the pressure of heavy maintenance and electricity bill of street lights it need innovative ideas to reduce the reoccurring expenditure in this sector.

2. Street Light Proposals

The suggested innovation of existing street light with automatic timer switch will require Rs. 0.57 lacs. The high mass light is required for 2 specific places in the town and electrical fittings for existing street lights. As the electricity bill for street light itself is high, proposed for the conversion of all tube lights to CFT of 1500 nos and Solar lights 10 nos.

The stake holders suggested for providing Wind Mill to produce electricity. This project can be suggested and proposed based on the feasibility study report. The total estimate cost for street light is Rs. 85.66 lacs.

Table 10-6: Capital Investment Needs for the Street Light

S. No	Description	Amount in Rs Lacs
1	Mini High Mast Light at Bus Stand	3.00
	Market Area	3.00
2	Automatic Time Switcher	0.57
3	CFT Lamp (1500)	15.09
4	Lighting arrangement for Gandhi road - 5 km, sholigar road - 3 km	15.00
4	Electricals Fittings	19.00
5	Solar Light (10 Nos)	30.00
	Total	85.66

10.1.6 Roads and transportation

1. Needs:

The town has lot of important roads which connect it with the surrounding and most important is Vellore - Arakkonam road and Thiruvallur - Arakkonam road. There are town roads which need widening as well as resurfacing, apart from this these town roads are encroached and without drainage facility and side walks. So these roads need improvements. Also this municipality needs new roads after UGD scheme. The required CC road are

1. Vallalar street – Ganesh Nagar Main Road upto Kavanur Main Junction – Rettai Mali Srinivasan street – upto Mosur Road (4 km)
2. TNHB Main Road – Nehruji Nagar IV street – Rajaji Street – Sathiyamoorthy Street – upto Gandhi Road (1.5 km)
3. Nehruji Nagar Main road – Rajaji Street (0.5 km)

4. New Bus stand – Thasildar street – Gandhi Road (0.2 km)
5. New Bus stand – West oppanakar street – Gandhi Road (0.4 km)
6. Gandhi Road – Palanipet – ABM one way Bridge – pudupet Road – Ocheri road (0.4 km)
7. Gandhi Road – Murugappan Street – Sathyamoorthy Road – Gandhi Road (1 km)
8. Gandhi Road – Pilliyar Koil Street – Sholighar Road (0.4 km)
9. Ring road from north end to west end of town via railway site and service road (3 km)

Required B.T for extention road (7 kms)

- | | | |
|----------------------------|---|--------|
| 1. Ganesh Nagar | - | 2 Km., |
| 2. Madhava Nagar | - | 1 Km., |
| 3. Rathanchand Nagar | - | 1 Km., |
| 4. Rajendra Grisinth Nagar | - | 1 Km., |
| 5. Lakshmi Nagar | - | 1 Km., |
| 6. Soumasundara Nagar | - | 1 Km., |

2. Road and Transportation Proposals

The capital works relating to improvements of roads interms of coveritng exiting bitumunous road , earthen road and CC road to new Concrete Road and B.T. road after UGD work. It also included the road widening, road junction improvements and bus stand improvements at an estimated cost of Rs. 1169 Lacs. Upgradation of "C" grade Bus stand to "B" grade can be done with the cost of Rs. 150 lakhs. Bus shelter is also proposed at 7places with in the municipality.

Table 10-7: Capital Investment Needs for the Roads and Transportation

S. No	Description	Amount in Rs lacs
1	New Road after UGD	
	Required CC road after UGD (11.4 kms)	365.00
	Required B.T road after UGD (7 kms)	195.00
	Road Improvement	
	Earthen roads to CC	96.00
	Median and foot path with hand ride arrangement (Gandhi road – 5 km, Sholingar road – 3 km)	160.00
2	Road Junction	
	Improvement and widening at Gandhi road junctions	50.00
3	Proposed new roads	75.00
4	Bus Stand Improvement	

	Upgradation of existing “C” grade Bus stand to “B” grade	150.00
	New bus shelter at Thaluk office, Old bus stand, Odiyanmani thearter, Palanipet, SR gate, Winter pet & New bus stand	35.00
	Heavy vehicle parking stand at Rathan chand nagar (60 nos)	18.00
	Car parking stand at TNHB area (150 nos)	20.00
	Parking at Nehruji nagar and KalavariKandigai area	5.00
	Total	1169.00

10.1.7 Educational Institutions

1. Needs:

The school needs relate to renovation of exiting old buildings, some school need new buildings which are running under huts and rental buildings. Some schools are built 50 years back which need improvement. They also need R C C roof Structures, light facilities, sports materials, computers and separate water supply arrangements.

2. Educational Institutions Proposals

Some of the Municipal schools need improvement in building structures as well as in basic minimum facilities for the students. For improvements of the building, sports material, computers and separate water supply arrangements in 9 elementary schools and one higher secondary school total investment need is Rs. 288.25 Lacs.

Table 10-8: Capital Investment Needs for the Educational Institutions

S. No.	Description	Amount in Rs Lacs
1	Improvement to existing schools (5 Nos)	133.75
2	New building for Nehruji nagar& urdu school	94.5
3	New building for somadundaram nagar & Gribiespet school	44.5
4	Improvement of facilities to ABM middle school	15.5
	Grand Total	288.25

10.1.8 Parks and Play Ground

1. Needs:

- Restoration of parks with children play facilities, greenery, lawns, tree plantation etc.
- Development of new parks/ play fields
- Development of road side gardens through sponsorship
- Walkways all-round the parks

Apart from acting as the lung spaces and recreation area to the local population, these parks could act as a temporary resting and refreshment area for the people. A look at the parks reveals that they are very poorly maintained and are used for other than the designated uses. All the parks require proper fencing for maintenance and right use of the land parcels; Landscaping of the parks is a must by planting of choice species. Provision of pathways along the periphery of the parks with shrubs and plantations on both the sides is one of the present requirements as walkways for all age groups of residents. Maintenance of greenery comprising shady, ornamental and avenue trees will greatly improve the quality and usage of parks. Fountains and water supply provisions should be provided in the parks at appropriate places. The maintenance of the parks may be entrusted to interested voluntary agencies on private participation/donation.

2. Parks and Play Ground Proposals

Renovations of the existing 4 parks including landscape of parks and play fields is estimate to cost Rs.46 Lakhs.

Table 10-9: Capital Investment Needs for the Parks and Play Grounds

S. No.	Description	Amount in Rs Lacs
1	Existing Park	
	Water supply	1.50
	Lighting	1.00
	Compound wall & gallery	3.00
	Children's play material	2.00
	Adequate seating arrangements	1.50
	All around Path Way	1.50
	Water casecade & fountains	1.00
	Sub Total	11.50
	Total(for 4 parks)	46.00

10.1.9 Market Development

1. Needs:

The existing market of municipality needs the basic infrastructure facility, lighting arrangements and Vehicle Parking. It is also one of the most remunerative project to the municipality.

2. Market Development Proposals

The improvement for the exiting market needs Rs. 50 lacs for following items i.e. water supply arrangements, toilets, lighting arrangements and vehicle parking lots are included in the estimation cost.

One more new shopping complex, Community hall and Fish market is proposed at old bus stand area. Totally 100 numbers of new shop are to be built with a basic infrastructure facilities at a cost of Rs. 245.50 Lacs.

Table 10-10: Capital Investment Needs for the Market Development

S.No	Description	Amount in Rs Lacs
1	Improvements of Existing Market	
	Renovation of existing shop	33.00
	Water Supply arrangements	3.00
	Lighting facilities	5.00
	Vehicle parking stand	5.00
	Urinals	4.00
	Total	50.00
2	Shopping Complex & Community hall at Old Bus Stand	
	Civil Structures for shopping complex and office building	130.00
	Water Supply Arrangements	4.00
	Lighting Arrangements	6.00
	Parking	2.00
	Toilet (pay & Use)	3.50
3	Fish market	50.00
	total	195.50
	Grand Total	245.50

10.1.10 Slaughter House Development

1. Needs:

The renovation of existing slaughter house is under progress with a cost of 20 lacs. But treatment plant is not provided in the slaughter house. The stake holders required one more slaughter house with treatment plant at mosur road.

2. Slaughter House Development Proposals

Proposed one slaughter house with treatment plant and also one more treatment system is proposed for the existing slaughterhouse where the total cost is Rs. 35 lakhs.

Table 10-11: Capital Investment Needs for Slaughter House Improvement

S.No	Description	Amount in Rs Lacs
1	Improvement to Slaughterhouse	
	Providing treatment unit to proper disposal at winterpet	7.00
2	New slaughter house 1 no. with treatment facilities at mosur road	28.00
	Total	35.00

10.1.11 Burial Ground Development

1. Needs:

The existing burial grounds need the gasifier, prayer hall, security room and adequate lighting facility.

2. Burial Ground Development Proposals

The estimated cost for the 3 burial grounds with 1 Gasifier Crematorium and Lighting facility at a cost of Rs. 78 Lacs.

Table 10-12: Capital Investment Needs for Burial Ground Development

S.No	Description	Amount in Rs Lacs
1	Improvements to Existing Burial Ground	
	Water Supply & Lighting Arrangement	2.00
	Concrete Road	2.00
	Prayer Hall (Thidhi)	5.00
	Office and security room	1.50
	Landscaping and planting trees	0.50
	Sub Total (for 3 burial ground)	33.00
	Gasifier with room 1 no.	45.00
	Total	78.00

After the implementation of gasifier at mosur road burial ground, the remaining two burial ground at Nehruji nagara and Kalavari kandigai should be converted to parking area in future.

10.1.12 Slum Improvement

1. Needs:

Nearly, 12 slums are identified with a population of 21196, which account for 26.97 % of the total population in the town. The slums are mainly lack in physical infrastructure facilities

2. Slum Improvement Proposals

The cost is estimated for physical infrastructure like shelter, Public toilets, Drainage facility, water supply arrangements and street lighting for each slum. The total estimated cost for total slum is around Rs. 203 Lacs.

Table 10-13: Capital Investment Needs for Slum Improvement

S.No	Description	Amount in Rs Lacs
1	Winterpet	20
2	Pudupet	12
3	ABM Church	15
4	Somasundaram Nagar	25
5	Sathiyavani muthu nagar	25
6	Griblespet	30
7	Galiwari kandigai	5
8	Jaibeem, Periyar nagar	15
9	Ambedkar nagar	40
10	Thole shop	2
11	Rajive gandhi nagar	8
12	Kamarajar nagar	6
	Total	203

10.1.13 System Improvement GIS Platform

1. Needs:

Till date there is no entirely dependable and realistic database for the town, in form of topography, updated base map, assessment of properties in their location, size, use and intensity, assets – lands and structures in their location, status, extent and quality, topography, land parcels by town survey, numbers and sub divisions and so on. All these can be updated with cent percent precision using high resolution satellite imageries supplemented by cent percent primary survey. All these with spatial and non-spatial data can be had on a GIS format which, on a click at any features or site on the town map will provide the entire details including the description of the features / address of the owner including tax paid etc. This is a one time comprehensive exercise to include the updated town map with town survey, land parcels, structures, service network, assets with the relevant details and description on a GIS format.

Table 10-14: Capital Investment Needs for System Improvement and e-Governance

S.No	Description	Amount Rs.in Lakhs
1	e-Governance	
	GIS Mapping for Comprehensive Property Database	20
	Software, Hardware & Networking for Municipality	20
	Mobile tax collection vehicle	10
	Total	50

10.2 OTHER DEPARTMENT PROJECTS

1. Required Check dam at kallar river head work.
2. Improvement is required for irrigation channel
3. 3 lakes located at (Ambedkar nagar, Housing board colony and New bus stand) need to be improved and desilted for rain water harvesting.
4. Flyover bridge is required by stakeholders at railway crossing near railway station, which can be suggested after the feasibility study.
5. Pumping main re-alignment for 1 km long is required in the kancheepuram highway.
6. Having a proposal of 3 nos. culvert construction near naval base gate between Arakkonam and Kancheepuram road.

Table 10-15: Projects to be taken by other departments

S.No	Project Description	Nodal Agency	Cost (Rs.in lakhs)-
Regional Level			
1	Preparation of Updated Master Plan	DTCP / CMA	..
2	Expedition of MAP Region Development study	CII (coordinating DTCP,CMDA, CMA, TNRDC, PWD, TNUIFSL-encouraging PPPs, NHAI)	Study under progress
3	Extension of National Highway connecting Kanchipuram and Tiruttani	NHAI	1150.00
4	Feasibility Study for Development of Industrial Corridor of Excellence connecting Chennai and Bengaluru	CII/NHAI	Study under progress

5	Study for Development of expressway connectivity between Marakkanam - Arakkonam-Pulicat	CII/NHAI (coordinating DTCP,CMA,TNRDC, TNUIFSL/IL&FS, NHAI)	Study under progress
6	Preparation of Regional Traffic Operation and Management Plan	NHAI	5.00
7	Feasibility Study for extension of metro rail between Chennai and Bengaluru	Railway Authority	12.00
8	Feasibility study for Bullet Train between Chennai and Bengaluru	Railway Authority	Long term
9	Setting up of Resource center for Technology and Efficiency upgradation of industrial skills	TIDCO / Technical Educational institutions and industries	30.00
Town Level			
10	Feasibility study for Check Dam at Kallar River	PWD, GoTN/ NGO	1.00
11	Conservation of Water bodies (Ambedkar nagar lake, Housing board colony lake and lake near New bus stand)and Irrigation canal	PWD, GoTN/ NGO	60.00
12	Feasibility study for ROB/RUB near Railway station at palanipet	Southern Railway	5.00
13	Realignment of pumping main in kanchipuram Highway	TWAD Board	35.00
14	Esco Study	CMA/TNUIFSL, Municipality	1.00
15	Awareness campaign for NGOs on their roles and responsibilities in community development	Municipality	5.00
16	Beautification of Periya Eri with landscaping and boating facilities	PWD	
17	Feasibility study for ROB at SR gate in Arakkonam - Kanchipuram road	Southern Railway	5.00
18	Reuse of treated waste water for cultivation of geeniya grass at Silver pet in 10 acre area		
On Going Project			
19	Combined water supply scheme for Arakkonam and Tiruttani	TWAD Board	8.45 (90% completed)

11 RISK AND MITIGATION MEASURES

11.1 PROJECT RISK AND MITIGATION MEASURES

Risk is an integral ingredient in any project venture. Projects without risk are not heard to have met with great success. Particularly the project package such as this for a Municipal body has multi-various risks as it is mainly with the public of different attitudes, background, profession and traits. As such the local bodies are facing problems of complex nature even in carrying out their rightful functions and duties. The project risks identified are addressed below

1. Environmental risks*
2. Social risks*
3. Site risks
4. Implementation risks
5. O&M risks
6. Financial risks
7. Market risks
8. Risks due to Natural disasters
9. Risks in private participation

Though the projects identified under the CCCBP do not mostly constitute as sensitive environmental components, but come under various degrees of environmental concerns. The identified projects are categorized under the environmental concerns relating to E1, E2, E3 and Based on the Project Affected Area (PAP) and the level of social impact as S1, S2 and S3.

Table 11-1: As per the Guidelines on Environmental & Social Concerns of CCCBP projects – Arakkonam

No.	Project Items	Environmental Category	Social Category
1	Water Supply	E2 & E3	S2
2	Sewerage System	E2	S1
3	Storm Water Drains	E2	S2
4	Solid Waste Management	E1 & E2	S2
5	Roads	E2	S3
6	Bus Stand	E2	S2
7	Street Lights	E3	S3
8	Parks and Playgrounds	E3	S2
9	Burial Grounds	E2	S2

10	Public Convenience	E2	S3
11	Medicare	E2	S2
12	Slum improvement	E3	S1
13	Market	E2	S2
14	GIS database	E3	S3
15	E-governance	E3	S3

Note:

- E1 projects relate to those where major environmental impacts are foreseen warranting Environmental Assessment Report (EAR).
- E2 projects are moderate in environmental concerns.
- In E3 projects, no environmental issues are foreseen
- S1 projects will affect 200 people or more.
- S2 projects are those where no PAP is physically displaced and less than 10% of the productive assets are lost.
- In S3 projects, no household will be affected.

The risks involved in the identified projects and the mitigation measures are given in the table below

Each of the above categories are detailed out in the table below:

Category	Mitigate measures
Site risks	
Land interests and land acquisition	Providing all land related information to the contractor
Resistance from public	Community consultations to ensure least resistance from local population
Delay due to statutory approvals	Interfacing with all concerned departments to ensure land approvals or reduce bottlenecks
Un-suitable site conditions.	Careful site selection after detailed investigation of site history and characteristics
Environmental issues	Addressing all related environmental issues before the bid process , including impact assessments
Implementation risks	
Risks related to design ,construction and commissioning the projects such as:	

Design flaws	Review of proposed design by Government, parastatal agencies.
	Ensure correction of design and construction defects before commencing service delivery
Non - availability of suitable contractor due to the simultaneous execution of similar project in many ULBs near by.	Consolidating contract packages and calling tender at state level or National level.
	Short listing of potential contractors at regional level and Tendering the contract in a planned manner.
Time and cost over runs	Proper specification of project outputs and core services to be delivered.
Defaulting in meeting dead lines in construction and commissioning	Linking contracting services to key performance indicators and in turn to the payment schedule
Ensuring service delivery	Independent commissioning tester to ensure delivery of the required performance.
O&M risk	
Increase in predicted operating costs	Address future service delivery demands also
Impact of design flaws & defective construction, deterioration of performance standards	Operating guarantees/performance bonds to ensure service continuity and compensation for default
Technologically outmoded practices	Inbuilt options for upgrading technology as the contract term proceeds
Inherent defects of the system	Escrow mechanisms to ensure protected cash flows and enforce during service/operational default
Defaults from designer, builder and operators	Termination rights in case of insufficient delivery/break down in service provision
Financial risks	
Funding uncertainties	Ensuring project structure, in-built contractual provisions and foreseeing risks make the project bankable, addressing lender related issues.
Cost escalation	Mitigate risks arising from inflation, interest rates, foreign exchange rates etc.

Delays in financial closure of the project	Avoid looking for the lowest cost bid- base selection upon financially sound structure and business plan
Market risks	
General economic down turn	Quantify demand, providing demand related information at the bid stage
Changes in Government policies, Shift in industry focus	Initiate feasibility studies, demand forecasting, sensitivity analysis.
Change in target-market competition	Incentives to stimulate end-users
Risks from Natural disasters	
Floods, Cyclones, Earth quakes, Tsunami	Minimize impacts through appropriate insurances to transfer risk to insurer
Insurance coverage	Regularly review insurance policies to ensure effective and adequate coverage
Interruption in Service delivery	Appropriate action plans for temporary service arrangements
Risks in Private sector participation	
Project initiation	Specify desired project outcomes, taking into account Govt. policies
Private operator	Ensure sound financing pattern or the model on which the private sector has based its participation
Lack of service delivery	Ensure Government rights to take over some or all of the sub-contracts of the private party in case of its failure to perform.
Inadequate capabilities for legal and technical issues	Contingency plans for continuation of core or ancillary services
	Ensure and technical legal ability to contract with private party
Delays due to statutory approvals	Identify and facilitate Govt. approvals-related to planning, environment etc

Delays due to land acquisition	Anticipate ,identify and resolve land tenure issues- Acquisition , title, encroachments, usage of land
Unforeseen risks to private operator	Insurances to cover aspects like owner's liability, asset risks, business interruption, some policy risks, natural disaster.
Technically out dated mechanisms	Incentives to private sector to incorporate latest technology by making the design consultant, builder and the operator part of the OWG

12 REFORMS AND ACTION PLAN

A City Corporate cum Business Plan (CCCBP) is essentially a road map to achieve a set of development objectives within a specific period. This CCCBP has identified gaps in municipal service delivery and institutional management, ascertained by expert analysis and stakeholder feedback. The proposed interventions for the Municipality are in the form of reforms, action plans and strategies to achieve the same.

Strategies and Action Plans are the elements which bridge the gap between the Proposed Reforms and implementation. The following sections detail out the strategies and Action Plan plans for the proposed Reforms and interventions in the areas of revenue enhancement, privatization, computerization initiatives, energy efficiency and municipal service delivery.

12.1 PRESENT SCENARIO IN URBAN REFORMS

“Reforms and change are critical elements in development process; they become more significant in urban development in the context of growth of towns and consequent pressure on infrastructure and services, growth of poverty, etc. This is compounded by institutional constraints like in capacity, fragmented structures, functional overlaps and outdated processes and procedures. In addition, there has been a paradigm shift in governance from the traditional top-down model. As a result governance reforms have become imperative for efficient delivery of services, provision and maintenance of infrastructure and to provide efficient and responsive governance to the people. Recognizing the significance of reforms to provide efficient and effective governance, the State Govt. has initiated and implementing several urban sector reforms during the last few years. “

The following are the key reforms implemented by the GoTN :

1. **Devolution of funds:** 3.5% of State's total tax revenue passed on to urban local bodies.
2. **State Finance Commissions:** Three consecutive state finance commissions were setup for recommendations to Government.
3. **Setting up of TNUDF:** A successful private-public partnership initiative to tap the capital market.

4. **Accrual Based Accounting System:** The new accounting system has been implemented in all the urban local bodies.
5. **Computerization and E-governance** of select Municipal functions have been successfully implemented in all urban local bodies.
6. **Urban indicators:** Performance assessment of ULBs initiated by CMA
7. **Revision of Property tax :** With effect from April 1.2008, subject to a maximum of 1.25 times the existing tax structure.
8. **Debt monitoring cell:** It has been established with office of CMA with the objective of collecting financial information on individual ULBs, assisting them in making realistic financial projections and facilitating the Urban Local Bodies to access the Capital Markets by information dissemination from CMA office.
9. **GIS for 5 urban local bodies:** Consultancy for Preparation of Property mapping and Utility Mapping for Madurai, Coimbatore and Tiruchirappalli Corporations and Rajapalayam & Gobichettipalayam Municipalities has been initiated as a pilot project by the office of CMA.
10. **ESCO Studies:** TNUFSL initiative for the Implementation of energy efficiency in Water pumping and Street lighting systems under performance contract.
11. **Right to Information Act, Gol :** An Act to provide for setting out the practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority.
12. **Preparation of Human Development report** for 5 Municipal Corporations under TNUDP-III, Commissionerate of Municipal Administration- to identify the strengths and weaknesses of each urban local body on the appropriate parameters. This would enable them to propose and implement schemes to overcome the shortcomings and improve the quality of life of their residents.

12.2 PROPOSED INTERVENTIONS AT STATE LEVEL

a. Property Tax

Implement a framework law for disputed properties, so that the assesseees pay the tax first and then carry out necessary litigation as in Central Govt. Depts.

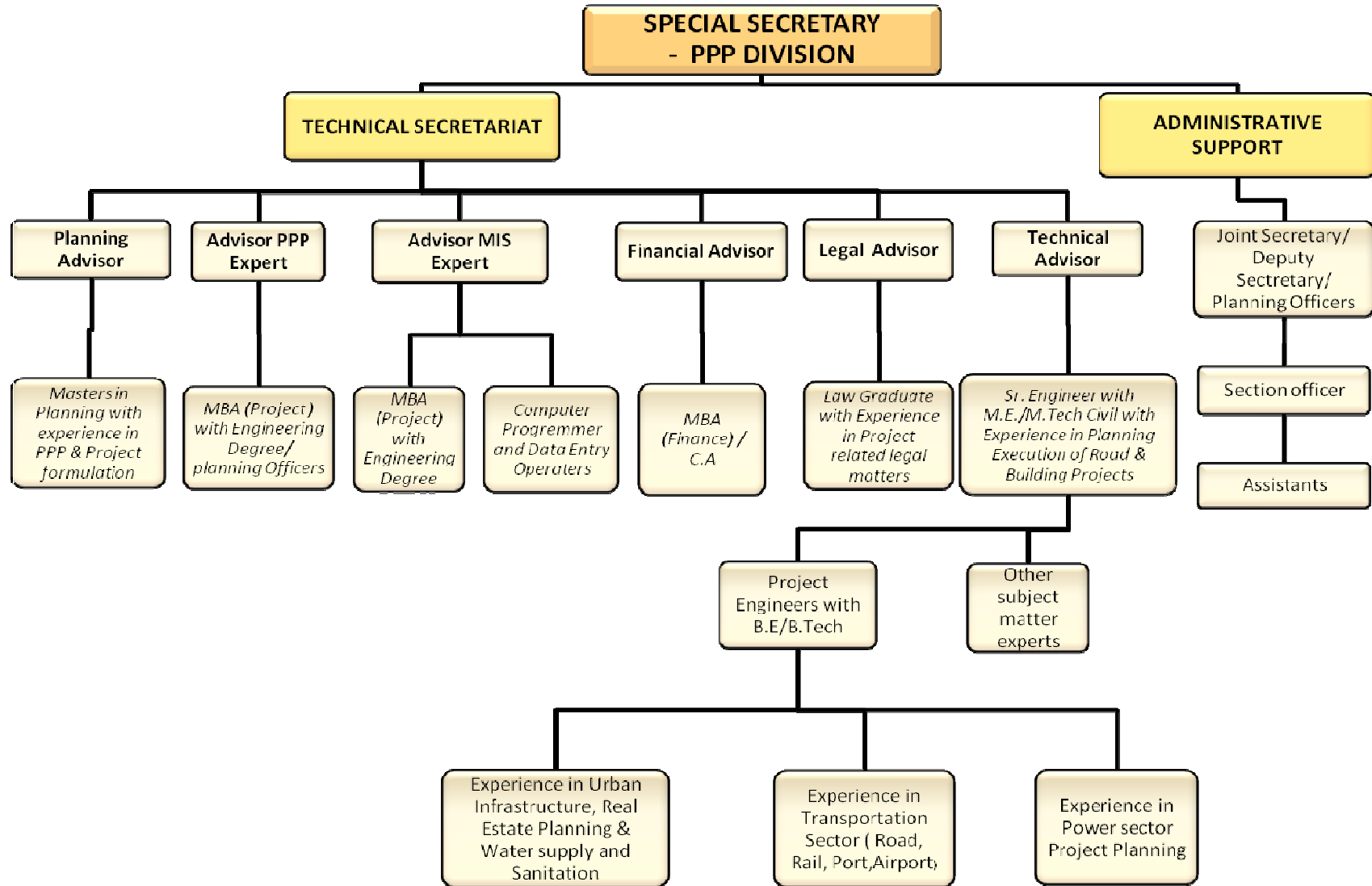
b. Community participation law

Enacting the “Community Participation Law” that will make it mandatory for the government and its agencies to get the view of citizens, mainly residents’ welfare associations and other citizens’ groups, before starting any project.

c. Initiatives in Private Participation

Frame work law for PPP as in Gujarat, Punjab and Andhra Pradesh – An enabling and regulatory framework for private sector participation. TNUISL may initiate capacity building in public institutions and private sectors for handling PPP projects.

Setting up a **PPP cell** and creating database at the State level listing projects in various sectors of developmental activities for PPP participation.



Base source: www.pppinindia.com Organisation chart of PPP Cell

Infrastructural projects:**Water supply project**

1. As regards water supply projects, the consultant proposes using available local sources (surface water) in lieu of capital intensive projects from far off sources. The enforcement of RWH in all buildings is a commendable initiative, which has proven successful in improving the quality and quantity of ground water table according to a recent study. Rejuvenation and protection of water bodies and recycling, reuse of water is also a major issue to be addressed in this regard. Participation of SHGS, voluntary organizations, resident welfare associations need to be sought.

UGSS project

1. Highly engineered and mechanized conventional sewage treatments require large Capital Investments, demand high maintenance costs and are not feasible for the developing countries like ours. Capital intensive and highly technological waste disposal solutions, utilizing indiscriminate collection and large-scale disposal, do not consider the value of recovering organic waste resources and do not promote recycling. The land required for the disposal of treated wastewater in the conventional treatment systems is not readily available. Alternative treatment systems like Root zone treatment methods could be used.
2. GoTN may also encourage recycle of water, to meet requisite standards rather than let them out into streams or sewage farms. This will not only promote water recycling, but also resource recovery of minerals.

Integrated Water Resources Management Plan(IWRM) – The solution.

As a general rule, in the past with smaller populations, less intense economic activity and with less affluent societies demanding much less water, supply of the resource was usually much greater than demand for it. In such circumstances water for agriculture, for industry, for domestic and all other uses could be managed separately there being sufficient water to accommodate all needs and there being little competition between uses and between users.

As populations have grown, as food production has increased, as economic activity has developed and as societies have become more affluent, so demand for water has burgeoned. The traditional fragmented or purely sectoral approach is no longer viable and a more holistic approach is essential. This is the rationale for the Integrated Water Resources Management (IWRM) approach

that has now been accepted internationally as the way forward for efficient and sustainable development and management of the world's limited water resources and for coping with conflicting demands.

“IWRM is defined as a process that promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems”.

Source: Status Report on Integrated Water Resources Management and Water Efficiency Plans – UN water report.

12.3 PROPOSED INTERVENTION AT MUNICIPAL LEVEL

The Proposed Municipal intervention is broadly categorized under the heads of:

1. Reforms in Resource Mobilisation
2. Privatisation Initiatives
3. Energy & resource efficiency
4. Computerization and E-governance
5. Accounts and Auditing
6. Institutional Management
7. Municipal service delivery

12.3.1 Reforms in Resource Mobilisation

In an environment in which business activity is booming and urban infrastructure threatens to become a constraint to growth, the municipalities are faced with an unprecedented need to find substantial resources for development, and an unprecedented opportunity to raise the same. The various options for enhancement of Municipal revenue based is discussed below:

1. Improving revenue from own sources
2. Improving revenue from user charges
3. Formation of new sustainable revenue bases

12.3.2 Action Plan: Improving revenue from own sources

Strategy options :

i. Property and Profession tax

1. Expanding Property tax and Profession tax base.

Onetime assessment of all unassessed and under assessed properties. The project could be taken up as a door –to –door survey of all existing properties, with details on

1. Size & built up area of the property
2. Present use - residential, commercial, industrial or vacant.
3. Number of households, houses, size of families, etc.

On comparing with other municipalities in Tamil Nadu, the household size (*arrived from population and residential tax assessments*) is 8.8, which is high. Thus it is imminent that the property tax mapping exercise needs to be taken up immediately to enhance the revenue generation of the municipality.

Street naming and property numbering already undertaken by Govt. of Tamil Nadu needs to be linked to this to streamline the study. At the rate of Rs.30.00 per property, the estimated cost for the project would be about Rs.5.00 lakhs. Property mapping would form a database for GIS projects (Land use and Utility Mapping), which is a long term project and in the rationalization of tax structure. The participation of the SHGs, (youth and women) could be utilized for the purpose.

Identifying and including omitted Profession tax assesses - This project is to be linked to the property mapping exercise. An improvement of 20-30% on the existing tax base could be expected.

2. Rebates on Property tax:

Most of the collections take place during the last quarter of the year. This results in poor collection efficiency, wherein the ULB ends up collecting much less taxes than the tax demand raised. The option of providing rebates upto 10% for 'early birds' paying the tax during the 1st and 2nd quarter could be explored. This would ensure timely spending on capital and operating expenditure and efficient tax management systems.

3. **Regular and periodic increment of property tax** at 15% every 5 years.
4. **Mobilizing a 'Fast Track Litigation Campaign' to settle disputes on properties.**
5. **Levying Vacant Land Tax** as per the recommendations of Third State Finance Commission. Empowering the municipality to convert non-claimed lands to socially benefiting uses.

ii. Profession Tax Reform

- Revising the profession tax based on the Third State Finance Commission recommendations.

iii Regularization of unapproved construction

- Regularization fees for unapproved constructions at the rate of 5 times the existing building license fee.

Table 12-1: Road Map - Improving revenue from own sources

Sl.No	Reforms	Year of Implementation				
		Year 1	Year 2	Year 3	Year 4	Year 5
1	Property tax Reform					
	i Property Mapping	✓	.....	.....	.....	.....
	ii Rebates on Property tax		✓	.....	.....	.....
	iii Regular and periodic increment of property tax			✓		
	iv Mobilizing a 'Fast Track Litigation Campaign'			✓		
	v Levying Vacant Land Tax	✓	.....	.....	.....	.....
2	Regularization of unapproved construction	✓				

12.3.3 Action Plan : Improving revenue from user charges

Strategy options

i. Water supply and UGSS

- Approval of the Municipal council for the proposed tariff and deposit structure to enhance the public contribution and meet the entire O&M cost.
- Increase in the penetration of connections to at least 85% of total assessments. This backed by higher collection efficiency and enforced leakage losses (less than 15%) would further improve service delivery.
- Levy Reasonable User Charges to recover full O&M Cost of water supply and UGSS.
- Implementation of graded tariff structure (UGSS) for domestic and non-domestic connections. This needs to be linked to property mapping project and type of assessment to be ensured.
- Mandatory mobilisation of deposits for Capital intensive WS or UGSS projects during pre-construction stage of the project.

ii. Solid Waste Management

- Approval of the Municipal council for the proposed Solid waste conservancy charges for commercial and industrial establishments during the base year and after 5 years for domestic assessments.
- For implementing collection of conservancy fee for Solid waste Management .The proposed tariff structure is given below:
 - Domestic - Rs.5 per month.(medium term plan)
 - Commercial - Rs.10 per ton.
 - Industrial - Rs.15 per ton.
 - Bio-medical - Collected by IMA.
- Privatisation of collection, transfer, construction and management of compost yard and compost production. This would reduce the O&M expenses of Municipality on SWM by 30 to 40%.
- Revenue generation from selling scrap after segregation at secondary collection point or compost yard at Rs.10 -Rs.15 per kg.
- Revenue Generation from sale of compost at the rate of Rs.1000 per tonne as bulk supply to nearby agricultural areas. Incidentally, the manure generated from Municipal garbage is found to be richer in NPK values compared to the one available in the market. This has resulted in producing better yield of agricultural products both in quantity and quality.

Table 12-2: Road Map Improving revenue from user charges

Sl.No	Reforms	Year of Implementation				
		Year 1	Year 2	Year 3	Year 4	Year 5
1	Water Supply and UGSS					
	i Increasing deposit and tariff	✓	.....	.....	.....	.....
	iii Graded tariff for UGSS				✓	.....
	iv Pre mobilization of deposits	✓	.....	.....	.....	.....
2	Solid Waste Management					
	ii Collection of conservancy fee for Commercial and Industrial Establishments	✓	.....	.....	.....	.....
	iii Collection of conservancy fee for Domestic assessments					✓

12.3.4 Action Plan: Formation of new sustainable revenue bases

To improve the revenue base of the municipality, following are the remunerative proposals identified.

- Construction of Heavy vehicle and car parking stand

- Parking at Nehruji nagar and KalavariKandigai area
- Improvement to existing bus stand
- Improvements to fish market
- Renovation of daily market
- Chopping complex at old bus stand
- Community hall at Old bus stand
- New slaughter house with treatment facilities at Hosur road

i. Parking Regularisation Plan

Enforcing no-parking zones and identification of possible parking areas with the involvement of stakeholders would be the first step in mitigating congestion in the central areas of the town. Preparation of inventory for all roadside parking areas. Initiating time based *pay and park* facilities for vehicles. Appropriate rent structure from auto stands, LCV and heavy vehicles parking would also improve income generation.

The proposed parking fee structure is:

- ◇ Bicycles - no tax
- ◇ Two wheelers - Rs.2.00
- ◇ Light Vehicles - Rs.5.00
- ◇ Heavy Vehicles - Rs.10.00

iii Advertisement Regularisation Plan

Identifying strategic locations such as bus shelters, road medians, for hoardings and poster places in Municipal area and levying advertisement tax at the rate of Rs.25 per sq. ft per annum.

To prepare an inventory of advertisement spaces within their limits with size and type .Auctioning the entire rights to a single bidder on an annual basis is suggested. The initiative of GoTN to remove hoardings and encroachments is a welcome step to regularize the advertisements and hoardings.

iv. Collection of Annual Tract rent

- From cable T.V operators - (Rs.3.00 per running metre)
- From Telecommunication service providers - (Rs.5.00 per running metre)

The urban local body may be empowered to collect the security deposits at Rs.10,000 per operator and revise the tract rent every three years. The collection of tract rent and deposits can be handed over to Youth SHGs.

Table 12-3: Road Map for Formation of new sustainable revenue bases

Sl.No	Reforms	Year of Implementation				
		Year 1	Year 2	Year 3	Year 4	Year 5
1	Formation of new sustainable revenue bases					
	i Remunerative Projects	✓▶			
	ii Parking Regularization		✓▶		
	iii Advertisement Regularization	✓▶			
	iv Collection of Annual tract rent		✓▶		

12.3.5 Action Plan: Privatisation Initiatives

The present areas of privatization of the functions of the ULB in Tamil Nadu are

- i. Solid waste management- all components.
- ii. O&M of street lights.
- iii. O&M of water supply distribution.
- iv. AMC of public and pay & use toilet facilities.
- v. Parks and parking lots Maintenance and user charges collection.

The GoTN states that this list is indicative and ULBs are free to explore more options. This would not only save the O&M expenses, but also indirectly in pension and gratuities. The various strategy options are discussed below:

Strategy options

1. Privatisation of Collection mechanism

Providing a computer fitted mobile van with online access to municipal database for spot billing and collection of all taxes. Performance based incentives can be given to the private operators at the rate of 5% of total collection. The support of the Youth / Women SHGs or fan clubs can be sought for the purpose of collection with adequate sensitization programmes.

2. Improving community participation by organizing Public awareness campaigns and Training of Tax Inspectors, to improve the 'willingness to pay' of the users. The aid of SHGs, fan clubs, media could be utilized for the purpose. The following are the various avenues of revenue, the collection of which could be privatized.
 1. Property tax
 2. Profession tax
 3. Water - Deposits and tariff
 4. UGSS- Deposits and tariff

5. Advertisement spaces /rights as a single contract
 6. Parking areas
 7. Solid waste conservancy fees(Domestic and non-domestic)
3. Privatisation of Operation and Maintenance of the entire Water Supply and Distribution System.
 4. Privatisation of operation and maintenance of the UGSS.
 5. Privatisation of Solid waste management (Discussed indetail under Improving revenue from user charges)
 6. Privatisation of O&M of street lights & pumping machinery(detailed out in Action plan for energy & resource efficiency)
 7. Repair and maintenance of major Municipal roads for 3 years from the period of laying.
 8. Option of BOT, BOOT for parks & play grounds by implementing user charges for areas more than 5000 sft .
 9. Option of converting public toilets to pay & use type and privatization of O&M.
 10. Private participation in medical infrastructure like RCHP, maternity homes and adoption of premium and free facility programme in return for improved medical facility.

Table 12-4: Road Map for Privatization initiatives

Sl.No	Reforms	Year of Implementation				
		Year 1	Year 2	Year 3	Year 4	Year 5
1	Privatization of Operation and Maintenance					
	i water supply and Distribution system			✓	----->	----->
	ii Sewer network & STP				✓	----->
	iv street lights	✓	----->	----->	----->	----->
	vi AMC of Public and pay % use toilet facilities	✓	----->	----->	----->	----->
	vii Parks and parking lots Maintenance and user charges collections		✓	----->	----->	----->
2	Privatisation options in Solid Waste Management					
	Privatization of Door to door collection of solid waste	✓	----->	----->	----->	----->
	Compost yard management & sale of compost & scrap			✓	----->	----->

3	Privatization of Collection mechanism					
	Spot billing and tax collection using mobile van		✓			→
4	Formation and sensitisation of youth & women SHGs	✓				→
5	Public awareness campaign for improving tax collection (IEC)	✓				→

12.3.6 Action Plan: Energy & resource efficiency

Strategy options

- Conducting energy audits for water pumping machinery and street lights.
- Conducting leak detection studies, if transmission losses are more than 15%.
- All Head works and service reservoirs may be fitted with bulk water meter to assess the loss due to non revenue water and unaccounted water.
- Enforce regulations on illegal tapping of water.
- Fixing flow control valves and meters for all water service connections.
- Provision of energy saving lights, and equipments like dimmer and timer switches to reduce energy consumption.
- Privatizing the maintenance of street lights to ESCO companies.

Street lights

TNUISL has initiated the preparation of Energy Saving Company(ESCO) studies for energy efficiency in the O&M of street lights and pumping machinery for select Municipalities throughout Tamil Nadu. ESCOs provide comprehensive services - encompassing audits for energy saving performance, design & implementation of conservation measures, maintenance, operation and management of the introduced facilities and procurement of project funds. ESCOs conduct retrofitting for energy conservation without damaging the environment. The ESCO will guarantee the savings that would meet or exceed the annual payments to cover up the entire project costs usually a period of 5 to 10 years. The savings can be shared proportionately with the institution for which the project is designed and implemented for.

The salient features of performance contracting for energy savings through ESCO based business model are as under:

2. 'Nil' investment by customer.
3. ESCO to identify Energy Efficient Measures (EEMs) to replace / modify existing in efficient systems.

4. ESCO supplies, installs and maintains the Energy Efficient Measures (EEMs) during the contract period.
5. Contract period could be 3-5 years or as mutually agreed upon.
6. Energy saving is shared between ESCO and customer as per agreed terms. Total project cost is funded by ESCO. The O & M expenses will be met by the Municipality.
7. Guarantee Energy savings and recover its investment including interest & other costs out of generated energy savings.

Table 12-5: Road Map for Energy and Resource efficiency

Sl.No	Reforms	Year of Implementation				
		Year 1	Year 2	Year 3	Year 4	Year 5
1	Energy audit					
	i Leak deduction study		✓	----->		
	ii Fixing of bulk water meter		✓	----->		
	iii Fixing flow control valves and meters			✓	----->	
	iv Implementing energy saving measures on street lights and pumping machineries (ESCO)	✓	----->			

12.3.7 Action plan: Computerization and E-governance

Strategy options

1. Launch data warehousing on a large scale, which would avoid cross-reference to paper record, which are time consuming and also preservation of paper media, which occupies space, could be avoided.
2. Computerization of bill payment and facilitation of on line payments
3. Computerisation of registration of land records within Municipal limit
4. Digitisation of Birth and death certificates for the past 30 years
5. Property Mapping to be computerised and details on area, year of construction, type of assessment to be computerized to facilitate calculation of property tax.
6. Administration and issue of trade licenses to be on line, including payment and reconciliation of license fee.
7. Computerization of birth and death certificates and on line issue of certificates.
8. Computerization of public grievances and Redressal mechanism
9. Introduction of asset management system for all available land and building assets of the Municipality

10. On-line submission of building plans and approval.
11. Track O&M of assets and their replacement
12. E-tendering processes.

The above proposal can be taken up after giving sufficient training to Municipal staff in hard ware and software.

Table 12-6: Road map for Computerization and E-Governance

Sl.No	Reforms	Year of Implementation					
		Year 1	Year 2	Year 3	Year 4	Year 5	
1	Computerization and E-governance						
	i Digitizing municipal records (past 30 years)		✓				
	ii On-line bill payment	✓	----->				
	iii Registration of Land records	✓	----->				
	iv Digitization of old Birth and death certificates	✓	----->				
	v On-line issue of Birth and Death certificates	----->					
	vi Property Mapping	✓	----->				
	vii on-line Issue of trade license		✓	----->			
	viii Online submission of building plans		✓	----->			
	ix E-tendering		✓	----->			

12.3.8 Action Plan: Accounts and Auditing

- A Consultant committee of chartered accountants having experience in municipal accounting should be constituted to provide training to the Municipal employees.
- Timely Auditing should be performed with the use of private Chartered Accountants for routine audit and local audit to carry out proprietary audit.
- Closing all Auditing before September 30 of the next financial year and publishing the audited statement on the website.

12.3.9 Action Plan: Institutional Management

The constant change in urban sector in the context of reforms results in the need for continuous upgradation of the skills and knowledge of the ULB staff. TNUDF III has

initiated the process of providing the required training to the staff during the current planning period. It is essential that the training process becomes a sustainable one with the introduction of an institutional framework which would ensure that the training is provided in a continuous manner.

Training programmes need to be evolved depending upon whether they are Elected Representatives, Senior level officers, Middle level officers and staff in various sections of the ULBs. Training of public representatives and staff of ULBs will not only improve their skills but also exposes modern/scientific technological advancement in engineering, management and inter personal communication.

The categorization of training is based upon the position at various levels focusing primarily of managerial aspects, technical knowledge, skills and management tasks and awareness about responsibilities.

Strategy options

12.3.10 A. Capacity Building for Elected Representatives and Committee members

The details of the various training requirements for elected representatives and Committee members are presented below.

Table 12-7 Technical Assistance for Elected representatives

Category	Identified Training areas
Elected representatives	<ul style="list-style-type: none"> • Visioning, goal setting, Planning • Urban Governance, Management and Planning • Social management and urban poor management • Financial and cost management • Budget preparation • Tender procedure • Training in interpretation of various laws, rules, regulations and statutes that ULB is bound by • E - Governance • Redressal of public grievances • Environment management • JNNURM, UIDSSMT, IHSDP, IHSDP & BSUP • City Corporate Plan, Urban Development plans (Master plans, DDPs) • Solid waste management. • Disaster management • Managerial development and effectiveness • Public relations and Human resource development. • Crisis management and Stress management • Personality development and Motivation skill development • Written and Oral Communication skills

Committee members	<ul style="list-style-type: none"> • Tax appeal committee: tax assessment methods; interpretation of various laws, rules, regulations and statutes • Contracts committee: procurement procedures; interpretation of various laws, rules, regulations and statutes • Appointment committee: Interviewing skill and techniques
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12.3.11 B. Capacity Building for ULB staff

The training areas identified for ULB staff in all position is classified as functional, managerial & behavior and attitude in short, medium and long term training. The details of the various training requirements for ULB staff are presented below.

Table 12-8 Technical Assistance for ULB staff

Category	Identified Training areas
Senior Management Staff	<ul style="list-style-type: none"> • People management skills • Motivation and Interpersonal skills • Leadership and Public relations • Attitudes – both personal and organizational • Team Building, Human resource development • Goal setting, Budgeting • Written and Oral Communication skills • Effective use of computers especially for managerial decision making • Proper interpretation and effective use of MIS reports • Decision support systems • Training in interpretation of various laws, rules, regulations and statutes • Time management, Stress management • Change management • Effective urban management • Management principles, Managerial development and effectiveness • Interviewing skills • Social management and urban poor management • Citizen grievance handling • Project appraisal, Project Management and project financing • Contract management, Bid management, Costing • Procurement procedures • Pricing and tariffs/taxation methodologies • Operations research • Quality control • Public private partnerships and opportunities for ULB in the same • Reforms at the ULB level • Financial and cost management • Environment management • Disaster management • Solid waste management • Systems management (improving citizen service and ULB efficiency)

	<ul style="list-style-type: none"> • Strategic urban planning • Performance management system and key result areas.
Supervisory Staff	<ul style="list-style-type: none"> • Motivation and Interpersonal skill development • Effective use of computers • Training in interpretation of various laws, rules, regulations and statutes • Training for development of a positive attitude • Citizen handling and grievance handling • Managing urban poor, education and health services • Implementation skills • Training in developing a Performance Management Systems (PMS) and key Result Areas (KRA)
Training for Operational staff	<ul style="list-style-type: none"> • Functional skills required in their respective function <ul style="list-style-type: none"> - Training in office Procedures - Training in computers - Training in team work • Training in general office administration and management <ul style="list-style-type: none"> - Training in effective servicing - Training in communication - Training in equipment usage

Source: CMA Records.

Table 12-9 Road map for Accounts & auditing and Institutional Management

Sl.No	Reforms	Year of Implementation				
		Year 1	Year 2	Year 3	Year 4	Year 5
1	Accounts and Auditing with chartered accountant					
	i Appointing private chartered accountant consultant	✓▶			
	ii Closing of audit and accounts (Sept 30th)	✓▶			
	iii Online publication of audited statement (Oct 30 th)	✓▶			
2	Institutional Management					
	i Capacity Building for Elected Representatives▶				
	ii Capacity Building for ULB staffs▶				

Table 12-10 Road map for implementation of all projects

S.N	Projects	Implementing Agency	2009-10	2010-11	2011-12	2012-13	2013-14	
I	Water supply	TWAD Board						
	Source augmentation		←	→				
	Transmission system Improvement		←	→				
	Improvement of Distribution system		←	→				
	Up-gradation of Existing system		←	→				
II	Under Ground Drainage system with STP	TWAD Board						
III	Strom wafer Drain	Municipality		←	→	←	→	
V	Solid Waste Management	Municipality						
	Vehicles & equipments - Primary & secondary Collection		←	→				
	Purchase of Land fill site		←	→				
	Compost yard and Land fill site development		←	→				
VI	Road	Municipality						
	Formation of New Road						←	→
	Road Improvement				←	→		
VII	Bus stand	Municipality		←	→			
	Improvements in Existing Bus stand	Private operator	←	→				
	Bus Shelter		←	→				
	Heavy Vehicle parking and car Parking		←	→				
	Parking at Nehruji nagar & Kalavari Kandigai area						←	→
VIII	Street light	ESCO/ Municipality	←	→	←	→	←	→
IX	Slum	Municipality			←	→		
X	School	Municipality		←	→	←	→	
XI	Parks					←	→	
XII	Market							
	Improvements in Daily Market		←	→				
	Shopping Complex & Community Hall	←	→					
	Improvements to Fish Market		←	→				
XIII	Slaughter House	Municipality		←	→			
XV	Public convenience		←	→				
XVI	Burial Ground		←	→				
XVII	E-Governance						←	→
XVIII	GIS Mapping	Municipality						
	Property mapping		←	→				
	GIS databse						←	→
XVIII	Mobile tax collection van		←	→				

Source: Analysis and calculations

12.3.12 Reforms in Municipal Service Delivery

The reform agenda for municipal service delivery is given in the following table

Table 12-11 Reform Agenda Municipal Service Delivery

Sector	Particulars	Benchmark considered	Existing	Target					
				Year 1	Year 2	Year 3	Year 4	Year 5	After 5 years
WAETR SUPPLY	Net Supply per capita	135 lpcd	72	80	120	--- 135lpcd --- ➔			135 lpcd
	HSCs - % of assessed properties	≥85%	65	70	75	80	--- 85% ➔		≥85%
	Frequency of Supply - Hours per day	24x7 hours	1 ½ hr in 3 days	Period of implementation			--- 2 hrs daily ➔		24x7
SEWERAGE SYSTEM	HSC coverage	≥85%	Nil	Period of implementation			--- 85% ➔		≥85%
	Coverage of UGSS network - % of road length	100%	Nil				--- 100% ➔		100%
SOLID WASTE MANAGEMENT	Availability of Composting facility	100% available	Available	Period of implementation		--- 100% available ➔			100% available
	Collection efficiency	100%	98%			--- 100% ➔			100%
ROADS, STORM WATER DRAIN, STREET LIGHTS	Surfaced roads- % of total road length	100%	81%	81	81	Period of implementation			100%
	Storm water drains - % of total road length	130%	131%	----- ➔					130%
	Average spacing between Street lights	30m	38m	Period of implementation					30m

Source: Analysis and research

13 ASSET MANAGEMENT PLAN

All the assets developed, operated and maintained by the Municipality are termed as municipal assets and comprise roads, bridges, culvert, water supply & distribution system, UGSS network, STPs, drains, and street lights. Municipal Assets also includes social infrastructure assets such as municipal owned schools, hospitals, parks and playgrounds, community halls, shopping complexes, stadium, and vacant lands.

Municipal assets are normally classified into movable and immovable assets. Immovable assets attain importance as indicators for the financial worth which would help in its borrowing capacity and credit worthiness of Arakkonam Municipality.

The management of assets in the local bodies is at the initial stage where, only the assets are listed and status is described. Invariably, in all the cases, the management component is missing as to the techniques and methods of managing the assets either in improving their state and value or in sustaining them with a growth motive. There is hardly any case where a local body has made use of its immovable assets for raising loans or improving its borrowing capacity. It requires an overall approach outlining the alternative options of maintaining and managing the assets in a worthwhile mode.

13.1 ACTIVITIES OF ASSET MANAGEMENT PLAN (AMP)

The Asset Management Plan for Arakkonam Municipality would comprise the following 5 steps as explained below:

1. Asset identification

All movable and immovable equipments, immovable municipal properties, assets of Municipality that have been developed, handed over or acquired over time from various sources and departments have to be identified and traced. This would include the detection of unrecorded infrastructure facilities and properties; scrutiny of records, land registers and land surveys, etc.

2. Audit and reconciliation of records

The Municipality should record all movable and immovable municipal properties and assets and infrastructure facilities. Maps and master plans should be crosschecked and an infrastructure facilities audit should be prepared or updated (if already existing). Current asset values should be assigned based on a 'condition-survey' of the infrastructure facilities.

Land and property records should be crosschecked and municipal registers to be updated to include previously undetected land, properties and development. A comprehensive list of municipal land, properties and development should be compiled with approximate assigned.

3. Assessment of Remunerative potential

Municipality should review the existing revenue earning potential of all its assets. New projects or initiatives should be taken to maximize the revenue earning potential of assets including infrastructure facilities. The intangible benefits of social facilities also need to be considered in the process.

4. Digitisation of asset register

Focus should be placed on designing, testing and installing a database management system for municipal assets. All data, once compiled should be classified on the basis of sector specific infrastructure facilities, land and properties. Specific software should be customized to suit local requirements and data should be translated into specified formats.

5. Training in database management

Training is the most important part of an asset management plan. Training should emphasize methods of simplified updation of data, and methods of monitoring and follow-up relating to infrastructure facilities management, land use, litigation, encroachment, values, expenditure and revenue flows.

13.2 INFRASTRUCTURE ASSETS

Infrastructure Assets will include all movable and immovable equipments and properties including water supply, drainage, sewerage, solid waste management, roads, street lighting etc. Unlike other assets of the municipality, these assets undergo constant use, wear and tear, addition, repair etc. This correspondingly changes their values and hence a constant value updating is necessary.

13.2.1 Movable and immovable assets

Water Supply

Bore wells with Hand pumps	-	300	nos
Public Fountains	-	146	nos
Bore wells with Power pumps	-	11	nos
H.S.C.s	-	7950	nos

OHTSs	-	5	nos
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Distribution line

Old scheme	-	52.65	km
------------	---	-------	----

New Scheme	-	5.62	km
------------	---	------	----

Public Convenience

Public Toilet unit	-	11	nos
--------------------	---	----	-----

ISP toilet	-	2	nos
------------	---	---	-----

Pay & Use toilet	-	2	nos
------------------	---	---	-----

Storm Water Drains

Total existing Drain	-	75.83	km
----------------------	---	-------	----

Solid Waste Management

Pushcart	-	40	nos
----------	---	----	-----

Lorry	-	4	nos
-------	---	---	-----

Mini lorry	-	5	nos
------------	---	---	-----

Roads

B T Road	-	38.685	km
----------	---	--------	----

C C Road	-	8.092	km
----------	---	-------	----

W B M Road	-	2.659	km
------------	---	-------	----

Earthen Road	-	8.457	km
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Bus Stand

No. of bus stands	-	1no. 'C' class bus stand with 19 bus bays	
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Street Lightings

Tube Lights	-	1509	nos
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Sodium Vapour lamps	-	331	nos
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Mercury Vapour lamps	-	15	nos
----------------------	---	----	-----

Automatic time switch	-	43	nos
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Parks & Play fields

Municipality parks	-	4	nos
--------------------	---	---	-----

Burial Grounds

No. of burial grounds - 3 nos

Slaughter house

No. of Slaughter house - 1 nos

Education

Elementary school - 8 nos

Middle and Elementary school - 3 nos

Medicare

Maternity center - 2 nos

Markets

No of markets - 1 nos

Daily Market - 2 nos

Permenant shop - 194 nos

13.3 PRIORITY ASSET MANAGEMENT OPTIONS

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 and Use toilets, etc are all remunerative. Non-remunerative assets of the municipality are the burial ground, public toilets, compost yard, parks and playfields etc,. The list of land assets are given in the table below:

Table 13-1: Land Assets – Proposed use

S.No	Location	Present use	Proposed use
1	Rajive Gandhi Nagar	Compost Yard	Compost Yard (Improvements proposed)
2	Sholingar road	Bus stand	Bus stand (Improvements proposed)
3	Gandhi park Vedhachalam park TNHB park Rathanachand nagar	Not efficiently used	Parks
4	Gandhi road	Daily Market	Daily market (Improvements proposed)
5	Old Bus Stand	Vacant land	Shopping Complex,

			Community hall & fish market (proposed)
6	Rathan chand nagar, Nehruji nagar and KalavariKandigai area	Vacant land	Heavy vehicle parking stand (proposed)
7	TNHB area	Vacant land	Car parking stand (proposed)
8	winterpet	Vacant land	Slaughter house treatment plant (proposed)
9	mosur road	Vacant land	New slaughter house with treatment (proposed)
10	Mosur road, Neruji nagar & Rajiv Gandhi nagar	Burial ground	Burial ground (improvement proposed)

Source: Survey, Analysis and discussion with municipal officials

Table 13-2: Income Details from Remunerative Assets

SI.No	Description	Income (Rs. in Lacs)
1	Rent on Shopping Complex	4.80
2	Rent on Building	0.75
3	Slughter House	0.2
4	Bus Stand – Bay fees	3.5
5	Pay & Use Toilet	1.5
6	Water charge	75
7	Water Connection charges	5.10
	Total	90.85

Table 13-3: Income from Proposed new Projects

S.No	Description	Income (Rs.in lakhs)
1	Parking	2
2	Gasifier Crematorium	2.5
3	Slaughter House	4
4	Fish & Vegetable market	20.64
5	Shopping Complex	21.6
6	Community Hall	12
7	Heavy vehicle & car parking	14.4

The suggestions for the improvement of land asset management are listed below:

1. Create land asset register listing all Municipal properties with the following data:
 - ◇ Survey number
 - ◇ Location
 - ◇ Ownership data
 - ◇ Date of acquisition
 - ◇ Extent in Sq.m
 - ◇ Present status
 - ◇ Rate per sq.m
2. Establishment of GIS inventory for Municipality lands.
3. Removal of encroachments on Municipal lands.
4. Alternatively, levy of rent on Encroached Municipal lands.
5. Use of land assets for borrowing loans from capital market.
6. Identifying the most remunerative activity by Public Private Participation, BOT, BOLT, BOOT initiatives.
7. Lease or rent out of land parcels for a specific period of time.
8. Asset creation by acquiring lands in peri-urban areas.

13.4 PROPOSED NEW ASSETS

Since every year there is an addition to such assets, an indication of the values is a must in calculating the present values and also projecting to the future. In the absence of any trend, the values of the structural assets have become difficult to be computed. However, the values of the proposed projects in the form of assets both for structural elements and certain movable items are indicated in the statement.

The assets creation by way of the projects proposed under CCCBP for implementation in the years to come are indicated with the capital investment values as in table below:

Table 13-4: New Assets for the year -2009-10 to 2013 -14

S.no.	Focus Area	Amount Rs in Lacs
1	Water supply	2215
2	Sewerage	3100
3	Sanitation	70
4	Solid waste management	754.30
5	Storm water drainage	658
6	Roads	941
7	Bus stand	185
8	Heavy vehicle parking (60 nos)	18

9	Car parking (150 nos)	20
10	Parking at Nehruji nagar and KalavariKandigai area	5
11	Street light	85.66
12	Park	46
13	Schools	288.25
14	Slaughter house	35
15	Market Renovation	50
	Shopping complex (120 nos)	100.5
	Fish market	50
	Community hall	45
16	Burial ground with gasifier	78
17	E-Governance & Mobile tax collection	50
18	Slum development	203
19	Mettur CWSS scheme	2658
	TOTAL	11655.75

14 FINANCIAL AND OPERATING PLAN

14.1 CAPITAL INVESTMENT PLAN

The proposed projects for Arakkonam Municipality taking in to account its resources and the existing shortfall in services are given below. The projects have been phased out taking in to account the time-span required for implementation of the project and the availability of the funds (loans, grants and municipality's own resources) for the same.

Table 14-1: Projects to be executed by the Municipality

S.No.	Particulars	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Total
A	Physical Infrastructure Facilities								
I	Water Supply								
	Improvements to Water Supply								
a)	Supply	1020.00	1195.00	-	-	-	-	-	2215.00
b)	Metur CWSS	-	-	-	-	-	1329.00	1329.00	2658.00
II	Sewerage & Sanitation								
a)	New Underground Sewerage Scheme	-	1200.00	1900.00	-	-	-	-	3100.00
III	Storm Water Drains								
a)	Construction of new drains and providing mesh covers	-	-	-	283.00	375.00	-	-	658.00
IV	Solid Waste Management								
a)	Cost of Land Fill site	56.30	-	-	-	-	-	-	56.30
b)	Land Fill site and compost yard development	-	199.00	244.00	-	-	-	-	443.00
c)	Vehicles & Equipment for primary and secondary colln	130.00	126.00	-	-	-	-	-	256.00
V	Roads								
a)	Roads Improvement	-	-	200.00	285.00	381.00	-	-	866.00
b)	Proposed New Roads	-	-	-	-	75.00	-	-	75.00
VI	Bus Stand								
a)	Upgradation to B Grade	-	150.00	-	-	-	-	-	150.00
b)	New Bus Shelters	15.00	20.00	-	-	-	-	-	35.00
c)	Heavy Vehicle & Car Parking	38.00	-	-	-	-	-	-	38.00
d)	Parking Kalavari Kandigai Area	-	-	-	-	5.00	-	-	5.00
VII	Street Lights								
a)	Proposed new lights & fittings	6.00	14.00	10.00	5.00	5.00	-	-	40.00
b)	Solar street lights (10 Nos.)	5.00	5.00	10.00	10.00	-	-	-	30.00
c)	Retrofitting existing lights & energy saving devices	7.00	8.66	-	-	-	-	-	15.66

B	Social Infrastructure Facilities								
I	Slum Improvement								
a)	Improvements to Slums	-	-	113.00	90.00	-	-	-	203.00
II	Education								
a)	Improvements to Schools	-	115.30	115.30	57.65	-	-	-	288.25
III	Parks & Playgrounds								
a)	Improvement of parks, construction of compound wall of	-	-	-	23.00	23.00	-	-	46.00
	for play ground & play equipments								
IV	Burial Ground / Crematorium								
a)	Burial Ground with Gasifier	11.00	11.00	56.00	-	-	-	-	78.00
V	Market								
a)	Improvement to fish market	-	50.00	-	-	-	-	-	50.00
b)	Renovation of Daily Market	50.00	-	-	-	-	-	-	50.00
c)	Shopping Complex at Old Bus Stand	100.50	-	-	-	-	-	-	100.50
d)	Community Hall at Old Bus Stand	-	45.00	-	-	-	-	-	45.00
VI	Slaughter House								
a)	Construction of Slaughter House with Treatment Plant	-	35.00	-	-	-	-	-	35.00
VII	Public Convenience								
a)	Public Convenience	20.00	20.00	30.00	-	-	-	-	70.00
C	Other Projects								
I	Vehicle								
a)	Mobile tax collection van	10.00	-	-	-	-	-	-	10.00
II	E-Governance								
a)	E-Governance	-	-	-	-	20.00	-	-	20.00
b)	GIS Mapping for Comprehensive Property Database	5.00	-	-	-	15.00	-	-	20.00
	Total	1473.80	3193.96	2678.30	753.65	899.00	1329.00	1329.00	11656.71

The initial building blocks of the Corporate Plan are the 'elements' required to sustain the town's growth; public utility, urban environment, economic and social development, land use and transportation, municipal resources, urban governance and capital facilities. The projects in the plan were developed through a consultative process carried out between the Local Body Officials, Council Staff and Elected Officials, Public Interest Groups, Project Stakeholders and the local citizens.

The projects have been prioritized in the following order :

- a) Water Supply
- b) Sewerage and Sanitation

- c) Solid Waste Management
- d) Storm Water Drains
- e) Urban Service for Poor (Slum Upgradation)
- f) Roads, traffic and transportation
- g) Street Lighting

14.2 OTHER PROJECTS AND ON GOING PROJECTS

The details of projects identified to be executed by other departments / agencies and the ongoing projects that are being executed by the Municipality are given below :

Table 14-2: Projects to be executed by Other Agencies

S.No	Particulars	Total	Funding By
I	Regional Level		
a)	Preparation of Updated Master Plan	0.00	DTCP / CMA
b)	Expedition of MAP Region Development Study	Study under progress	CII
c)	Extension of National Highway connecting Kanchipuram and Tiruttani	1150.00	NHAI
d)	Feasibility Study for Development of Industrial Corridor of Excellence connecting Chennai and Bengaluru	Study under progress	CII / NHAI
e)	Study for Development of expressway connectivity between Marakkanam - Arakkonam - Pulicat	5.00	NHAI
f)	Preparation of Regional Traffic Operation and Management Plan	12.00	Railway Authority
g)	Feasibility Study for Bullet Train between Chennai and Bengaluru	Long Term	Railway Authority
h)	Setting up Resource Center for Technology and Efficiency upgradation of industrial skills	30.00	TIDCO / Tech Edu Insts and Industries
II	Town Level		
a)	Feasibility study for Check Dam at Kallar River	1.00	Water Resources Dept GoTN / NGO
b)	Conservation of Water Bodies (Ambedkar Nagar Lake, Housing Board Colony Lake and Lake near New Bus Stand) and Irrigation Canal	60.00	Water Resources Dept GoTN / NGO
c)	Feasibility study for ROB / RUB near Railway Station	3.00	Southern Railway
d)	Realignment of Pumping Main at Kanchipuram Highway	35.00	TWAD Board
e)	ESCO Study	1.00	CMA / TNUIFSL,
f)	Awareness Campaign for NGOs on their roles and responsibilities in community development	5.00	Municipality
	Total	1302.00	

Table 14-3: Projects under Implementation by the Municipality

S.No	Particulars	Total Cost	Loan	Grant	Mun Cont.	Funding By
a)	Water Supply	845.00	-	760.50	84.50	0:90:10
b)	Road Work (5 Nos.)	28.85	-	28.85	-	100% Grant
c)	Ration Shop Building	2.50	-	2.50	-	100% Grant
d)	Noon Meal Center	2.50	-	2.50	-	100% Grant
e)	Compound Wall	4.00	-	4.00	-	100% Grant
	Total	882.85	0.00	798.35	84.50	

14.3 MEANS OF FINANCE

The means of finance for each individual project identified taking in to account whether the same is remunerative or non-remunerative and the availability of Grants from various sources is given below:

Table 14-4: Multi Year Investment Plan and Means of Finance

S.No.	Particulars	Multi Year Investment Plan							Total
		2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	
A	Physical Infrastructure Facilities								
1A	Improvements to Water Supply								
	Total Project Cost	1020.00	1195.00	-	-	-	-	-	2215.00
	Add : Price Inflation @ 7%	71.40	173.16	0.00	0.00	0.00	0.00	0.00	244.56
	Total	1091.40	1368.16	0.00	0.00	0.00	0.00	0.00	2459.56
	Means of Finance								
	TNUISL Loan	709.41	889.30	0.00	0.00	0.00	0.00	0.00	1598.71
	Grant	327.42	410.45	0.00	0.00	0.00	0.00	0.00	737.87
	Municipality Own Funds	54.57	68.41	0.00	0.00	0.00	0.00	0.00	122.98
	Total	1091.40	1368.16	0.00	0.00	0.00	0.00	0.00	2459.56
1B	Metur CWSS								
	Total Project Cost	-	-	-	-	-	1329.00	1329.00	2658.00
	Add : Price Inflation @ 7%	0.00	0.00	0.00	0.00	0.00	665.47	805.08	1470.55
	Total	0.00	0.00	0.00	0.00	0.00	1994.47	2134.08	4128.55
	Means of Finance								
	Grant	0.00	0.00	0.00	0.00	0.00	1994.47	2134.08	4128.55
	Total	0.00	0.00	0.00	0.00	0.00	1994.47	2134.08	4128.55
2	Sewerage								
	Total Project Cost	-	1200.00	1900.00	-	-	-	-	3100.00
	Add : Price Inflation @ 7%	0.00	173.88	427.58	0.00	0.00	0.00	0.00	601.46
	Total	0.00	1373.88	2327.58	0.00	0.00	0.00	0.00	3701.46
	Means of Finance								

	TNUIFSL Loan	0.00	824.33	1396.55	0.00	0.00	0.00	0.00	2220.88
	Grant	0.00	412.16	698.27	0.00	0.00	0.00	0.00	1110.44
	Municipality Own Funds	0.00	137.39	232.76	0.00	0.00	0.00	0.00	370.15
	Total	0.00	1373.88	2327.58	0.00	0.00	0.00	0.00	3701.46
3	Storm Water Drains								
	Total Project Cost	-	-	-	283.00	375.00	-	-	658.00
	Add : Price Inflation @ 7%	0.00	0.00	0.00	87.96	150.96	0.00	0.00	238.91
	Total	0.00	0.00	0.00	370.96	525.96	0.00	0.00	896.91
	Means of Finance								
	TNUIFSL Loan	0.00	0.00	0.00	222.57	315.57	0.00	0.00	538.15
	Grant	0.00	0.00	0.00	111.29	157.79	0.00	0.00	269.07
	Municipality Own Funds	0.00	0.00	0.00	37.10	52.60	0.00	0.00	89.69
	Total	0.00	0.00	0.00	370.96	525.96	0.00	0.00	896.91
4A	SWM - Cost of Land Fill Site								
	Total Project Cost	56.30	-	-	-	-	-	-	56.30
	Add : Price Inflation @ 7%	3.94	0.00	0.00	0.00	0.00	0.00	0.00	3.94
	Total	60.24	0.00	0.00	0.00	0.00	0.00	0.00	60.24
	Means of Finance								
	Municipality Own Funds	60.24	0.00	0.00	0.00	0.00	0.00	0.00	60.24
	Total	60.24	0.00	0.00	0.00	0.00	0.00	0.00	60.24
4B	SWM - Land Fill site & compost yard devt								
	Total Project Cost	-	199.00	244.00	-	-	-	-	443.00
	Add : Price Inflation @ 7%	0.00	28.84	54.91	0.00	0.00	0.00	0.00	83.75
	Total	0.00	227.84	298.91	0.00	0.00	0.00	0.00	526.75
	Means of Finance								
	Municipality Own Funds	0.00	227.84	298.91	0.00	0.00	0.00	0.00	526.75
	Total	0.00	227.84	298.91	0.00	0.00	0.00	0.00	526.75
4C	SWM - Vehicles & Equipments								
	Total Project Cost	130.00	126.00	-	-	-	-	-	256.00
	Add : Price Inflation @ 7%	9.10	18.26	0.00	0.00	0.00	0.00	0.00	27.36
	Total	139.10	144.26	0.00	0.00	0.00	0.00	0.00	283.36
	Means of Finance								
	Grant	69.55	72.13	0.00	0.00	0.00	0.00	0.00	141.68
	Municipality Own Funds	69.55	72.13	0.00	0.00	0.00	0.00	0.00	141.68
	Total	139.10	144.26	0.00	0.00	0.00	0.00	0.00	283.36
5A	Roads - Improvements to BT & CC Roads								
	Total Project Cost	-	-	200.00	285.00	381.00	-	-	866.00
	Add : Price Inflation	0.00	0.00	45.01	88.58	153.37	0.00	0.00	286.96

	@ 7%								
	Total	0.00	0.00	245.01	373.58	534.37	0.00	0.00	1152.96
	Means of Finance								
	TNUIFSL Loan	0.00	0.00	147.01	224.15	320.62	0.00	0.00	691.77
	Grant	0.00	0.00	73.50	112.07	160.31	0.00	0.00	345.89
	Municipality Own Funds	0.00	0.00	24.50	37.36	53.44	0.00	0.00	115.30
	Total	0.00	0.00	245.01	373.58	534.37	0.00	0.00	1152.96
5B	Roads - Proposed New Roads								
	Total Project Cost	-	-	-	-	75.00	-	-	75.00
	Add : Price Inflation @ 7%	0.00	0.00	0.00	0.00	30.19	0.00	0.00	30.19
	Total	0.00	0.00	0.00	0.00	105.19	0.00	0.00	105.19
	Means of Finance								
	TNUIFSL Loan	0.00	0.00	0.00	0.00	63.11	0.00	0.00	63.11
	Grant	0.00	0.00	0.00	0.00	31.56	0.00	0.00	31.56
	Municipality Own Funds	0.00	0.00	0.00	0.00	10.52	0.00	0.00	10.52
	Total	0.00	0.00	0.00	0.00	105.19	0.00	0.00	105.19
6A	Bus Stand - Upgradation								
	Total Project Cost	-	150.00	-	-	-	-	-	150.00
	Add : Price Inflation @ 7%	0.00	21.74	0.00	0.00	0.00	0.00	0.00	21.74
	Total	0.00	171.74	0.00	0.00	0.00	0.00	0.00	171.74
	Means of Finance								
	TNUIFSL Loan	0.00	154.56	0.00	0.00	0.00	0.00	0.00	154.56
	Municipality Own Funds	0.00	17.17	0.00	0.00	0.00	0.00	0.00	17.17
	Total	0.00	171.74	0.00	0.00	0.00	0.00	0.00	171.74
6B	Bus Shelters								
	Total Project Cost	15.00	20.00	-	-	-	-	-	35.00
	Add : Price Inflation @ 7%	1.05	2.90	0.00	0.00	0.00	0.00	0.00	3.95
	Total	16.05	22.90	0.00	0.00	0.00	0.00	0.00	38.95
	Means of Finance								
	Grant	16.05	22.90	0.00	0.00	0.00	0.00	0.00	38.95
	Total	16.05	22.90	0.00	0.00	0.00	0.00	0.00	38.95
6C	Heavy Vehicle & Car Parking								
	Total Project Cost	38.00	-	-	-	-	-	-	38.00
	Add : Price Inflation @ 7%	2.66	0.00	0.00	0.00	0.00	0.00	0.00	2.66
	Total	40.66	0.00	0.00	0.00	0.00	0.00	0.00	40.66
	Means of Finance								
	BOOT	40.66	0.00	0.00	0.00	0.00	0.00	0.00	40.66
	Total	40.66	0.00	0.00	0.00	0.00	0.00	0.00	40.66
6D	Parking at Kalavari Kandigai Area								
	Total Project Cost	-	-	-	-	5.00	-	-	5.00

	Add : Price Inflation @ 7%	0.00	0.00	0.00	0.00	2.01	0.00	0.00	2.01
	Total	0.00	0.00	0.00	0.00	7.01	0.00	0.00	7.01
	Means of Finance								
	Municipality Own Funds	0.00	0.00	0.00	0.00	7.01	0.00	0.00	7.01
	Total	0.00	0.00	0.00	0.00	7.01	0.00	0.00	7.01
7A	Street Lights - New								
	Total Project Cost	6.00	14.00	10.00	5.00	5.00	-	-	40.00
	Add : Price Inflation @ 7%	0.42	2.03	2.25	1.55	2.01	0.00	0.00	8.27
	Total	6.42	16.03	12.25	6.55	7.01	0.00	0.00	48.27
	Means of Finance								
	Municipality Own Funds	6.42	16.03	12.25	6.55	7.01	0.00	0.00	48.27
	Total	6.42	16.03	12.25	6.55	7.01	0.00	0.00	48.27
7B	Street Lights - Solar Lights								
	Total Project Cost	5.00	5.00	10.00	10.00	-	-	-	30.00
	Add : Price Inflation @ 7%	0.35	0.72	2.25	3.11	0.00	0.00	0.00	6.43
	Total	5.35	5.72	12.25	13.11	0.00	0.00	0.00	36.43
	Means of Finance								
	Grant	4.01	4.29	9.19	9.83	0.00	0.00	0.00	27.32
	Municipality Own Funds	1.34	1.43	3.06	3.28	0.00	0.00	0.00	9.11
	Total	5.35	5.72	12.25	13.11	0.00	0.00	0.00	36.43
7C	Retrofitting existing & energy saving devices								
	Total Project Cost	7.00	8.66	-	-	-	-	-	15.66
	Add : Price Inflation @ 7%	0.49	1.25	0.00	0.00	0.00	0.00	0.00	1.74
	Total	7.49	9.91	0.00	0.00	0.00	0.00	0.00	17.40
	Means of Finance								
	ESCO	7.49	9.91	0.00	0.00	0.00	0.00	0.00	17.40
	Total	7.49	9.91	0.00	0.00	0.00	0.00	0.00	17.40
B	Social Infrastructure Facilities								
1	Slum Improvement								
	Total Project Cost	-	-	113.00	90.00	-	-	-	203.00
	Add : Price Inflation @ 7%	0.00	0.00	25.43	27.97	0.00	0.00	0.00	53.40
	Total	0.00	0.00	138.43	117.97	0.00	0.00	0.00	256.40
	Means of Finance								
	100% Grant	0.00	0.00	124.59	106.17	0.00	0.00	0.00	230.76
	Municipality Own Funds	0.00	0.00	13.84	11.80	0.00	0.00	0.00	25.64
	Total	0.00	0.00	124.59	106.17	0.00	0.00	0.00	230.76
2	Education								
	Total Project Cost	-	115.30	115.30	57.65	-	-	-	288.25
	Add : Price Inflation	0.00	16.71	25.95	17.92	0.00	0.00	0.00	60.57

	@ 7%								
	Total	0.00	132.01	141.25	75.57	0.00	0.00	0.00	348.82
	Means of Finance								
	Municipality Own Funds	0.00	132.01	141.25	75.57	0.00	0.00	0.00	348.82
	Total	0.00	132.01	141.25	75.57	0.00	0.00	0.00	348.82
3	Parks & Playgrounds								
	Total Project Cost	-	-	-	23.00	23.00	-	-	46.00
	Add : Price Inflation @ 7%	0.00	0.00	0.00	7.15	9.26			16.41
	Total	0.00	0.00	0.00	30.15	32.26			62.41
	Means of Finance								
	Grant	0.00	0.00	0.00	15.07	16.13	0.00	0.00	31.20
	Municipality Own Funds	0.00	0.00	0.00	15.07	16.13	0.00	0.00	31.20
	Total	0.00	0.00	0.00	30.15	32.26	0.00	0.00	62.41
4	Burial Ground / Crematorium								
	Total Project Cost	11.00	11.00	56.00	-	-	-	-	78.00
	Add : Price Inflation @ 7%	0.77	1.59	12.60	0.00	0.00	0.00	0.00	14.97
	Total	11.77	12.59	68.60	0.00	0.00	0.00	0.00	92.97
	Means of Finance								
	Grant	5.89	6.30	34.30	0.00	0.00	0.00	0.00	46.48
	Municipality Own Funds	5.89	6.30	34.30	0.00	0.00	0.00	0.00	46.48
	Total	11.77	12.59	68.60	0.00	0.00	0.00	0.00	92.97
5A	Market - Imp to Fish Market								
	Total Project Cost	-	50.00	-	-	-	-	-	50.00
	Add : Price Inflation @ 7%	0.00	7.25	0.00	0.00	0.00	0.00	0.00	7.25
	Total	0.00	57.25	0.00	0.00	0.00	0.00	0.00	57.25
	Means of Finance								
	BOOT	0.00	57.25	0.00	0.00	0.00	0.00	0.00	57.25
	Total	0.00	57.25	0.00	0.00	0.00	0.00	0.00	57.25
5B	Market - Renovation of Daily Market								
	Total Project Cost	50.00	-	-	-	-	-	-	50.00
	Add : Price Inflation @ 7%	3.50	0.00	0.00	0.00	0.00	0.00	0.00	3.50
	Total	53.50	0.00	0.00	0.00	0.00	0.00	0.00	53.50
	Means of Finance								
	BOOT	53.50	0.00	0.00	0.00	0.00	0.00	0.00	53.50
	Total	53.50	0.00	0.00	0.00	0.00	0.00	0.00	53.50
5C	Market - Shopping Complex at old Bus Stand								
	Total Project Cost	100.50	-	-	-	-	-	-	100.50
	Add : Price Inflation @ 7%	7.04	0.00	0.00	0.00	0.00	0.00	0.00	7.04

	Total	107.54	0.00	0.00	0.00	0.00	0.00	0.00	107.54
	Means of Finance								
	BOOT	107.54	0.00	0.00	0.00	0.00	0.00	0.00	107.54
	Total	107.54	0.00	0.00	0.00	0.00	0.00	0.00	107.54
5D	Market - Community Hall								
	Total Project Cost	-	45.00	-	-	-	-	-	45.00
	Add : Price Inflation @ 7%	0.00	6.52	0.00	0.00	0.00	0.00	0.00	6.52
	Total	0.00	51.52	0.00	0.00	0.00	0.00	0.00	51.52
	Means of Finance								
	BOOT	0.00	51.52	0.00	0.00	0.00	0.00	0.00	51.52
	Total	0.00	51.52	0.00	0.00	0.00	0.00	0.00	51.52
6	Slaughter House								
	Total Project Cost	-	35.00	-	-	-	-	-	35.00
	Add : Price Inflation @ 7%	0.00	5.07	0.00	0.00	0.00	0.00	0.00	5.07
	Total	0.00	40.07	0.00	0.00	0.00	0.00	0.00	40.07
	Means of Finance								
	Grant	0.00	20.04	0.00	0.00	0.00	0.00	0.00	20.04
	Municipality Own Funds	0.00	20.04	0.00	0.00	0.00	0.00	0.00	20.04
	Total	0.00	40.07	0.00	0.00	0.00	0.00	0.00	40.07
7	Public Convenience								
	Total Project Cost	20.00	20.00	30.00	-	-	-	-	70.00
	Add : Price Inflation @ 7%	1.40	2.90	6.75	0.00	0.00	0.00	0.00	11.05
	Total	21.40	22.90	36.75	0.00	0.00	0.00	0.00	81.05
	Means of Finance								
	Grant	10.70	11.45	18.38	0.00	0.00	0.00	0.00	40.52
	Municipality Own Funds	10.70	11.45	18.38	0.00	0.00	0.00	0.00	40.52
	Total	21.40	22.90	36.75	0.00	0.00	0.00	0.00	81.05
C	Other Projects								
1	Mobile tax collection van								
	Total Project Cost	10.00	-	-	-	-	-	-	10.00
	Add : Price Inflation @ 7%	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.70
	Total	10.70	0.00	0.00	0.00	0.00	0.00	0.00	10.70
	Means of Finance								
	Municipality Own Funds	10.70	0.00	0.00	0.00	0.00	0.00	0.00	10.70
	Total	10.70	0.00	0.00	0.00	0.00	0.00	0.00	10.70
2A	E-Governance								
	Total Project Cost	-	-	-	-	20.00	-	-	20.00
	Add : Price Inflation @ 7%	0.00	0.00	0.00	0.00	8.05	0.00	0.00	8.05
	Total	0.00	0.00	0.00	0.00	28.05	0.00	0.00	28.05
	Means of Finance								
	Grant	0.00	0.00	0.00	0.00	28.05	0.00	0.00	28.05

	Total	0.00	0.00	0.00	0.00	28.05	0.00	0.00	28.05
2B	GIS Mapping								
	Total Project Cost	5.00	-	-	-	15.00	-	-	20.00
	Add : Price Inflation @ 7%	0.35	0.00	0.00	0.00	6.04	0.00	0.00	6.39
	Total	5.35	0.00	0.00	0.00	21.04	0.00	0.00	26.39
	Means of Finance								
	Grant	4.82	0.00	0.00	0.00	18.93	0.00	0.00	23.75
	Municipality Own Funds	0.54	0.00	0.00	0.00	2.10	0.00	0.00	2.64
	Total	4.82	0.00	0.00	0.00	18.93	0.00	0.00	23.75

The consolidated 'Means of Finance' for all the projects put-together is summarized below :

Table 14-5: Consolidated Means of Finance

		Multi Year Investment Plan							
S.No.	Particulars	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Total
I	Project Cost								
	Total Project Cost	1473.80	3193.96	2678.30	753.65	899.00	1329.00	1329.00	11656.71
	Add : Price Inflation @ 7%	103.17	462.80	602.73	234.23	361.89	665.47	805.08	3235.38
	Total	1576.97	3656.76	3281.03	987.88	1260.89	1994.47	2134.08	14892.09
II	Means of Finance								
	Municipality Own Funds	219.94	710.18	779.25	186.72	148.81	0.00	0.00	2044.90
	(including Deposits from Public)								
	Grant	438.43	959.71	958.23	354.44	412.77	1994.47	2134.08	7252.14
	TNUJFSL Loan	709.41	1868.19	1543.55	446.72	699.31	0.00	0.00	5267.19
	BOOT / Private Sector	209.19	118.68	0.00	0.00	0.00	0.00	0.00	327.87
	Total	1576.97	3656.76	3281.03	987.88	1260.89	1994.47	2134.08	14892.09

14.4 FINANCIAL SUSTAINABILITY

The sustainability analysis assumes that the Municipality will carry out reforms indicated as assumptions for financial projections. A Financial and Operating Plan (FOP) prepared which evaluates the Municipality Fund status for the Full Project scenario.

The FOP is a cash flow stream of the ULB based on the regular Municipality 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 5 years investment from FY 2009-10 to FY 2013-14.

The full project investment scenario is based on all the proposed investments identified for Arakkonam Municipality and the requirement for upgrading the town's infrastructure is estimated and phased based on the construction activity. 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 of the existing operations are applied to the sub-project cash flows emerging from full project investments – the Municipality fund net surpluses indicates the ULB's ability to sustain full investments.

FY 2009-10 is taken as the base year and FY 2028-29 is assumed as the reference year (20 years) 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.

14.5 BASIC ASSUMPTIONS FOR PROJECTIONS :

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 Municipality fiscal situation. This section elucidated the key assumptions adopted for the FOP scenario.

The growth rates for the various heads of income and expenditure have been arrived based on the past growth rates and the future estimated population growth. Improvements to the existing current and arrears collection percentages have been assumed for the various revenues directly collected by the Municipality, which implies that the Municipality would have to improve its collection mechanism to sustain full investments.

Given below are the various assumptions forming part of the FOP workings :

14.5.1 Income

a) Property Tax

The population of Arakkonam Municipality is estimated to grow at around 2.25% p.a. Based on the same Property Tax Revenue are assumed to increase @ 2.25% per annum. The last revision of Property Tax was carried out on 1-10-98 and it is assumed that the next revision will be carried out in the current year. It is assumed that there will be an increase of 25% due to revision in 2008-09 & that revision would be done @ 15% every 5 years.

It has also been established as per the Survey in 2002 that around 27% of the properties are unassessed and further 20-25% of the properties are unassessed. Considering the above, it is assumed that the same shall be set right and together these shall contribute to increase in property tax revenue by 15% from next year viz. 2009-10 on account of GIS mapping.

The Property Tax income is divided between Revenue, Water Supply and Education Fund in the following ratio:

Table 14-6: Ratio of Property Tax

	Per Annum		
General	7.000%)	
Scavanging	1.500%	)	Revenue & Capital Fund
Lighting	2.000%)	
Water Tax	2.000%	}	Water Supply & Drainage Fund
Drainage		}	
Education	2.500%	]	Education Fund
Total	15.000%		

b) Profession tax

Income from Profession Tax is assumed to increase @ 1.5% per annum. The Profession Tax was last revised on 1.10.2003 and the next revision is due in 2008-09. It is assumed that every revision would contribute to 15% increase.

Besides, the profession tax base would be increased by carrying out survey in 2010-11. It is assumed that the survey would result in increase in profession tax base by 20% in 2010-11.

c) Assigned revenue

Assigned Revenue comprises Entertainment Tax and Surcharge on Stamp Duty. It is assumed the same shall increase as under :

Duty on Transfer of Property : 5%

Entertainment Tax : 2.5%

d) Devolution Fund

Devolution Fund is also assumed to increase by 7.5% per annum

e) Service charges and fees

Service Charges and Fees are assumed to increase @ 5% per annum

f) Grant and Contribution

No Grant has been assumed in the financial projections.

g) Sales and Hire charges

Nil income assumed from Sales & Hire Charges.

h) Other Income

Other Income comprising basically fees and other rental income are assumed to increase @ 5% per annum.

i) Water Supply Charges

The present connection charges/deposit and tariff for water are as below :

Table 14-7: Water supply Charges – Existing

Type of service connections	Connection	Tariff/Per Month
Residential	Rs.3000	Rs.50.00
Commercial	Rs.6000	Rs.100.00
Industrial	Rs.6000	Rs.100.00

It is assumed that after completion of water supply improvements work, the house service connections will be equal to 90% of property tax assessments.

The water charges shall be revised as below :

Residential - Rs.75.00 p.m

Commercial - Rs.150.00 p.m

Industrial - Rs. 200.00 p.m.

It is also assumed that the water connection charges shall be revised as under :

Residential - Rs.4000

Commercial - Rs.8000

Industrial - Rs.10000

It is assumed that water charges shall be increased as below every 5 years :

Residential - Rs.15.00 p.m

Commercial & industrial – Rs.25.00 p.m

It is assumed that water connection charges shall increase every 5 years as below :

Residential - Rs.1000

Commercial & industrial – Rs.2000

The house service connection as % of property tax assessments is as below:

Table 14-8: House Service Connections – Percentage

Year 2004-05	Property tax assessments	House service connections	%
Residential	8969	7145	80%
Commercial	1043	53	5%
Industrial & Govt.	12	2	17%

The improvements in water supply shall result in increase in operation & maintenance by Rs.33.00 lakhs per annum and the same shall increase @ 5% per annum.

On implementation of Metur CWSS, the O&M charges shall increase by Rs. 91 lacs and the same shall increase @ 5% p.a.

j) Drainage Charges

The Municipality does not have Under Ground Sewerage System. A new underground sewerage system is proposed to be built at a cost of Rs.3100 lakhs. The implementation period is 2 years starting from 2010-11 to 2011-12. On completion of the scheme, it is assumed that around 70% of the property tax assessments would have sewerage connection. It is assumed that the scheme shall be completed as below :

2010-11	40%
2011-12	60%

The Deposits and Charges shall be collected accordingly.

It is assumed that the sewerage charges will be collected as below :

Table 14-9: Sewage Charges

Assessments	Deposits (in Rs)	Tariff (in Rs)
Residential	5000	75
Commercial	8000	150
Industrial	10000	300

The new connection charges and tariff have been taken on average basis. It is assumed that the drainage charges shall be increased every 5 years as below :

Residential - Rs.15/-

Commercial & industrial – Rs.25/-

It is assumed that the connection charges shall be increased every 5 years as below:

Residential - Rs.1000/-

Commercial – Rs.2000/-

Industrial - Rs.3000/-

The O&M charges shall be Rs.95.00 lakhs per annum and the same shall increase @ 5% per annum.

k) Solid waste Management

It has been estimated that solid waste generation per day shall be around 33 MTs. 1/3rd out of the same shall comprise Bio-degradable waste and the manure generation would be 1/3rd of the same. Thus the estimated saleable manure generation per day would be 3.67 MTs. The same shall increase @ 5% per annum.

The revenue from solid waste disposal shall be Rs.1000.00 per MT. The same shall increase by Rs.100.00 every 5 years. The number of assets covered by solid waste management scheme shall be equal to 70% of property tax assessments. The conservancy fees collected shall be as below to be collected after 5 years :

Domestic - Rs.10.00 per month

Commercial - Rs.20.00 per month

Industrial/Government - Rs.30.00 per month

The same shall increase as below every 5 years ;

Domestic - Rs.5.00/-

Commercial/ Industrial/Government - Rs.10.00/-

The cost of the scheme is Rs.755.00 lakhs and the O&M cost shall be equal to around Rs. 37.72 lacs per annum. The same shall increase @ 5% per annum.

l) Bus Stand

Improvements to Bus Stand by upgradation to B Grade and construction of new bus shelters shall be undertaken for Rs. 150 lacs. It is estimated that the new bus stand shall increase the revenue from Bus stand to the Municipality by 25% and the same shall increase @ 5% per annum.

The O&M charges of the Bus Stand shall amount to Rs. 1.75 lacs per annum. The same shall increase @ 5% per annum.

Besides, heavy vehicle and four wheeler car parking area shall be constructed near the Bus Stand as given below :

Heavy Vehicle	60 Lots	Rs. 25/- per day	100 vehicles per day
Four Wheeler Car parking	150 Lots	Rs. 10/- per day	150 vehicles per day

The same shall increase by 15% every 3 years. The O&M charges of the Bus Stand shall amount to Rs. 0.25 lacs per annum. The same shall increase @ 5% per annum.

The parking area shall be constructed on BOOT Basis and the income from parking area shall accrue to the Municipality for the first 7 years and thereafter to the Municipality.

m) Market

Improvements to Fish Market shall be carried out at a cost of Rs. 50 lacs. The same shall result in increase in number of shops by 50 Nos. The rent from the shops shall be Rs. 700/- per month and the same shall increase @ 15% every 3 years.

Improvements to Vegetable Market shall be carried out at a cost of Rs. 50 lacs. The same shall result as below :

Small Shops	160 Nos.	Rs. 700 per month
Big Shops	30 Nos.	Rs. 2000 per month

The same shall increase @ 15% every 3 years.

The O&M charges shall be as below :

Fish market	Rs. 1.50 lacs
Vegetable market	Rs. 1.50 lacs

The same shall increase @ 5% per annum.

The markets shall be carried out on BOOT basis and the same shall accrue to the BOOT operator for the first 10 years and thereafter to the Municipality.

n) Remunerative Projects

The Shopping Complex & Community Hall shall be constructed on BOOT basis. The total project cost of the same shall be as below :

Shopping Complex	Rs. 100.50 lacs	120 shops
Community Hall	Rs. 45.00 lacs	
Total	Rs. 145.50 lacs	

The income from the same shall be as below :

Shopping Complex	Rs. 1500/- p.m.
Community Hall	Rs. 100000/- p.m.

The same shall increase by 15% every 3 years.

The operation & maintenance expenses shall be as below :

Shopping Complex	Rs. 3.015 lacs per annum
Community Hall	Rs. 1.35 lacs per annum

The operation & maintenance shall increase @ 5% per annum.

The project shall be executed on BOOT basis and the income from the project shall be to the account of BOOT Operator for a period of 15 years and thereafter to the Municipality.

o) Slaughter House

The income from Slaughter House shall increase to Rs. 4.00 lacs per annum after completion of renovation. The same shall increase @ 5% per annum every year.

The expenses of Slaughter House shall be Rs. 1.05 lacs per annum and the same shall also increase @ 5% per annum.

p) Gasifier Crematorium

The income from Gasifier Crematorium shall be Rs. 2.50 lac per annum. The same shall increase @ 3% per annum every year.

The expenses of Burial Ground shall be Rs. 2.34 lac per annum and the same shall also increase @ 5% per annum.

q) Advertisements

Bill Boards would be put at 20 places through out the Municipality. Rent shall be earned @ Rs.500.00 per Bill board per month. The rent shall increase @ Rs. 100/- every 3 years.

r) Parking Fees

Parking Lots would be developed and income from parking is estimated at Rs.2.00 lakhs per annum. The same would increase @ 3% per annum.

14.5.2 Expenditure

a) Increase in Expenditure

The expenses are assumed to increase as under :

Table 14-10: Assumptions - Increase in Expenditure

Personnel Cost - Salaries	3.00%
Personnel Cost – Others	10.00%
Terminal & Retirement Benefits	10.00%
Operative Expenses	7.50%
Repairs & Maintenance	7.50%
Program Expenses	2.50%
Administrative Expenses	10.00%

b) Operation and Maintenance

The additional operation & maintenance expenses to be incurred are as below:

Table 14-11: Assumptions – O&M

Ongoing Projects	Rs. in lakhs
Roads	1.44
Building	0.45
New Projects (other than Sewerage & Water supply)	Rs. in lakhs
Storm Water Drains	32.90
Solid Waste Management	37.72
Roads	54.55
Bus Stand and parking	2.00
Bus Shelters	1.90
Street Lights	4.28
Slum Improvement	6.09
Education	8.65
Parks	1.38
Slaughter House	1.05
Public Convenience	2.10
Burial Ground / Crematorium	2.34
E-Governance	1.20
Mobile Van	0.50
Total	158.56

The same shall increase @ 5% per annum.

c) Power charges

There will be a savings of around 40% in power charges due to installation of energy saving lights. As the same will be installed by private players, the savings in power charges have been factored in the financial projections after 15 years. It is assumed that the savings in power charges would be utilised towards returns of the private player towards capital cost and interest.

d) Interest

Interest on loan have been provided based on the sanction rate for each loan. Repayment of loans are based on the repayment schedule of each loan.

Sewerage & Water Supply Loan

It is assumed that all new loan shall carry interest rate of 9.5% per annum.

The loan from TNUIFSL shall be repaid over a period of 20 years with 5 years moratorium.

Other Projects Loan

It is assumed that all new loan shall carry interest rate of 9.5% per annum.

The loan from TNUIFSL shall be repaid over a period of 10 years with 2 years moratorium.

e) Depreciation

Depreciation is provided based on the rates adopted by the Municipality for previous years.

f) Provision of doubtful debts

Doubtful debts have been provided as under :

Table 14-12: Assumptions – Provision of doubtful debts

Provision for Doubtful Debts is assumed @	2%	on total revenue for Revenue Fund
Provision for Doubtful Debts is assumed @	1%	on total revenue for Water Fund
Provision for Doubtful Debts is assumed @	0%	on total revenue for Education Fund

14.5.3 Collections**a) Property tax****Table 14-13: Assumptions – Property tax collection**

The current property tax collection is	64%	The same shall improve over the next 5 years.	90%
The arrears property tax collection is	23%	The same shall improve over the next 5 years.	50%

b) Profession tax**Table 14-14: Assumptions – Profession tax**

The current profession tax collection is	87%	The same shall improve over the next 5 years.	95%
The arrears profession tax collection is	6%	The same shall improve over the next 5 years.	40%

c) Other Non Tax Income**Table 14-15: Assumptions– Other Non Tax Income**

The current rental / lease collection is	64%	The same shall be over the next 5 years.	90%
The arrears collection % of rent / lease is	5%	The same shall improve over the next 5 years.	40%

d) Water Charges**Table 14-16: Assumptions– Water Charges**

The current water charges collection is	75%	The same shall improve over the next 5 years.	95%
The arrears water charges collection is	32%	The same shall improve over the next 5 years.	70%

e) Drainage Charges**Table 14-17: Assumptions– Drainage Charges**

The current drainage collection is	Nil	The same shall be over the next 5 years.	80%
The arrears drainage collection is	Nil	The same shall be over the next 5 years.	60%

f) Other income

The collection % of all other income is taken at 100%

g) Others

The collection % of all other items of income is taken at 100%

H) Annuity Factor

The Annuity Factor for the new loans works out as under :

Table 14-18: Terms of Loan Funding for Proposed Investments

Tenor	20 years	10 years
Interest Rate	9.50%	9.50
Repayment Period	15 years	8 years
Moratorium	5 years	2 years
Repayment Factor	0.13	0.18
Conversion Factor Calculation		
a. Rate of Interest	9.5%	9.5%

b. Repayment Period	15	8
c. Loan Amount	25.00	12.00
Conversion Factor	3.19	2.21
Total Conversion Factor	5.40	

Note : Water Supply & Sewerage Loan works out to 25% of total project cost identified. Other Loans works out to 12% of total project cost identified.

14.6 PROJECT CASH FLOWS AND FOP RESULTS

Detailed cash flows are worked out for each of the sub projects based on the assumptions with regards investment phasing, financing pattern, additional operation and maintenance expenditure and additional income out to proposed capital investments for the full project scenario. The net project cash flows are then loaded on the existing revenues to test their impact on the overall Municipality fiscal situation.

a) Income and Expenditure projections

Table 14.19 captures the Income and Expenditure projections for the next 20 years with potential improvements and borrowings :

Table 14-19: Consolidated Income & Expenditure for next 20 years (up to FY 2028-29)

S.No	Particulars	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
I	Income											
a)	Property Tax	107.31	134.14	154.26	157.73	161.28	164.91	189.65	193.91	198.28	202.74	207.30
b)	Other Taxes	24.16	27.78	28.20	33.84	34.34	34.86	40.09	40.69	41.30	41.92	42.55
c)	Assigned Revenue	45.30	47.52	49.84	52.28	54.84	57.53	60.34	63.30	66.41	69.67	73.09
d)	Devolution Fund	242.64	260.84	280.40	301.43	324.04	348.34	374.46	402.55	432.74	465.20	500.09
e)	Service Charges & Fees	62.16	62.41	71.25	71.66	127.36	211.38	220.29	241.03	250.77	280.72	309.44
f)	Grants & Contribution	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
g)	Sale & Hire Charges	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
h)	Other Income	12.60	13.24	17.07	17.83	50.43	53.03	57.97	60.69	63.75	82.67	114.95
	Total Income	494.16	545.92	601.02	634.77	752.29	870.05	942.81	1002.18	1053.25	1142.91	1247.42
II	Expenditure											
a)	Personnel Salaries Cost	168.76	173.82	179.03	184.40	181.24	186.68	192.28	198.04	203.99	210.11	216.41
b)	Personnel Cost - Others	2.51	2.76	3.03	3.34	3.67	4.04	4.44	4.89	5.38	5.91	6.51
b)	Terminal & Ret Benefits	34.29	37.72	41.49	45.64	50.20	55.22	60.74	66.82	73.50	80.85	88.93
c)	Operating Expenses	51.80	57.58	112.72	170.06	260.74	370.50	390.89	412.43	435.20	550.27	580.27
d)	Repairs & Maintenance	60.73	59.67	71.40	70.69	84.09	83.87	99.22	99.65	117.28	118.56	138.84
e)	Program Expenses	0.80	0.82	0.84	0.86	0.88	0.90	0.93	0.95	0.97	1.00	1.02
f)	Administration Expenses	25.15	27.67	30.43	33.48	36.82	40.51	44.56	49.01	53.91	59.30	65.24
g)	Finance Expenses	19.92	13.87	80.45	257.03	404.74	447.75	512.75	505.22	483.19	447.69	408.12
h)	Depreciation	89.66	85.69	109.21	178.42	290.90	456.57	654.17	718.07	637.80	569.28	498.81
	Surplus / (Deficit)	40.54	86.32	(27.59)	(309.14)	(561.00)	(775.99)	(1017.16)	(1052.90)	(957.96)	(900.06)	(756.73)
	Profit before Depreciation	130.21	172.02	81.63	-130.72	-270.10	-319.42	-362.99	-334.83	-320.16	-330.78	-257.92

S.No	Particulars	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
I	Income											
a)	Property Tax	238.39	243.76	249.24	254.85	260.58	299.67	306.41	313.31	320.36	327.56	376.70
b)	Other Taxes	48.93	49.66	50.41	51.17	51.93	59.72	60.62	61.53	62.45	63.39	72.90
c)	Assigned Revenue	76.68	80.45	84.40	88.55	92.91	97.48	102.28	107.32	112.61	118.16	123.98
d)	Devolution Fund	537.59	577.91	621.25	667.85	717.94	771.78	829.67	891.89	958.78	1030.69	1107.99
e)	Service Charges & Fees	315.03	323.86	329.72	367.62	397.61	408.51	416.15	427.58	467.61	506.25	515.97
f)	Grants & Contribution	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
g)	Sale & Hire Charges	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
h)	Other Income	136.88	147.41	196.21	212.11	229.19	237.30	242.19	261.77	285.18	291.17	314.19
	Total Income	1353.51	1423.06	1531.23	1642.15	1750.16	1874.46	1957.32	2063.40	2206.98	2337.22	2511.73
II	Expenditure											
a)	Personnel Salaries Cost	222.90	229.59	236.48	243.57	250.88	258.40	266.16	274.14	282.36	290.84	299.56
b)	Personnel Cost - Others	7.16	7.87	8.66	9.52	10.48	11.52	12.68	13.94	15.34	16.87	18.56
b)	Terminal & Ret Benefits	97.82	107.61	118.37	130.20	143.23	157.55	173.30	190.63	209.70	230.67	253.73
c)	Operating Expenses	611.95	645.42	680.78	718.13	737.46	777.66	820.12	864.97	912.36	962.42	1015.32
d)	Repairs & Maintenance	141.24	164.64	168.46	195.51	201.15	232.49	240.45	276.84	287.70	330.05	344.54
e)	Program Expenses	1.05	1.08	1.10	1.13	1.16	1.19	1.22	1.25	1.28	1.31	1.34
f)	Administration Expenses	71.76	78.93	86.83	95.51	105.06	115.57	127.12	139.84	153.82	169.20	186.12
g)	Finance Expenses	368.65	328.57	290.17	253.34	220.02	193.89	171.24	149.06	127.29	105.32	84.28
h)	Depreciation	445.64	404.48	371.82	345.30	323.29	304.66	288.62	274.58	262.12	250.92	240.75
	Total Expenditure	1968.17	1968.18	1962.66	1992.22	1992.71	2052.94	2100.91	2185.25	2251.96	2357.59	2444.21
	Surplus / (Deficit)	(614.66)	(545.13)	(431.43)	(350.07)	(242.56)	(178.48)	(143.59)	(121.85)	(44.98)	(20.38)	67.51
	Profit before Depreciation	-169.02	-140.64	-59.61	-4.77	80.73	126.18	145.03	152.73	217.14	230.55	308.27

It may be observed from the above table that the Municipality has surplus prior to depreciation in 13 out of the future 20 years and the cumulative cash flows are negative for all the years.

b) Balance Sheet

Table 14-20: Consolidated Balance Sheet for next 20 years (up to FY 2028 – 29)

S.No	Particulars	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
I	Liabilities											
a)	Liabilities											
	Loans	52.71	33.54	725.57	2577.60	4121.15	4548.55	5210.17	5069.34	4726.85	4291.27	3855.68
	Cont from Municipal Fund	287.46	371.96	591.90	1302.08	2081.33	2268.05	2416.86	2416.86	2416.86	2416.86	2416.86
	Cont from Government	334.42	334.42	334.42	334.42	334.42	334.42	334.42	334.42	334.42	334.42	334.42
	Grant	497.72	1296.07	1734.50	2694.21	3652.44	4006.88	4419.65	6414.12	8548.21	8548.21	8548.21
	Accumulated Depreciation	1173.89	1259.58	1368.80	1547.22	1838.11	2294.68	2948.85	3666.92	4304.72	4874.00	5372.81
b)	Current Liabilities											
	Tender & Other Deposits	22.50	22.50	22.50	22.50	22.50	22.50	22.50	22.50	22.50	22.50	22.50
	Security Deposits	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
	Deposits Others	275.00	275.00	275.00	275.00	275.00	275.00	275.00	275.00	275.00	275.00	275.00
	Deposit for Water Conn	5.26	10.63	49.70	32.76	53.00	64.05	87.24	111.05	135.66	151.79	168.29
	Deposit for Sewerage	0.00	0.00	0.00	107.83	23.86	69.35	79.24	165.93	178.00	190.33	205.56
	Outstandings	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00
	Staff Bills Payable	50.50	50.50	50.50	50.50	50.50	50.50	50.50	50.50	50.50	50.50	50.50
	Prov for Doubtful coll	120.81	130.61	141.35	152.73	165.92	180.59	196.54	213.43	231.25	250.53	271.61
	IT & ST Ded - Contractors	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
	A/c Payable Contractors	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
	A/c Payable Expenses	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
	Unpaid Salaries	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
	Other payable / Rec	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
	TWAD Water supply chgs	48.33	48.33	48.33	48.33	48.33	48.33	48.33	48.33	48.33	48.33	48.33
	Inter Funds Transfer	68.30	68.30	68.30	68.30	68.30	68.30	68.30	68.30	68.30	68.30	68.30
	Others	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
c)	Accumulated Surplus	1832.16	1920.21	1894.49	1587.35	1028.51	254.83	-759.84	-1810.06	-2765.15	-3662.12	-4415.52
	Total	4894.56	5947.16	7430.86	10926.34	13888.88	14611.55	15523.26	17172.15	18700.95	17985.42	17348.05

S.No	Particulars	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
I	Liabilities											
a)	Liabilities											
	Loans	3420.09	2984.50	2568.23	2170.34	1828.28	1573.64	1319.01	1064.37	809.73	555.09	300.45
	Cont from Municipal Fund	2416.86	2416.86	2416.86	2416.86	2416.86	2416.86	2416.86	2416.86	2416.86	2416.86	2416.86
	Cont from Government	334.42	334.42	334.42	334.42	334.42	334.42	334.42	334.42	334.42	334.42	334.42
	Grant	8548.21	8548.21	8548.21	8548.21	8548.21	8548.21	8548.21	8548.21	8548.21	8548.21	8548.21
	Accumulated Depreciation	5818.45	6222.93	6594.75	6940.05	7263.34	7568.00	7856.62	8131.20	8393.32	8644.24	8884.99
b)	Current Liabilities											
	Tender & Other Deposits	22.50	22.50	22.50	22.50	22.50	22.50	22.50	22.50	22.50	22.50	22.50
	Security Deposits	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
	Deposits Others	275.00	275.00	275.00	275.00	275.00	275.00	275.00	275.00	275.00	275.00	275.00
	Deposit for Water Conn	185.15	202.40	220.03	241.66	263.78	286.39	309.52	333.17	361.37	390.21	419.71
	Deposit for Sewerage	221.14	237.07	253.35	270.01	289.97	310.37	331.24	352.58	374.40	399.98	426.14
	Outstandings	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00
	Staff Bills Payable	50.50	50.50	50.50	50.50	50.50	50.50	50.50	50.50	50.50	50.50	50.50
	Prov for Doubtful coll	294.61	318.90	345.26	373.46	403.49	435.73	469.51	505.29	543.50	583.92	627.50
	IT & ST Ded - Contractors	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
	A/c Payable Contractors	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
	A/c Payable Expenses	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
	Unpaid Salaries	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
	Other payable / Rec	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
	TWAD Water supply chgs	48.33	48.33	48.33	48.33	48.33	48.33	48.33	48.33	48.33	48.33	48.33
	Inter Funds Transfer	68.30	68.30	68.30	68.30	68.30	68.30	68.30	68.30	68.30	68.30	68.30
	Others	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
c)	Accumulated Surplus	-5026.61	-5567.90	-5995.20	-6340.83	-6578.61	-6751.96	-6890.04	-7005.96	-7044.57	-7058.09	-6983.22
	Total	16802.45	16287.52	15876.05	15544.31	15359.86	15311.80	15285.48	15270.26	15327.37	15404.98	15565.19

S.No	Particulars	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
II	Assets											
a)	Fixed Assets	3420.70	4303.55	5880.52	9537.28	12818.31	13806.19	15067.09	17061.56	19195.64	19195.64	19195.64
b)	Current Assets											
	Stock	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
	Property Tax - Current	28.54	30.18	31.62	26.81	21.77	16.49	18.96	19.39	19.83	20.27	20.73
	Property Tax - Arrears	117.91	116.05	107.71	93.11	77.01	60.28	46.63	42.28	40.53	40.09	40.32
	Profession Tax - Current	3.14	2.78	1.41	1.69	1.72	1.74	2.00	2.03	2.07	2.10	2.13
	Profession Tax - Arrears	16.16	16.07	14.03	9.83	7.59	6.27	5.50	5.31	5.22	5.20	5.21
	Lease Amounts - Current	1.43	1.41	1.33	1.06	0.83	0.56	0.58	0.61	0.64	0.67	0.71
	Lease Amounts - Arrears	82.70	67.59	48.73	30.56	19.40	12.47	8.04	5.41	3.86	2.96	2.45
	Water Charges - Current	7.17	4.89	2.81	2.87	5.53	5.65	5.91	6.18	6.46	7.88	8.06
	Water Charges - Arrears	30.95	22.65	13.95	6.99	4.96	7.02	7.75	8.24	8.65	9.05	10.60
	Drainage Chgs - Current	0.00	0.00	0.00	0.00	0.00	16.48	16.85	20.10	20.55	21.01	25.64
	Drainage Chgs - Arrears	0.00	0.00	0.00	0.00	0.00	0.00	16.48	23.44	29.47	32.34	33.95
	Licence fees Arrears	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
	Rent on Building recovery	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
	Specific Grant Receivable	6.44	6.44	6.44	6.44	6.44	6.44	6.44	6.44	6.44	6.44	6.44
	Deposits Recoverable	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	Staff Advance Rec	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50
	Advance to Suppliers	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
	Other Advances - Rec	206.00	206.00	206.00	206.00	206.00	206.00	206.00	206.00	206.00	206.00	206.00
	Inter Funds Transfer	283.43	283.43	283.43	283.43	283.43	283.43	283.43	283.43	283.43	283.43	283.43
	Other Schemes	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
	Outstandings	61.50	61.50	61.50	61.50	61.50	61.50	61.50	61.50	61.50	61.50	61.50
c)	Cash & Bank Balances	591.58	787.72	734.50	621.86	337.49	84.13	-266.81	-616.66	-1226.23	-1946.07	-2591.65
	Total	4894.56	5947.16	7430.86	10926.34	13888.88	14611.55	15523.26	17172.15	18700.95	17985.42	17348.05

S.No	Particulars	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
II	Assets											
a)	Fixed Assets	19195.64	19195.64	19195.64	19195.64	19195.64	19195.64	19195.64	19195.64	19195.64	19195.64	19195.64
b)	Current Assets											
	Stock	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
	Property Tax - Current	23.84	24.38	24.92	25.48	26.06	29.97	30.64	31.33	32.04	32.76	37.67
	Property Tax - Arrears	40.89	44.28	46.52	48.18	49.58	50.85	55.39	58.34	60.50	62.29	63.90
	Profession Tax - Current	2.45	2.48	2.52	2.56	2.60	2.99	3.03	3.08	3.12	3.17	3.64
	Profession Tax - Arrears	5.26	5.60	5.84	6.03	6.17	6.30	6.77	7.09	7.33	7.52	7.68
	Lease Amounts - Current	0.74	0.78	0.82	0.86	0.90	0.95	2.81	3.14	7.60	7.61	8.45
	Lease Amounts - Arrears	2.18	2.05	2.01	2.03	2.08	2.15	2.24	4.15	5.63	10.97	14.20
	Water Charges - Current	8.24	8.43	8.62	10.24	10.47	10.71	10.95	11.20	13.05	13.34	13.64
	Water Charges - Arrears	11.24	11.61	11.91	12.19	13.90	14.64	15.10	15.48	15.84	17.80	18.68
	Drainage Chgs - Current	26.21	26.80	27.41	28.02	33.29	34.04	34.81	35.59	36.39	42.40	43.35
	Drainage Chgs - Arrears	39.22	41.90	43.56	44.83	45.96	51.68	54.71	56.69	58.27	59.70	66.28
	Licence fees Arrears	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
	Rent on Building recovery	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
	Specific Grant Receivable	6.44	6.44	6.44	6.44	6.44	6.44	6.44	6.44	6.44	6.44	6.44
	Deposits Recoverable	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	Staff Advance Rec	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50
	Advance to Suppliers	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
	Other Advances – Rec	206.00	206.00	206.00	206.00	206.00	206.00	206.00	206.00	206.00	206.00	206.00
	Inter Funds Transfer	283.43	283.43	283.43	283.43	283.43	283.43	283.43	283.43	283.43	283.43	283.43
	Other Schemes	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
	Outstandings	61.50	61.50	61.50	61.50	61.50	61.50	61.50	61.50	61.50	61.50	61.50
c)	Cash & Bank Balances	-3147.73	-3670.71	-4087.99	-4426.03	-4621.06	-4682.38	-4720.88	-4745.74	-4702.31	-4642.50	-4502.21
	Total	16802.45	16287.52	15876.05	15544.31	15359.86	15311.80	15285.48	15270.26	15327.37	15404.98	15565.19

The full projects investment scenario with Metur CWSS indicates that Arakkonam Municipality would end up with a cumulative cash deficit of Rs. 4502 lacs by the end of FY 2028-29 (after 20 years)

14.7 IMPACT OF POTENTIAL IMPROVEMENTS

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

Specific interventions with respect to revenue realization and cost management are detailed in chapter 12 of the report. On 'Full Project Investment Scenario' basis, Arakkonam's own revenues (comprising taxes, user charges and other income) could grow from Rs. 206 lacs in FY 2006-07 to Rs. 1257 lacs by FY 2028-29, implying an absolute growth of 26%. Arakkonam has vast potential for increasing its own income given the growth achieved in the last few years. Areas for revenue enhancement in own revenue include :

- Property Tax – through an enhanced revision in ARV, widening assessee base and closer scrutiny. Besides periodic increase (every 5 years) in property tax rates.
- Professional Tax – sustaining a higher assessment growth.
- User Charges – periodic increases in user charges for water connections and sewerage connections. The Municipality could generate additional Rs. 1000 lacs of income per annum by FY 2028-29 by providing water connections to 80% of property tax assessments and sewerage connections to 70% of property tax assessments.

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

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

A comprehensive energy audit is required, given that 75% of its operations and maintenance expenditure is spent on electricity charges. Plugging leakage in the water supply network and installation of timers and energy savers on the street light network are important interventions needed in the context of Arakkonam's high power costs.

14.8 SCENARIO I - ESTIMATION OF INVESTMENT CAPACITY ON AS IS WHERE BASIS

We carried out the exercise of arriving at the Investment and Borrowing Capacity on as is where basis without any financial reforms being carried out and no new

projects taken in to consideration. The borrowing capacity has been arrived by taking the NPV over the next 20 years on the minimum of the following :

- 30% of revenue projections
- Primary Operating Surplus (Surplus before Interest & Depreciation)

The investment capacity has been arrived @ of 4 times the borrowing capacity assuming that loans constitute 25% of total investment requirement.

In such a scenario, the Investment and Borrowing Capacity works out as below :

Summary Of Borrowing And Investment Capacity

Borrowing Capacity	Rs. 2600.16 lacs
Investment Capacity (BC x 4 times)	Rs. 10400.63 lacs

14.9 SCENARIO II - ESTIMATION OF BORROWING AND INVESTMENT CAPACITY WITH METTUR CWSS

In Scenario II, the financial projections have been worked out for the next 30 years, by taking all projects in to consideration including Mettur CWSS. It has been assumed that Mettur CWSS would be funded by way of 100% Grant and executed in VI & VII years. The operation & maintenance of Mettur CWSS would be fully borne by the Municipality. The financial projections for the next 20 years have been taken to arrive at the Borrowing and Investment capacity. We have arrived at the borrowing capacity of Arakkonam Municipality on the minimum of the following :

- 30% of revenue projections
- 50% of Primary Operating Surplus less Debt Service

The overall financing mix has been arrived to include 37% Loans, 49% Grants and 14% own funds. The repayment period of loans has been taken at 5+15 years for Sewerage and Water Supply Loans and 2+8 years for other project loans. The above factors have been taken in to account for arriving at the Annuity Factor, which has been applied on the lowest of the above to arrive at the overall borrowing capacity and investment capacity.

Summary Of Borrowing And Investment Capacity

Borrowing Capacity	-
Investment Capacity (BC/0.37)	-
Investment Requirement	Rs. 11656.71 lacs
Sustainable Investment Capacity % - IC / IR	-ve

At an aggregate level, assuming loans to be equivalent to 37% of investment, sustainable investment capacity works out to Nil.

Thus the Municipality has the capacity to absorb water supply and sewerage projects envisaged in the CCP. The Municipality's capacity to undertake other

projects would improve in case both capital cost and operation & maintenance of Mettur CWSS is received as grant to improve its financial viability.

14.10 SCENARIO III - ESTIMATION OF BORROWING AND INVESTMENT CAPACITY WITHOUT METTUR CWSS

In Scenario III, we carried out the exercise of arriving at the Investment and Borrowing Capacity of Arakkonam Municipality without Mettur CWSS project. In this scenario it is assumed that the entire capital cost and O&M of Mettur CWSS would be supported by the Government. Thus both the capital cost and O&M cost would be received as 100% Grant by the Municipality.

In such a scenario, the Investment and Borrowing Capacity works out as below :

Summary Of Borrowing And Investment Capacity

Borrowing Capacity	Rs. 1358.37 lacs
Investment Capacity (BC/0.37)	Rs. 3671.32 lacs
Investment Requirement	Rs. 8998.71 lacs
Sustainable Investment Capacity % - IC / IR	41%

It may be observed that the investment capacity improves from Nil to 41% incase the entire O&M cost of Mettur CWSS is fully supported by the Government.

14.11 KEY INDICATORS OF SCENARIO II (FULL PROJECT SCENARIO WITH METTUR CWSS)

The key Indictors of the Municipality based on the financial projections works out as below :

	Minimum	Maximum	Average
Existing (2001-02 to 2006-07)			
Operating Ratio	0.58	0.74	0.67
Debt Service Ratio	0%	6%	2%
Category			1
Short Term (2009-10 to 2013-14)			
Operating Ratio	0.86	1.39	1.24
Debt Service Ratio	4%	50%	29%
Category			3
Long Term (2009-10 to 2028-29)			
Operating Ratio	0.86	1.39	1.10
Debt Service Ratio	4%	79%	39%
Category			3

Note : 1 – Financially Sound; 2 – Financially Fragile; 3 – Financially Insolvent

It may be observed that the Municipality is not financially sound in both short and long term with operating ratio > 1% and Debt Service Ratio > 30%.

14.12 INFERENCE

- The investment capacity of Arakkonam Municipality on 'As is Where Basis' works out to Rs. 10400 lacs.
- The investment capacity of Arakkonam Municipality works to Nil in case of Scenario II (With Metur CWSS project) and 41% in case of Scenario III (Without Metur CWSS project).
- In value terms the investment capacity works out to Nil under Scenario II and Rs. 3671 lacs under Scenario III.
- Thus it can be inferred that the investment capacity of the Municipality is around 41% of the total investment requirement, which works out to Rs. 3671 lacs.
- Based on the above, it can be inferred that the Municipality can take up all projects identified as 'A' category in the priority list of CCP and certain other projects as listed below :

S.No.	Particulars	Total	Priority	Funding By
A	Physical Infrastructure Facilities			L : G : M
I	Water Supply			
a)	Improvements to Water Supply	2215.00	A	65:30:5
IV	Solid Waste Management			
a)	Cost of Land Fill site	56.30	A&B	100% ULB
b)	Land Fill site and compost yard development	443.00	A&B	100% ULB
c)	Vehicles & Equipment for primary and secondary colln	256.00	A&B	0:50:50
VI	Bus Stand			
a)	Upgradation to B Grade	150.00	A	90:0:10
b)	New Bus Shelters	35.00	B	100% Grant
c)	Heavy Vehicle & Car Parking	38.00	A	BOOT
d)	Parking Kalavari Kandigai Area	5.00	C	100% ULB
VII	Street Lights			
a)	Proposed new lights & fittings	40.00	B	100% ULB
b)	Solar street lights (10 Nos.)	30.00	B	0:75:25
c)	Retrofitting existing lights & enrgy savng devices	15.66	B	ESCO
B	Social Infrastructure Facilities			
V	Market			
a)	Improvement to fish market	50.00	A	BOOT
b)	Renovation of Daily Market	50.00	A	BOOT
c)	Shopping Complex at Old Bus Stand	100.50	A	BOOT
d)	Community Hall at Old Bus Stand	45.00	A	BOOT
VI	Slaughter House			
a)	Construction of Slaughter House with Treatment Plant	35.00	B	0:50:50
VII	Public Convenience			
a)	Public Convenience	70.00	A&B	0:50:50
C	Other Projects			
I	Vehicle			
a)	Mobile tax collection van	10.00	A	100% ULB

II	E-Governance			
a)	E-Governance	20.00	A	100% Grant
b)	GIS Mapping for Comprehensive Property Database	20.00	A	0:90:10
	Total	3684.46		

- As regards other major projects like Underground Sewerage Scheme, storm water drains, roads, slum improvement etc., the Municipality would require additional support from the Government for undertaking these projects.
- Metur CWSS project can be taken up by the Municipality only if both capital cost and operation & maintenance expenses is supported by the Government.

Annexure

Annexure I – a : Minutes of Meeting: 1st Stakeholders' Workshop - Arakkonam

Date of Workshop : February 4, 2008
Time (Opening) : 02:30 PM
Time (Closing) : 06:00 PM

SI.NO	PERSON NAME	DESIGNATION	CONTACT NO
01	Tmt. K. Vijayarani Kannaiyan	Chairman	9443431555
02	Thiru. N Rajkumar	Vice Chairman	04177-226585
03	Tmt. N. Vimala	Manager & Commissioner Incharge	04177- 236236
04	Thiru. Palani	Municipal Engineer	9790855815
04	Thiru. M.Parthiban	Town Planning Inspector	
05	Tmt. R. Jyothi Kumar,	Councilor	9443625708
06	Thiru. V. Balakrishnan	Councilor	9443628164
07	Tmt. C. Jayanthi	Councilor	9443641668
08	Thiru. D. Parthasarathi	Councilor	9361612435
09	Tmt. S. Rani Kumari,	Councilor	9443491187
10	Tmt.S.Yamuna	Councilor	9363321900
11	Tmt.M. Sumathi	Councilor	9486526474
12	Thiru. C. Kamaraj	Councilor	9443193669
13	Tmt.G.V. Bhuvanewari	Councilor	9443437770
14	Thiru. G. Dhanasekran	Councilor	9443686898
15	Thiru. A.Ibrahim	Councilor	9994786916
16	Tmt.G. Jayalakshmi	Councilor	9894972124
17	Thiru. K. Raja	Councilor	9443231922
18	Tmt.M. Prabavathi	Councilor	9994589152
19	Thiru. P. Suresh Kumar	Councilor	9894808355
20	Thiru. K. Mennachi sundram	Councilor	9443628180
21	Thiru. V.M. Bhaskar	Councilor	9443331475
22	Thiru. K. Munuswamy	Councilor	9443038119
23	Thiru. V. Sankar	Councilor	9894523568
24	Tmt. K. Bharathi,	Councilor	9444110090
25	Tmt. R. Gayathri	Councilor	9994689994
26	Thiru.R. Padmanaban	Councilor	9443038155
27	Thiru.S. Vijay Anand	Councilor	9994125345
28	Thiru. J.B. Palani	Councilor	9894350989

29	Tmt. J. Avamabee	Councilor	9884384469
30	Tmt. R. Selvi	Councilor	9940215741
31	Thiru. Durai Srinivasan	Councilor	9385533255
32	Thiru. D. Umapathy	Councilor	9443701546
33	Thiru. M. Selvam	Councilor	9443073174
34	Thiru. B. Moorthy	Councilor	9894295570
35	Thiru. Pon. Parthiban	Councilor	9361623304
36	Thiru. A. Devadoss	Councilor	9944250571
37	Tmt. L. KalaiSelvi	Councilor	9361622405

The stakeholders' workshop started at 02:30 PM on Monday, February 4, 2008 in the Conference Hall of the Municipality. The workshop was chaired by Chairman – Tmt. K. Vijayarani Kannaiyan. In his opening speech, Tmt. Vijayarani Kannaiyan briefed the stakeholders about the objectives of the project and the workshop. The Acting Manager & Commissioner Incharge of The Municipality Tmt. N. Vimala presented his view on the City Corporate cum Business Plan. Vice – Chairman Thiru. N. Rajkumar presented the Works under taken by the municipality in the recent year. After that Municipal Engineer Mr. Palani presented the status of the projects and the proposed project by the municipality. Mr. Sanjeet Ahlawat (Manager, Voyants Solutions Private Limited) briefed about the work completed by the consultant for the City Corporate cum Business Plan. After that Mr. S. Sreepathy & Mr. Sathiyaraj presented the brief status, problem and issues relating to urban basic services an infrastructure in Walajapet. And after this presentation, the stakeholders were asked to give their suggestions/ comments in three parts. In first part, the consultants invited comments on the contents of the presentation. In the second part stakeholders were invited to present the problems of the city which are hindrances to the development. In the last section of the workshop, stakeholders were asked to suggest the projects required for the integrated development of Arakkonam.

The Suggestions:

The suggestions given by the various stakeholders are presented below:

Tmt. K. Vijayarani Kannaiyan, Chairman

- Need town growth Improvement
- Developing the land availability
- Town roads are encroached by the people so they should be fined and need widening for congestion free traffic.
- The existing parks need improvements.
- There is need to upgrade the basic infrastructure of the municipality in terms of water supply, sewerage and drainage.

Thiru. N Rajkumar, Vice Chairman

- Town need delimitation of boundaries and merge the nearby villages in the town.
- There is a need to develop infrastructure in the town as the existing infrastructure is old enough to lay new infrastructure then to repair the existing
- Town improving arrangements
- To Improve community hall
- Proper infrastructure should be provided for schools

Tmt. N. Vimala, Manager & Commissioner Incharge

- City needs delimitation of boundaries and need to merge the existing villages and there is a need to prepare a master plan for the upcoming notified areas after that to regularize the development
- There is a need to merge the boundaries of all the three municipalities and the nearby area to develop it as a municipal corporation
- There is a need to replace the old infrastructure of the town.

Thiru. Palani, Municipal Engineer

- Town need delimitation as there is no scope of development in the existing municipal limits
- Source of water supply are insufficient and there is a proposed scheme for water supply combined Arakkonam and Tiruttani
- Town roads are encroached by the people so they should be fined and need widening for congestion free traffic.
- There is a need to develop the bus stand.
- New parks and play grounds need to be developed.
- Drainage services need to improve to make good use of Rain Water Harvesting.
- Required wind mill to produce electricity and save the electricity cost which is 70 to 80 lakh per year.
- Required solar street light of to reduce the power consumption.

Thiru. V. Balakrishnan Councillor, Ward No - 3

- Bus stand toilets are in poor condition
- Required cement road in all the street
- Need storm water drainage system

Thiru. D. Parthasarathi Councillor, Ward No – 5

- Required extra vehicles for solid waste collection
- Required renovation of existing water supply system
- Required desilting of open drains
- Finishing is required for open drains

Tmt.S.Yamuna Councillor, Ward No - 8

- No water supply in public toilets
- Improvement is required in all parks
- Required water facilities at least in alternate days instead of once in 4 days

Tmt.M. SumathiThiru Councillor, Ward No - 9

- In rettamalai srinivasan street taps are damaged
- Renovation of existing drainage at back of the government school

Tmt.G.V. Bhuvaneswari, Councillor, Ward No - 11

- Required cement concrete road
- In Perumal kovil street drainage is fully damaged

Thiru. K. Mennachi sundram Councillor, Ward No – 18

- Toilet in bus stand is in poor condition
- No seating arrangement in bus stand
- Required bus bay and shelter in bus stand
- Need water supply regularly
- Under ground sewage system

Thiru. K. MunuswamyCouncillor, Ward No - 20

- Public toilet buildings need renovation
- Need water supply regularly
- Need Under ground drainage system
- Need proper facilities to drain rain water

Tmt. R. Gayathri Councillor, Ward No - 23

- Need building and other facilities for municipal schools
- Park renovation and children playing facilities
- Under ground sewage system

Tmt. J. Avamabee Councillor, Ward No - 27

- Required drainage renovation
- Street light poles are damaged
- No seating arrangement in bus stand

Thiru. Durai Srinivasan Councillor, Ward No - 29

- Required water facilities at least in alternate days instead of once in 4 days
- Need building and other facilities for municipal schools
- Required toilet facilities for schools

Thiru. M. SelvamCouncillor, Ward No - 31

- A N Kandikai 1st street required cement concrete road from earthen road
- No proper arrangement of water supply in toilets in bustand
- Required new technology for managing solid waste
- Required under sewage system
- Park renovation

- Required adequate street lights with low power consuming

Tmt. L. KalaiSelvi Councillor, Ward No - 36

- Required cement concrete road
- Required water facilities at least in alternate days instead of once in 4 days
- Solid waste should be managed properly

Annexure I – b : Minutes of Meeting: 2nd Stakeholders' Workshop - Arakkonam

Date of Workshop : **October 16, 2008**

Time (Opening) : **11:00 AM**

Time (Closing) : **01:30 PM**

SI.NO	PERSON NAME	DESIGNATION	CONTACT NO
01	Tmt. K. Vijayarani Kannaiyan	Chairman	9443431555
02	Thiru. N Rajkumar	Vice Chairman	04177-226585
03	Tmt. N. Vimala	Manager & Commissioner Incharge	04177- 236236
04	Thiru. B.K.Ramesh	Municipal Engineer	9444281294
05	Thiru. M.Parthiban	Town Planning Inspector	
06	Tmt. R. Jyothi Kumar,	Councilor	9443625708
07	Thiru. D. Parthasarathi	Councilor	9361612435
08	Thiru. C. Kamaraj	Councilor	9443193669
09	Thiru. V.M. Bhaskar	Councilor	9443331475
10	Thiru. K. Munuswamy	Councilor	9443038119
11	Thiru.R. Padmanaban	Councilor	9443038155
12	Thiru.S. Vijay Anand	Councilor	9994125345
13	Thiru. D. Umapathy	Councilor	9443701546
14	Thiru. Pon. Parthiban	Councilor	9361623304
15	Thiru. A. Devadoss	Councilor	9944250571
16	B.M.Subramani	Councilor	04177237526
17	S.R Neelakandan	Councilor	9380742403
18	M. Vardharajan	Councilor	
19	K.Munusami	Councilor	9443038119
20	A.D.Mahesh	Councilor	9994346015
21	K.V.Indirapathi	Councilor	9487305874
22	Pon. Natrarajan	Ex.M. Councilor	9940814882
23	A. Thurvasulu Naidu	Market head	9443209622
24	P. Murugan	Assit. Engineer PWD	9443625791
25	P. Mani	Organising Secretary	9880657960
26	R.Venkataramanan	Hon.Gen.Secretary	9840048373

27	C.Kamaraj	Vellore C&D Association	9443193669
28	N.Rajasekaran	Contractor	9486173507
29	Rtn.PP G Mani	Past president Rotary club	9443232457
30	M.Karuppaiah	Rotary club	9443449242
31	N.Baskaran	Fire services	9952405091
32	R.Kathiravan	Indian Bank	9940310072
33	G.Rajankumar	Electricity board	9786032000
34	S.Gunasekaran	Reporter Dinamalar	
35	R.Gopinatan	Reporter Dinakaran	
36	S.Kanniappan	Ex.M. Councilor	9444110090
37	K.Prabhudass	Reporter	9245371786

The stakeholders' workshop started at 11:00 AM on Thursday, October 16, 2008 in the Conference Hall of the Municipality. The workshop was chaired by Chairman – Tmt. K. Vijayarani Kannaiyan. In his opening speech, Tmt. Vijayarani Kannaiyan briefed the stakeholders about the objectives of the project and the workshop. The Acting Manager & Commissioner Incharge of The Municipality Tmt. N. Vimala presented his view on the City Corporate cum Business Plan. Vice – Chairman Thiru. N. Rajkumar presented the Works under taken by the municipality in the recent year. After that Municipal Engineer Mr. B K Ramesh presented the status of the projects and the proposed project by the municipality. Mr. R. Sreepathy (Assit. Manager, Voyants Solutions Private Limited) briefed about the work completed by the consultant for the City Corporate cum Business Plan. And after this presentation, the stakeholders were asked to give their suggestions/ comments in three parts. In first part, the consultants invited comments on the contents of the presentation. In the second part stakeholders were invited to present the problems of the city which are hindrances to the development. In the last section of the workshop, stakeholders were asked to suggest the projects required for the integrated development of Arakkonam. Other department Engineers and managers had proposed new projects which are to be executed by other departments like PWD, TWAD board, Traders and Bank Managers.

The Suggestions:

The suggestions given by the various stakeholders are presented below:

Tmt. K. Vijayarani Kannaiyan, Chairman

- Need town growth Improvement
- Developing the land availability
- Town roads are encroached by the people so they should be fined and need widening for congestion free traffic.
- The existing parks need improvements.
- There is need to upgrade the basic infrastructure of the municipality in terms of water supply, sewerage and drainage.

Thiru. N Rajkumar, Vice Chairman

- Town need delimitation of boundaries and merge the nearby villages in the town.
- There is a need to develop infrastructure in the town as the existing infrastructure is old enough to lay new infrastructure then to repair the existing
- Town improving arrangements
- To Improve community hall
- Proper infrastructure should be provided for schools

Tmt. N. Vimala, Manager & Commissioner Incharge

- City needs delimitation of boundaries and need to merge the existing villages and there is a need to prepare a master plan for the upcoming notified areas after that to regularize the development
- There is a need to merge the boundaries of all the three municipalities and the nearby area to develop it as a municipal corporation
- There is a need to replace the old infrastructure of the town.

Thiru. B K Ramesh, Municipal Engineer

- Town need delimitation as there is no scope of development in the existing municipal limits
- Source of water supply are insufficient and there is a proposed scheme for water supply combined Arakkonam and Tiruttani
- Town roads are encroached by the people so they should be fined and need widening for congestion free traffic.
- Conversion of C grade bus stand to B grade need development
- New parks and play grounds need to be developed.
- Present PWD lakes and Eriy need to improve to make good use of Rain Water Harvesting.
- Required CFT light of to reduce the power consumption.

Thiru. D. Parthasarathi Councillor,

- Required extra vehicles for solid waste collection
- Required renovation of existing water supply system
- Required desilting of open drains
- Finishing is required for open drains

Tmt.G.V. Bhuvanewari, Councillor

- Required cement concrete road
- In Perumal kovil street drainage is fully damaged
- Required rehabilitation of lakes/eriy

Thiru. R.Jothi, Councillor

- Toilet in bus stand is in poor condition
- No seating arrangement in bus stand
- Required bus bay and shelter in bus stand

- Need water supply regularly
- Under ground sewage system

Thiru. K. Munuswamy Councillor,

- Public toilet buildings need renovation
- Need water supply regularly
- Need Under ground drainage system
- Need proper facilities to drain rain water

Tmt. M.Vardharajan, Councillor

- Need building and other facilities for municipal schools
- Park renovation and children playing facilities
- Under ground sewage system
- Required bus facilities inside the town

Thiru. K.V.Indirapathi, Councillor

- Required water facilities at least in alternate days instead of once in 4 days
- Need building and other facilities for municipal schools
- Required toilet facilities for schools

Thiru. A.D.Mahesh, Councillor

- A N Kandikai 1st street required cement concrete road from earthen road
- No proper arrangement of water supply in toilets in bustand
- Required new technology for managing solid waste
- Required under sewage system
- Park renovation
- Required adequate street lights with low power consuming

Tmt. S.Kanniappan, Ex. Councillor

- Required cement concrete road
- Required water facilities at least in alternate days instead of once in 4 days
- Solid waste should be managed properly
- Required over bridge or subway at railway crossing near railway station

These are some of the suggestions provided by the key person of the municipality, the major focus was to develop infrastructure in the town and it should be done in a systematic way. The basic infrastructure should be provided to every people and the nominal charges should be applied on the available so that the people can pay it. After the discussion Chairman and municipal engineer thanked all the councilors and key people who attended the discussion. The consultant distributed the formats to each of the person present in the meeting to take individuals view, to know any required new or proposed projects for the development of municipality, priority of infrastructure development and to note down the suggestion and briefed the survey format and after the stakeholders finished the filling of survey formats Mr. Sreepathy thanked all the people attended the Stakeholders' Workshop

Annexure I – c : Draft Memorandum Of Agreement

This Agreement is made on this _____ day of _____ (Month), 2009 (year) between Tamil Nadu Urban Infrastructure Financial Services Limited (referred to as TNUIFSL) and the Arakkonam Municipality (referred to as ULB)

1. This agreement follows the completion of the City Corporate Plan cum Business Plan (CCP-BP) prepared for the ULB with assistance from Grant Fund managed by TNUIFSL. A Vision Plan exercise was conducted by the ULB to identify specific projects required to be developed, and certain projects were identified in the Vision Plan have been taken through the next steps in terms of preparation of detailed project reports and implementation, there was a felt need among stakeholders to draw a comprehensive CCP-BP, taking into account a holistic perspective of the city/town's current status and gaps. It was to address this need that the CCP-BP exercise was conducted. The objectives of the CCP-BP exercise were to:

- Define the growth directions and service up-gradations in relation to the activity mix / growth
- Assess demand for projects specified by the ULBs and gap in services
- Outline the infrastructure needs;
- Define specific rehabilitation and capital improvement needs with regard to priority city infrastructure in slums and other areas
- Identify measures for revenue enhancement and cost reduction required to sustain the proposed investments
- Identify reforms required in local administration and service delivery and policy interventions
- List out changes required at the local level to improve O&M and better asset management

2. The study will be completed in June 2009 and the municipal council passed a resolution adopting the report for implementation on----- (Date).

3. This agreement is being entered into between TNUIFSL and the ULB for TNUIFSL's assistance in:

(a) Developing and financing projects identified as part of the Capital Investment Program (CIP) of the CCP and

b) Monitoring the implementation of a reform agenda required to improve municipal management and to carryout implementation of projects identified in a sustainable manner.

4. The guide lines of this MOA are listed below:

i. The Arakkonam municipal council agrees to implement the reform agenda as per the targets recommended in the CCP-BP report. A summary of the reform agenda in terms of existing status and norms/targets is enclosed in Annexure III. The reform agenda outlined focuses on those reforms are to be carried out at the ULB level.

ii. The Arakkonam municipal council will provide a half-yearly update report to TNUIFSL on the status of the implementation of the reform agenda. TNUIFSL shall provide a standardised format for reporting this information.

iii. In case there is any delay in the implementation of the reforms agenda by ULB due to circumstances beyond its control, the decision on the matter of extension of time for the achievement of targets shall be fixed based on consultations between TNUIFSL and the ULB

iv. TNUIFSL shall also assist the ULB in preparing DPRs for a set of projects jointly identified by TNUIFSL and the ULB, based on the Capital Investment Plan (CIP), prepared as part of the CCP-BP report.

vi. TNUIFSL would subsequently assist in structuring and financing projects identified earlier through combination of Loan and Grants along with ULB own funds. The sanction and disbursement of loans and grants from TNUIFSL shall be in conformance with the lending policies and guidelines of Loan and Grant Funds under its management and due appraisal of the ULB and the projects by TNUIFSL

5. The council agrees to the following points:

i. Issues presented in the project report and to agree to follow all directions of CMA/GOTN/TNUIFSL towards execution of the project.

ii. Draw the loan part for the execution of the works and repay the loan with the applicable interest

iii. Open a joint account with the Concerned Authority and agree to deposit the ULB's share every quarter (-- % of the cost of the tendered works), failing which to abide by action of CMA/GOTN/ TNUIFSL

iv. Conform to the subsequent change, if any, in the loan-grant composition made by GoTN

6. Undertake the following reforms during the financial year 2009-10 and to improve during the loan period to achieve the target set for every year:

i. Listing of assets of the ULB and maximizing efficient use of the same, revenue generation from municipal properties through improved collection of land revenue /lease to at least of 90 per cent of demand.

ii. Listing of all trade activities and improving collection of trade license fee to at least 90 per cent of demand.

iii. Revising water tariff as per the G.O-----, identification/ regularization of unauthorized water connections, improved collection of at least 80 per cent of water tariff.

iv. Imposing solid waste management cess /fees

v. Increasing coverage with respect to property tax collection i.e. bringing at least 90 per cent properties into the tax net, increasing collection efficiency and ensuring arrear collection of at least 90 per cent of current demand for property tax.

vi. Computerizing municipal systems and procedures

vii. Undertake public awareness through ward-level consultation meetings, with NGO involvement, improving the image of the ULB and generating confidence among citizens regarding the ability of the ULB to deliver quality services

ix. Acquire land, free from all encumbrances / encroachments, required for all identified projects before project loan effectiveness

x. Solve all problems (like agitation) during construction activity and to ensure timely completion of the work as per schedule

xi. Offer necessary co-operation/coordination with consultants, NGOs and various other agencies involved in implementation of the project

xii. Undertake full responsibility, in respect of civil works, for quality assurance and joint measurement of completed works and to assure full co-operation and co-ordination and to agree to all pre-qualification requirements and bidding procedures of World Bank and to impose penalty, if any, from the first bill itself;

xiii. Undertake that no variation order without citing reasons for variation as well as working out the time and financial implications, will be issued subsequent to tendering without prior approval of TNUFSL

xiv. Carryout the all the directions of CMA/GoTN/TNUFSL.

Finally, the Council agrees to bind itself to these terms, which would form part of future agreement with GoTN/TNUFSL, and further resolve to authorize the Commissioner/Chief Executive Officer to take necessary action to get the above

mentioned infrastructure facilities to this town. The Council further agrees to authorize the Commissioner and Chairman to sign the loan agreement with TNUISL.

SIGNATORIES:

Place:

Date:

Managing Director and CEO, TNUISL

Chairman, ULB Council

Commissioner, ULB

Annexure I – d : Minutes of Meeting

Minutes of Meeting on Revised Draft Final Report submitted by M/s Voyants Solution Pvt. Ltd. for City Corporate Plan cum Business Plan study for Cluster V covering Arcot, Gudiyatham, Ranipet, Tirupattur, Vaniyambadi and Walajapet, Municipalities held on 23.6.2009 and for Ambur, Arakonam Arani, Thiruvathipuram and Madhavaram Municipalities held on 24.06.2009 at the office of TNUIFSL.

Members Present – List enclosed

The consultants were requested to address the following:

1. To correct the grade of the ULBs as revised by the Government.
2. To highlight the requirement of capital / revenue grant to implement and operate all the new schemes.
3. To indicate following in the executive summary of the report
 - c) List of projects under the sustainable scenario along with the year wise phasing of the projects identified.
 - d) The assumption made on the means of finance.

Town specific comments**Ranipet**

The consultants were requested to

- Address the requirement of staff quarters and indicate the same as a project in CIP in consultation with the ULB.
- Update the details on the Bus Stand project at Muthukadai adjoining Pinji Lake in consultation with the ULB.
- Highlight the impact on discharge of polluted water in to Palar river.

Thiruvathipuram

The consultants were requested to

- Update the details on the assets in consultation with the ULB.
- Revise the Bus Stand improvement project in consultation with the ULB

Madhavaram

- The consultants were requested to revise the assumptions on means of finance in accordance with JNNURM norms and revise the FOP accordingly.

The consultants were requested to address the above points and include in final report. The revised draft final reports for CCCBP are approved.

Annexure IX - a : Revenue and Capital Fund - Income

S.No.	Particulars	Audited					Unaudited
		2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
I	Income						
a)	Property Tax						
	Property Tax for General Purpose	53.31	66.53	68.61	69.22	72.02	73.47
	Excess Remittance - Revenue Items	0.08	0.25	0.25	-	-	-
b)	Other Taxes						
	Profession Tax	17.57	19.99	19.31	23.38	23.80	17.21
c)	Assigned Revenue						
	Duty on Transfer of Property	24.78	74.35	37.71	32.10	41.23	18.23
	Entertainment Tax	2.17	13.37	3.97	5.62	1.96	0.61
d)	Devolution Fund	56.32	129.66	170.82	101.57	225.71	234.41
e)	Service Charges & Fees						
	Trade Licence Fees	1.20	1.33	1.42	1.34	1.30	1.18
	Licence Fees Under PFA Act	0.04	0.04	0.26	0.15	0.17	0.04
	Building Licence Fees	3.39	4.78	4.13	4.97	4.25	3.14
	Fees for bays in Bus	0.64	2.58	2.93	3.27	3.52	3.52
	Fees for pay & use toilets	1.22	1.01	1.15	1.31	1.42	1.53
	Survey Fees	0.13	0.08	0.02	0.02	0.15	0.17
	Copy Application Fees	0.28	0.37	0.32	0.39	0.34	0.61
	Other Fees	-	0.32	1.51	1.02	7.08	4.66
f)	Grants & Contribution						
	Grants for Schemes Implementation	3.34	-	0.08	-	33.17	2.01
g)	Sale & Hire Charges						
	Hire Charges	-	-	-	0.09	0.01	0.02
h)	Other Income						
	Market Fees - Daily (Annual Lease)	13.69	13.79	13.82	13.82	13.85	14.02
	Market Fees - Weekly (Annual Lease)	0.15	0.15	0.17	0.20	0.30	0.32
	Slaughter House Fees (Annual)	0.20	0.19	0.19	0.12	0.21	0.20
	Car Stand Fees	-	-	-	-	0.60	-
	Development Charges	0.19	0.81	0.57	1.27	1.90	1.51
	Rent on Shopping Complex	-	-	4.81	4.81	4.81	4.81
	Rent of Building	0.50	0.59	0.50	0.48	0.74	0.76
	Rent on Bunk Stall	3.58	4.12	-	-	-	-
	Road Cut Restoration Charges	6.84	3.89	1.33	0.02	0.03	0.12
	Other Income	2.06	3.31	3.06	1.81	2.26	3.47
	Miscellaneous Recoveries	0.19	0.27	0.26	-	0.10	0.01
	Project Overhead Appr - Expenses	5.32	8.66	10.57	8.40	-	-
	Interest from Banks & Investments	0.06	1.58	1.39	1.39	0.64	0.79
	Others	0.55	1.94	0.14	0.18	0.02	0.02
	Total Income	197.80	353.96	349.30	276.95	441.59	386.84

Annexure IX - b : Revenue and Capital Fund - Expenditure

S.No.	Particulars	Audited					Unaudited
		2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
II	Expenditure						
a)	Personnel Cost - Salaries						
	Salary & Allowances	116.64	95.11	92.34	97.88	98.79	109.27
	Dearness Allowance	38.68	43.18	45.18	50.67	53.77	45.26
	House Rent Allowance	4.11	4.16	3.67	3.86	4.19	6.55
	Conveyance Allowance	0.36	0.27	0.25	0.21	0.25	0.20
	Medical Allowance	1.59	1.31	1.32	1.18	1.14	1.10
	Interim Relief	-	-	-	-	0.01	16.08
	Cash & CC Allowance	-	-	0.01	0.02	0.06	0.05
	Special Pay	0.16	-	0.62	0.17	0.37	-
	Ex-gratia/Bonus	0.06	0.06	-	-	-	4.90
	Others	0.86	0.92	0.89	0.96	0.85	1.04
b)	Personnel Cost - Others						
	Travel Allowance	-	-	0.40	-	1.64	2.06
	Supply of Uniform	2.74	1.38	-	1.38	-	0.22
c)	Terminal & Retirement Benefits						
	Pension	1.75	25.40	17.52	5.86	24.12	57.30
	Commutation of Pension	2.35	2.24	5.98	1.71	0.70	-
	DCR Gratuity	9.40	15.42	5.15	4.47	-	0.78
	SPF & Gratuity	-	0.90	0.55	0.53	0.31	0.30
	GIS Management Contribution	-	1.48	1.66	1.57	-	-
	Others	-	-	-	0.41	0.11	-
d)	Operating Expenses						
	Wages	0.03	-	-	0.18	0.51	-
	Power Charges for Water & Street lights	2.93	20.52	30.01	-	3.06	17.02
	Maintenance - Street Lights	4.05	1.61	2.50	1.08	2.31	5.35
	Sanitary expenses & materials	1.92	2.24	3.37	3.57	2.10	2.59
	Rent of Building	-	-	0.05	0.03	0.10	-
	Removal of Debris	-	-	0.91	3.46	0.52	-
	Others	0.26	1.24	3.64	0.21	0.76	0.20
e)	Repairs & Maintenance						
	Light Vehicle Maintenance	2.83	1.98	1.29	5.17	15.76	24.08
	Heavy Vehicle Maintenance	3.52	4.42	3.08	0.23	21.12	18.89
	Water Supply & Sewerage Maintenance	-	-	0.05	0.17	7.32	2.93
	Repairs & Maintenance - Buildings	1.42	0.49	0.14	0.51	0.05	-
	Repairs & Maintenance - Roads	0.80	1.21	0.10	-	-	-
	Repairs & Maintenance - Others	0.10	0.42	0.25	0.29	0.02	0.05
	Others	-	-	0.74	0.09	-	-
f)	Programme Expenses						
	Election Expenses	2.61	0.15	0.22	-	0.78	3.42
g)	Administration Expenses						
	Telephone Charges	2.13	0.89	1.52	1.57	1.63	1.61
	Legal Expenses	0.39	0.59	0.18	0.48	0.74	0.88
	Stationery & Printing	1.63	3.11	1.25	3.77	5.82	6.37
	Travel Expenses	0.61	0.69	-	1.07	-	-
	Computer Operating Expenses	0.81	-	0.03	0.48	1.15	1.20
	Postage & Telegram	0.14	0.20	0.18	0.18	0.18	0.48
	Advertisement	0.51	0.58	0.40	0.85	1.83	3.21
	Electricity - Office Building	1.29	0.87	0.37	1.30	1.52	0.98

	Contributions	-	0.26	7.60	0.21	0.57	0.36
	Provision for Doubt collection	46.38	7.72	7.11	9.39	-	-
	Sitting Fees for Councillors	1.21	1.33	1.33	1.32	1.42	1.09
	Audit Fees	0.48	0.51	0.60	0.55	-	-
	Others	1.58	0.18	2.55	3.80	6.44	12.85
h)	Finance Expenses						
	Interest on Loans / Ways Means Adv / OD	-	-	15.82	9.12	-	0.39
	Others	0.01	0.04	-	-	0.03	0.04
l)	Depreciation	115.21	128.21	108.66	104.38	221.89	221.89
	Total Expenses	371.55	371.29	369.49	324.34	483.94	570.99
	Surplus / (Deficit) for the year	(173.75)	(17.33)	(20.19)	(47.39)	(42.35)	(184.15)

Annexure IX - c : Water Supply and Drainage Fund

S.No.	Particulars	Audited					Unaudited
		2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
I	Income						
a)	Property Tax						
	Water Supply & Drainage Tax	20.70	12.67	13.07	13.19	13.72	13.99
	Excess Remittance	0.10	0.100	0.13	-	-	-
b)	Devolution Fund	-	-	-	21.27	-	-
c)	Service Charges & Fees						
	Initial amount for WSNSC	6.08	6.56	2.94	1.00	0.10	10.98
	Income for giving new water connections	2.33	1.59	0.88	0.01	0.01	1.94
	Metered / Tap Rate charges	47.63	56.77	83.49	83.61	60.23	70.02
	Charges for water supply through Lorries	0.47	0.11	0.04	-	-	-
	Other Fees	-	0.02	-	0.02	0.01	0.03
d)	Sale & Hire Charges	-	-	-	-	-	0.01
e)	Other Income						
	Other Income	0.69	0.48	0.92	0.16	0.05	0.12
	Prior year Income	0.44	-	-	-	-	-
	Project Overhead Appr - Expenses	-	2.50	5.12	4.17	-	-
	Bank Interest	-	0.02	-	-	-	-
	Total Income	78.44	80.82	106.59	123.43	74.12	97.09
II	Expenditure						
a)	Personnel Cost - Others						
	Conveyance Charges	-	-	-	-	0.32	-
b)	Operating Expenses						
	Power Charges - Head Water Works	15.85	43.15	52.96	69.16	23.29	5.21
	Scavenging Materials	-	-	0.10	-	0.21	-
c)	Repairs & Maintenance						
	Light Vehicle Maintenance	0.26	0.24	-	-	-	-
	Heavy Vehicle Maintenance	-	-	0.28	-	-	-
	Plant & Machinery Maintenance	0.04	2.07	-	0.41	-	-
	Maintenance exps for water supply works	11.02	3.15	7.71	20.60	17.27	12.51
	Others	0.38	0.15	-	0.04	-	0.02
d)	Administration Expenses						
	Advertisement Charges	-	-	1.07	-	0.15	-
	Electricity Charges	-	-	0.40	0.23	-	0.64
	Provision for doubtful collection	2.04	0.48	34.60	0.45	-	-
	Other Expenses	1.43	-	0.85	0.32	1.29	0.32

e)	Finance Expenses						
	Bank charges	-	-	0.02	0.02	0.03	0.02
f)	Depreciation	2.40	4.74	8.02	10.44	10.70	10.70
	Total Expenses	33.42	53.98	106.01	101.67	53.26	29.42
	Surplus / (Deficit) for the year	45.02	26.84	0.58	21.76	20.86	67.67

Annexure IX - d : Education Fund

S.No.	Particulars	Audited					Unaudited
		2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
I	Income						
a)	Property Tax						
	Education Tax	14.80	15.84	16.34	16.48	17.15	17.49
b)	Other Income						
	Other Income	0.09	0.05	0.22	-	-	-
	Bank Interest	0.04	0.04	-	0.12	0.04	0.04
	Project Overhead Appr - Expenses	0.55	-	-	-	-	-
	Total Income	15.48	15.93	16.56	16.60	17.19	17.53
II	Expenditure						
a)	Operating Expenses						
	Power Charges for Head waterworks	0.16	-	-	-	-	0.06
	Wages	0.38	0.35	-	0.60	0.76	0.35
	Rent of Building	0.74	0.76	0.38	0.94	1.42	0.74
b)	Repairs & Maintenance						
	Maintenance of School Building	-	-	0.13	0.15	-	-
c)	Program Expenses						
	Provision for doubtful collection	0.48	0.60	-	0.57	-	-
d)	Finance Expenses	-	-	0.51	-	-	-
e)	Depreciation	1.25	1.25	1.25	1.09	1.44	1.44
	Total Expenses	3.01	2.96	2.27	3.35	3.62	2.59
	Surplus / (Deficit) for the year	12.47	12.97	14.29	13.25	13.57	14.94

Annexure IX - e : Summary of Income and Expenditure Accounts

S.No	Particulars	Audited																				Unaudited			
		2001-02				2002-03				2003-04				2004-05				2005-06				2006-07			
		Rev & Capital	Water Supply	Elem'tary Education	Total	Rev & Capital	Water Supply	Elem'tary Education	Total	Rev & Capital	Water Supply	Elem'tary Education	Total	Rev & Capital	Water Supply	Elem'tary Education	Total	Rev & Capital	Water Supply	Elem'tary Education	Total	Rev & Capital	Water Supply	Elem'tary Education	Total
I	Income																								
a)	Property Tax	53.39	20.80	14.80	88.99	66.78	12.77	15.84	95.39	68.86	13.07	16.34	98.27	69.22	13.19	16.48	98.89	72.02	13.72	17.15	102.89	73.47	13.99	17.49	104.95
b)	Other Taxes	17.57	-	-	17.57	19.99	-	-	19.99	19.31	-	-	19.31	23.38	-	-	23.38	23.80	-	-	23.80	17.21	-	-	17.21
c)	Assigned Revenue	26.95	-	-	26.95	87.72	-	-	87.72	41.68	-	-	41.68	37.72	-	-	37.72	43.19	-	-	43.19	18.84	-	-	18.84
d)	Devolution Fund	56.32	0.00	-	56.32	129.66	0.00	-	129.66	170.82	0.00	-	170.82	101.57	21.27	-	122.84	225.71	0.00	-	225.71	234.41	0.00	-	234.41
e)	Service Charges &	6.90	56.51	-	63.41	10.51	65.05	-	75.56	11.74	87.35	-	99.09	12.47	84.64	-	97.11	18.23	60.35	-	78.58	14.85	82.97	-	97.82
f)	Grants & Contribution	3.34	-	-	3.34	0.00	-	-	0.00	0.08	-	-	0.08	0.00	-	-	0.00	33.17	-	-	33.17	2.01	-	-	2.01
g)	Sale & Hire Charges	0.00	0.00	-	0.00	0.00	0.00	-	0.00	0.00	0.00	-	0.00	0.09	0.00	-	0.09	0.01	0.00	-	0.01	0.02	0.01	-	0.03
h)	Other Income	33.33	1.13	0.68	35.14	39.30	3.00	0.09	42.39	36.81	6.04	0.22	43.07	32.50	4.33	0.12	36.95	25.46	0.05	0.04	25.55	26.03	0.12	0.04	26.19
	Total Income	197.80	78.44	15.48	291.72	353.96	80.82	15.93	450.71	349.30	106.46	16.56	472.32	276.95	123.43	16.60	416.98	441.59	74.12	17.19	532.90	386.84	97.09	17.53	501.46
II	Expenditure																								
a)	Personnel Cost	162.46	-	-	162.46	145.01	-	-	145.01	144.28	-	-	144.28	154.95	-	-	154.95	159.43	-	-	159.43	184.45	-	-	184.45
b)	Personnel Cost	2.74	0.00	-	2.74	1.38	0.00	-	1.38	0.40	0.00	-	0.40	1.38	0.00	-	1.38	1.64	0.32	-	1.96	2.28	0.00	-	2.28
c)	Terminal & Retirement	13.50	-	-	13.50	45.44	-	-	45.44	30.86	-	-	30.86	14.55	-	-	14.55	25.24	-	-	25.24	58.38	-	-	58.38
d)	Operative Expenses	9.19	15.85	1.28	26.32	25.61	43.15	1.11	69.87	40.48	53.06	0.38	93.92	8.53	69.16	1.54	79.23	9.36	23.50	2.18	35.04	25.16	5.21	1.15	31.52
e)	Repairs & Maintenance	8.67	11.70	0.00	20.37	8.52	5.61	0.00	14.13	5.65	7.99	0.13	13.77	6.46	21.05	0.15	27.66	44.27	17.27	0.00	61.54	45.95	12.53	0.00	58.48
f)	Programme Expenses	2.61	-	0.48	3.09	0.15	-	0.60	0.75	0.22	-	0.00	0.22	0.00	-	0.57	0.57	0.78	-	0.00	0.78	3.42	-	0.00	3.42
g)	Administrative	57.16	3.47	-	60.63	16.93	0.48	-	17.41	23.12	36.92	-	60.04	24.97	1.00	-	25.97	21.30	1.44	-	22.74	29.03	0.96	-	29.99
h)	Finance Expenses	0.01	0.00	0.00	0.01	0.04	0.00	0.00	0.04	15.82	0.02	0.51	16.35	9.12	0.02	0.00	9.14	0.03	0.03	0.00	0.06	0.43	0.02	0.00	0.45
l)	Depreciation	115.21	2.40	1.25	118.86	128.21	4.74	1.25	134.20	108.66	8.02	1.25	117.93	104.38	10.44	1.09	115.91	221.89	10.70	1.44	234.03	221.89	10.70	1.44	234.03
	Total Expenditure	371.55	33.42	3.01	407.98	371.29	53.98	2.96	428.23	369.49	106.01	2.27	477.77	324.34	101.67	3.35	429.36	483.94	53.26	3.62	540.82	570.99	29.42	2.59	603.00
	Surplus / (Deficit)	(173.75)	45.02	12.47	(17.33)	26.84	12.97	22.48	-20.19	0.45	14.29	-5.45	(47.39)	21.76	13.25	(12.38)	(42.35)	20.86	13.57	(7.92)	(184.15)	67.67	14.94	(101.54)	

Annexure IX - f : Summary of Income and Expenditure Accounts in Percentage

S.No	Particulars	Audited																				Unaudited			
		2001-02				2002-03				2003-04				2004-05				2005-06				2006-07			
		Rev & Capital	Water Supply	Elem'tary Education	Total	Rev & Capital	Water Supply	Elem'tary Education	Total	Rev & Capital	Water Supply	Elem'tary Education	Total	Rev & Capital	Water Supply	Elem'tary Education	Total	Rev & Capital	Water Supply	Elem'tary Education	Total	Rev & Capital	Water Supply	Elem'tary Education	Total
I	Income (% of Total Income)																								
a)	Property Tax	27%	27%	96%	31%	19%	16%	99%	21%	20%	12%	99%	21%	25%	11%	99%	24%	16%	19%	100%	19%	19%	14%	100%	21%
b)	Other Taxes	9%	-	-	6%	6%	-	-	4%	6%	-	-	4%	8%	-	-	6%	5%	-	-	4%	4%	-	-	3%
c)	Assigned Revenue	14%	-	-	9%	25%	-	-	19%	12%	-	-	9%	14%	-	-	9%	10%	-	-	8%	5%	-	-	4%
d)	Devolution Fund	28%	0%	-	19%	37%	0%	-	29%	49%	0%	-	36%	37%	17%	-	29%	51%	0%	-	42%	61%	0%	-	47%
e)	Service Charges & Fees	3%	72%	-	22%	3%	80%	-	17%	3%	82%	-	21%	5%	69%	-	23%	4%	81%	-	15%	4%	85%	-	20%
f)	Grants & Contribution	2%	-	-	1%	0%	-	-	0%	0%	-	-	0%	0%	-	-	0%	8%	-	-	6%	1%	-	-	0%
g)	Sale & Hire Charges	0%	0%	-	0%	0%	0%	-	0%	0%	0%	-	0%	0%	0%	-	0%	0%	0%	-	0%	0%	0%	-	0%
h)	Other Income	17%	1%	4%	12%	11%	4%	1%	9%	11%	6%	1%	9%	12%	4%	1%	9%	6%	0%	0%	5%	7%	0%	0%	5%
	Total Income	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
II	Expenditure (% of Total Expt)																								
a)	Personnel Cost - Salaries	44%	-	-	40%	39%	-	-	34%	39%	-	-	30%	48%	-	-	36%	33%	-	-	29%	32%	-	-	31%
b)	Personnel Cost - Others	1%	0%	-	1%	0%	0%	-	0%	0%	0%	-	0%	0%	0%	-	0%	0%	1%	-	0%	0%	0%	-	0%
c)	Terminal & Retirement Benefits	4%	-	-	3%	12%	-	-	11%	8%	-	-	6%	4%	-	-	3%	5%	-	-	5%	10%	-	-	10%
d)	Operative Expenses	2%	47%	43%	6%	7%	80%	38%	16%	11%	50%	17%	20%	3%	68%	46%	18%	2%	44%	60%	6%	4%	18%	44%	5%
e)	Repairs & Maintenance	2%	35%	0%	5%	2%	10%	0%	3%	2%	8%	6%	3%	2%	21%	4%	6%	9%	32%	0%	11%	8%	43%	0%	10%
f)	Programme Expenses	1%	-	16%	1%	0%	-	20%	0%	0%	-	0%	0%	0%	-	17%	0%	0%	-	0%	0%	1%	-	0%	1%
g)	Administrative Expenses	15%	10%	-	15%	5%	1%	-	4%	6%	35%	-	13%	8%	1%	-	6%	4%	3%	-	4%	5%	3%	-	5%
h)	Finance Expenses	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	22%	3%	3%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%
i)	Depreciation	31%	7%	42%	29%	35%	9%	42%	31%	29%	8%	55%	25%	32%	10%	33%	27%	46%	20%	40%	43%	39%	36%	56%	39%
	Total Expenditure	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Surplus / (Deficit) (% of Total Income)	-88%	57%	81%	-40%	-5%	33%	81%	5%	-6%	0%	86%	-1%	-17%	18%	80%	-3%	-10%	28%	79%	-1%	-48%	70%	85%	-20%

Annexure IX - g : Growth in Revenue and Cost for Last 5 Years

S.No	Particulars	2002-03	2003-04	2004-05	2005-06	2006-07	Simple Average	Comp. Average
I	Income							
a)	Property Tax	7.19%	3.02%	0.63%	4.04%	2.00%	3.38%	3.59%
b)	Other Taxes	13.77%	-3.40%	21.08%	1.80%	-27.69%	1.11%	-0.41%
c)	Assigned Revenue							
	- Duty on Transfer of Property	200.04%	-49.28%	-14.88%	28.44%	-55.78%	21.71%	-5.29%
	- Entertainment Tax	516.13%	-70.31%	41.56%	-65.12%	-68.88%	70.68%	-14.38%
d)	Devolution Fund	130.22%	31.74%	-28.09%	83.74%	3.85%	44.29%	63.24%
e)	Service Charges & Fees							
	- Water Charges	19.19%	47.07%	0.14%	-27.96%	16.25%	10.94%	9.40%
	- Water Connection Charges	-3.09%	-53.13%	-73.56%	-89.11%	11645.45%	2285.31%	10.73%
	- Others	52.32%	11.70%	6.22%	46.19%	-18.54%	19.58%	23.04%
f)	Grants & Contribution	- 100.00%	-	-100.00%	-	-93.94%	-58.79%	-7.96%
g)	Sale & Hire Charges	-	-	-	-88.89%	200.00%	22.22%	-
h)	Other Income	20.63%	1.60%	-14.21%	-30.85%	2.50%	-4.06%	-5.09%
II	Expenditure							
a)	Personnel Cost - Salaries	-10.74%	-0.50%	7.40%	2.89%	15.69%	2.95%	2.71%
b)	Personnel Cost - Others	-49.64%	-71.01%	245.00%	42.03%	16.33%	36.54%	-3.36%
c)	Terminal & Retirement Benefits	236.59%	-32.09%	-52.85%	73.47%	131.30%	71.29%	66.49%
d)	Operative Expenses	165.46%	34.42%	-15.64%	-55.77%	-10.05%	23.68%	3.95%
e)	Repairs & Maintenance	-30.63%	-2.55%	100.87%	122.49%	-4.97%	37.04%	37.42%
f)	Program Expenses	-75.73%	-70.67%	-	36.84%	338.46%	45.78%	2.14%
g)	Administrative Expenses	-71.28%	244.86%	-56.75%	-12.44%	31.88%	27.25%	-10.11%
h)	Finance Expenses	300.00%	40775.00%	-44.10%	-99.34%	650.00%	8316.31%	880.00%
l)	Depreciation	12.91%	-12.12%	-1.71%	101.91%	0.00%	20.20%	19.38%

Annexure IX - h : Revenue and Capital Fund Balance Sheet

S.No	Particulars	Audited					Unaudited
		2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
I	Liabilities						
a)	Liabilities						
	Loans from Government	95.88	93.74	86.23	77.13	73.35	67.56
	Loan from TUFIDCO	-	-	6.75	6.75	9.16	2.84
	Loan from TNUDF	90.82	69.45	42.60	22.31	17.58	17.47
	Contribution from Municipal Fund	56.46	60.43	88.42	88.42	88.42	242.85
	Contribution from Government	59.33	108.27	191.90	239.10	239.10	239.10
	Grant from Government	19.16	24.70	26.65	72.82	148.58	307.66
	Accumulated Depreciation	240.02	368.23	476.88	581.26	804.92	1027.50
b)	Current Liabilities						
	Tender & Other Deposits	9.90	11.23	12.13	11.51	14.26	16.91
	Security Deposits	1.84	4.67	3.27	5.02	6.28	6.28
	Deposits Others	255.50	258.31	260.83	261.31	261.10	265.16
	Advance collection of Property Tax	-	-	0.32	0.32	0.32	0.34
	Outstandings	125.85	127.09	154.21	132.14	62.56	108.71
	Staff Bills Payable	52.99	47.34	46.97	57.25	60.31	46.23
	Provision for Doubtful collection	49.24	56.38	58.37	67.76	67.76	67.76
c)	Accumulated Surplus	1039.00	1031.83	1031.83	989.15	946.77	793.46
	Total	2095.99	2261.67	2487.36	2612.25	2800.47	3209.83
II	Assets						
a)	Fixed Assets						
	Land	1148.20	1148.20	1148.20	1148.20	1148.20	1148.20
	Buildings	72.78	90.37	124.93	143.41	143.41	143.41
	Subways & cause ways	9.40	9.40	9.40	10.40	10.40	10.40
	Roads & Payments	439.26	491.90	534.25	588.68	588.68	777.65
	Strom Water Drains, Open Drains & Culverts	65.08	71.18	79.48	90.37	90.37	90.37
	Heavy & Light Vehicles	14.32	14.32	14.90	14.90	15.90	16.60
	Furniture & Fixtures	0.10	0.44	10.73	11.02	11.02	11.02
	Projects in Progress	14.28	24.70	27.43	37.14	138.49	237.03
	Electrical Instalation	10.38	10.38	10.38	10.38	10.38	10.38
b)	Current Assets						

	Stock	0.06	2.47	0.76	0.70	4.87	5.98
	Property Tax Recoverable - Current	12.33	20.45	22.53	29.31	29.44	24.44
	Property Tax Recoverable - Arrears	28.77	29.41	37.95	48.04	62.98	66.52
	Profession Tax Recoverable - Current	7.28	1.59	2.07	2.40	2.38	1.89
	Profession Tax Recoverable - Arrears	1.64	8.43	9.98	11.97	14.34	16.07
	Lease Amounts Recoverable - Current	8.32	9.54	7.59	12.42	12.06	13.61
	Lease Amounts Recoverable - Arrears	47.95	52.75	55.64	65.08	70.95	78.28
	Licence fees Arrears	0.87	0.86	0.86	0.86	0.86	0.86
	Rent on Building recovery	-	-	0.72	1.04	1.04	1.04
	Specific Grant Receivable	6.44	6.44	6.44	6.44	6.44	6.44
	Deposits Recoverable	0.02	0.10	0.11	0.12	0.68	0.71
	Staff Advance Recoverable	7.72	6.99	8.74	9.75	10.25	9.01
	Advance to Suppliers	8.42	8.42	8.42	8.42	8.31	8.42
	Other Advances - Recoverable	180.96	181.26	178.57	182.24	182.21	182.42
	Inter Funds Transfer	-	10.86	48.41	63.23	108.80	146.99
	Other Schemes	5.11	5.11	-	3.84	3.84	3.84
	Outstandings	20.83	1.55	0.05	1.65	25.11	56.04
	c) Cash & Bank Balances						
	Cash on Hand	-	0.12	0.29	0.57	0.20	0.20
	Banks Accounts	(14.53)	35.93	138.03	78.62	79.37	142.01
	Fixed Deposits	-	18.50	0.50	31.05	19.49	-
	Total	2095.99	2261.67	2487.36	2612.25	2800.47	3209.83

Annexure IX - i : Water Supply and Drainage Fund Balance Sheet

S.No	Particulars	Audited					Unaudited
		2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
I	Liabilities						
a)	Liabilities						
	Contribution from Government	0.02	15.93	20.93	27.76	27.76	27.76
	Diversion from Other Municipal fund	-	-	21.50	23.62	41.42	67.75
	Grants From Govt	1.80	-	-	-	16.35	190.06
	Accumulated Depreciation	5.82	10.55	18.58	29.02	39.72	50.42
b)	Current Liabilities						
	Reserve for collection of doubtful items	6.13	6.61	41.22	41.67	41.67	41.67
	Tender Deposit	0.28	0.49	1.03	1.41	2.00	1.96

IT & ST Deduction - Contractors	0.13	0.24	0.83	0.83	0.75	-
Accounts Payable Contractors	-	-	-	-	-	0.46
Accounts Payable Expenses				-	2.50	0.58
Unpaid Salaries				-	-	0.11
Other payable / Recoveries	0.01	0.06	0.76	0.28	0.14	-
TWAD Water supply charges	54.52	54.52	48.33	48.33	48.33	48.33
Staff Recoveries Payable	0.07	0.07	0.07	0.07	0.02	0.02
Inter Funds Transfer	-	-	0.55	0.55	0.55	0.55
Others				-	0.45	0.39
c) Accumulated Surplus/Deficit	327.99	356.09	372.47	394.94	415.80	525.99
Total	396.77	444.56	526.27	568.48	637.46	956.05
II Assets						
a) Fixed Assets						
Land	245.06	245.06	245.06	245.06	245.06	245.06
Drains & Culverts	-	-	6.84	6.84	6.84	6.84
Plant & Machinery	0.21	7.37	8.72	8.72	8.72	8.72
Water Supply Head works,OHT etc	32.96	55.16	67.61	105.76	105.76	191.51
Ground Water & Bore well	20.21	24.42	65.73	69.65	69.65	69.65
Public Fountains	0.92	0.92	0.92	0.92	0.92	0.92
Drains & Sewarage pipes	12.22	12.22	24.16	24.16	24.16	24.16
Hand Pump	-	2.55	2.55	2.55	2.55	2.55
Other Items	-	-	-	-	-	3.98
Project in Progress	-	-	-	-	43.37	41.21
b) Current Assets						
WSD Tax Receivable - Current	9.61	3.89	4.29	5.58	6.49	5.47
WSD Tax Receivable - Arrears	5.16	12.55	14.17	16.10	21.19	22.71
Water Charges Recoverable - Current	11.01	13.60	19.06	14.73	24.80	8.64
Water Charges Recoverable - Arrears	15.01	16.28	20.62	26.77	35.52	42.95
Recoverable - Staff Advances	-	-	0.63	0.63	0.63	0.63
Recoverable - Advances Others	-	-	-	-	0.38	0.38
Stock on Hand	-	0.16	1.04	1.04	1.52	1.52
Inter Funds Transfer	42.37	40.54	29.95	30.64	38.64	56.84
c) Cash & Bank Balances						
Cash on Hand	-	0.05	-	0.14	0.29	0.29
WSD Fund - Bank Accounts	2.03	7.29	14.42	8.69	0.47	221.52
Fixed Deposit	-	2.50	0.50	0.50	0.50	0.50
Total	396.77	444.56	526.27	568.48	637.46	956.05

Annexure IX - j : Education Fund Balance sheet

S.No	Particulars	Audited					Unaudited
		2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
I	Liabilities						
a)	Liabilities						
	Contribution by Municipality	-	-	-	-	1.50	44.61
	Accumulated Depreciation	2.34	3.58	4.83	5.93	7.42	8.81
b)	Current Liabilities						
	Tender Deposit	0.05	0.05	0.07	0.08	0.21	0.16
	Provision for doubtful debts	1.19	1.79	1.91	2.49	2.48	2.48
	IT & ST Deductions - Contractors	0.12	0.05	0.06	0.05	0.05	-
	Accounts Payable Expenses	-	-	-	-	1.10	-
	Other recoveries	0.02	0.02	-	0.02	-	0.05
c)	Accumulated Surplus/(Deficit)	400.04	413.03	427.73	440.95	454.53	470.55
	Total	403.76	418.52	434.60	449.52	467.29	526.66
II	Assets						
a)	Fixed Assets						
	Land	343.06	343.06	343.06	343.06	343.06	343.06
	Buildings	25.56	25.56	27.85	27.85	27.85	27.85
	Furniture Fixtures & Off.Equip.	0.01	0.01	0.01	0.01	0.01	0.01
	Project in Progress	-	-	-	-	8.49	10.10
b)	Current Assets						
	Education Tax Rec - Current	4.39	4.87	5.36	6.98	8.12	6.88
	Education Tax Rec - Arrears	8.62	10.21	12.26	14.66	18.20	20.15
	Other Advances Recoverable	4.49	4.49	4.49	4.49	4.49	4.49
	Staff Advance Recoverable	0.22	0.22	0.22	0.22	0.22	0.22
	Outstandings	-	-	-	-	1.50	1.50
	Inter Funds Transfer	15.31	25.30	28.79	29.61	31.10	79.60
c)	Cash & Bank Balances						
	Cash on Hand	-	-	0.02	0.04	0.08	0.08
	Bank A/cs	2.10	4.80	12.54	22.60	24.17	32.72
	Total	403.76	418.52	434.60	449.52	467.29	526.66

Annexure IX - k : Summary of Balance sheet

S.No	Particulars	Audited																				Unaudited			
		2001-02				2002-03				2003-04				2004-05				2005-06				2006-07			
		Rev &	Water	Elem'tary	Total	Rev &	Water	Elem'tary	Total	Rev &	Water	Elem'tary	Total	Rev &	Water	Elem'tary	Total	Rev &	Water	Elem'tary	Total	Rev &	Water	Elem'tary	Total
Capital	Supply	Education		Capital	Supply	Education		Capital	Supply	Education		Capital	Supply	Education		Capital	Supply	Education		Capital	Supply	Education			
I	Liabilities																								
a)	Grants / Contribution	321.65	1.82	0.00	323.47	356.59	15.93	0.00	372.52	442.55	42.43	0.00	484.98	506.53	51.38	0.00	557.91	576.19	85.53	1.50	663.22	877.48	285.57	44.61	1207.66
b)	Accumulated Depreciation	240.02	5.82	2.34	248.18	368.23	10.55	3.58	382.36	476.88	18.58	4.83	500.29	581.26	29.02	5.93	616.21	804.92	39.72	7.42	852.06	1027.50	50.42	8.81	1086.73
c)	Current Liabilities	495.32	61.14	1.38	557.84	505.02	61.99	1.91	568.92	536.10	92.79	2.04	630.93	535.31	93.14	2.64	631.09	472.59	95.96	3.84	572.39	511.39	93.68	2.69	607.76
d)	Net Surplus	1039.00	327.99	400.04	1767.03	1031.83	356.09	413.03	1800.95	1031.83	372.47	427.73	1832.03	989.15	394.94	440.95	1825.04	946.77	415.80	454.53	1817.10	793.46	525.99	470.55	1790.00
	Total Liabilities	2095.99	396.77	403.76	2896.52	2261.67	444.56	418.52	3124.75	2487.36	526.27	434.60	3448.23	2612.25	568.48	449.52	3630.25	2800.47	637.01	467.29	3904.77	3209.83	955.66	526.66	4692.15
II	Assets																								
a)	Fixed Assets	1773.80	311.58	368.63	2454.01	1860.89	347.70	368.63	2577.22	1959.70	421.59	370.92	2752.21	2054.50	463.66	370.92	2889.08	2156.85	507.03	379.41	3043.29	2445.06	594.60	381.02	3420.68
b)	Current Assets	336.72	83.16	33.03	452.91	346.23	87.02	45.09	478.34	388.84	89.76	51.12	529.72	447.51	95.49	55.96	598.96	544.56	129.17	63.63	737.36	622.56	139.14	112.84	874.54
c)	Cash & Bank Balances	-14.53	2.03	2.10	-10.40	54.55	9.84	4.80	69.19	138.82	14.92	12.56	166.30	110.24	9.33	22.64	142.21	99.06	1.26	24.25	124.57	142.21	222.31	32.80	397.32
	Total Assets	2095.99	396.77	403.76	2896.52	2261.67	444.56	418.52	3124.76	2487.36	526.27	434.60	3448.23	2612.25	568.48	449.52	3630.25	2800.47	637.46	467.29	3905.22	3209.83	956.05	526.66	4692.54

Annexure IX - 1 : Demand Collection Balance Statement (Rs. in lacs)

S.No.	Particulars	Demand			Collection			Collection %		
		Arrears	Current	Total	Arrears	Current	Total	Arrears	Current	Total
B	2005-06									
I	Tax Income									
a)	Property Tax	125.00	107.00	232.00	23.67	63.22	86.89	19%	59%	37%
b)	Profession Tax	16.18	20.00	36.18	2.41	18.13	20.54	15%	91%	57%
	Total Tax Income	141.18	127.00	268.18	26.08	81.35	107.43	18%	64%	40%
II	Non Tax Income									
a)	Water Charges	36.55	63.50	100.05	11.29	40.97	52.26	31%	65%	52%
b)	Other Fees	61.80	21.36	83.16	0.83	12.05	12.88	1%	56%	15%
	Total Non Tax Income	98.35	84.86	183.21	12.12	53.02	65.14	12%	62%	36%
III	Total Tax & Non Tax Income	239.53	211.86	451.39	38.20	134.37	172.57	16%	63%	38%

S.No.	Particulars	Demand			Collection			Collection %		
		Arrears	Current	Total	Arrears	Current	Total	Arrears	Current	Total
A	2006-07									
I	Tax Income									
a)	Property Tax	145.11	113.70	258.81	42.12	72.15	114.27	29%	63%	44%
b)	Profession Tax	15.64	22.50	38.14	0.47	15.21	15.68	3%	68%	41%
	Total Tax Income	160.75	136.20	296.95	42.59	87.36	129.95	26%	64%	44%
II	Non Tax Income									
a)	Water Charges	54.94	71.73	126.67	18.75	54.58	73.33	34%	76%	58%
b)	Other Fees	70.28	21.46	91.74	4.38	11.90	16.28	6%	55%	18%
	Total Non Tax Income	125.22	93.19	218.41	23.13	66.48	89.61	18%	71%	41%
III	Total Tax & Non Tax Income	285.97	229.39	515.36	65.72	153.84	219.56	23%	67%	43%

S.No.	Particulars	Demand			Collection			Collection %		
		Arrears	Current	Total	Arrears	Current	Total	Arrears	Current	Total
D	2003-04									
I	Tax Income									
a)	Property Tax	87.82	106.19	194.01	18.42	71.33	89.75	21%	67%	46%
b)	Profession Tax	10.40	19.31	29.71	0.42	17.24	17.66	4%	89%	59%
	Total Tax Income	98.22	125.50	223.72	18.84	88.57	107.41	19%	71%	48%
II	Non Tax Income									
a)	Water Charges	0.00	0.00	0.00	0.00	0.00	0.00	0%	0%	0%
b)	Other Fees	54.13	13.82	67.95	3.32	8.08	11.40	6%	58%	17%
	Total Non Tax Income	22.66	13.82	67.95	3.32	8.08	11.40	8%	58%	17%
III	Total Tax & Non Tax Income	120.88	139.32	291.67	22.16	96.65	118.81	17%	69%	41%

S.No.	Particulars	Demand			Collection			Collection %		
		Arrears	Current	Total	Arrears	Current	Total	Arrears	Current	Total
C	2004-05									
I	Tax Income									
a)	Property Tax	104.25	107.13	211.38	19.25	61.77	81.02	18%	58%	38%
b)	Profession Tax	12.05	23.38	35.43	0.08	20.97	21.05	1%	90%	59%
	Total Tax Income	116.30	130.51	246.81	19.33	82.74	102.07	17%	63%	41%
II	Non Tax Income									
a)	Water Charges	39.68	83.61	123.29	12.91	68.88	81.79	33%	82%	66%
b)	Other Fees	64.81	25.52	90.33	2.46	14.63	17.09	4%	57%	19%
	Total Non Tax Income	104.49	109.13	213.62	15.37	83.51	98.88	15%	77%	46%
III	Total Tax & Non Tax Income	220.79	239.64	460.43	34.70	166.25	200.95	16%	69%	44%

S.No.	Particulars	Demand			Collection			Collection %		
		Arrears	Current	Total	Arrears	Current	Total	Arrears	Current	Total
E	2002-03									
I	Tax Income									
a)	Property Tax	74.26	102.97	177.23	18.09	71.32	89.41	24%	69%	50%
b)	Profession Tax	8.92	19.99	28.91	0.49	18.40	18.89	5%	92%	65%
	Total Tax Income	83.18	122.96	206.14	18.58	89.72	108.30	22%	73%	53%
II	Non Tax Income									
a)	Water Charges	26.03	56.77	82.80	9.75	43.17	52.92	37%	76%	64%
b)	Other Fees	56.29	22.43	78.72	3.54	12.89	16.43	6%	57%	21%
	Total Non Tax Income	82.32	79.20	161.52	13.29	56.06	69.35	16%	71%	43%
III	Total Tax & Non Tax Income	165.50	202.16	367.66	31.87	145.78	177.65	19%	72%	48%

S.No.	Particulars	Demand			Collection			Collection %		
		Arrears	Current	Total	Arrears	Current	Total	Arrears	Current	Total
F	2001-02									
I	Tax Income									
a)	Property Tax	61.26	96.22	157.48	15.54	67.68	83.22	25%	70%	53%
b)	Profession Tax	7.66	17.57	25.23	0.38	15.93	16.31	5%	91%	65%
	Total Tax Income	68.92	113.79	182.71	15.92	83.61	99.53	23%	73%	54%
II	Non Tax Income									
a)	Water Charges	20.15	47.63	67.78	5.14	36.61	41.75	26%	77%	62%
b)	Other Fees	0.93	4.57	5.50	0.06	4.58	4.64	6%	100%	84%
	Total Non Tax Income	21.08	52.20	73.28	5.20	41.19	46.39	25%	79%	63%
III	Total Tax & Non Tax Income	90.00	165.99	255.99	21.12	124.80	145.92	23%	75%	57%

Annexure IX - m : Key Financial Indicators

	Indicators	Value	Unit
A	Resource Mobilization		
1	Per Capita Income	279	Rs. p.a
2	Sources of Funds		
	a) Share of Own Sources in Total Revenue Income (RI)	67	%
	b) Share of Property Tax in Total Revenue Income	21	%
	c) Share of Revenue Grants & Subsidies in Total RI	51	%
3	Growth in Revenue Income	14.38	% p.a.
4	Growth in Own Sources of Revenue Income	3.81	% p.a.
5	Per Capita Own Income	563	Rs. p.a
B	Fund Application		
1	Per Capita Expenditure	677	Rs. p.a
2	Uses of Funds		
	a) Share of Establishment Expenditure in Total RE	41	%
	b) Share of O&M Expenditure in Total Revenue Expenditure	15	%
	c) Share of Establishment Expenditure to Total RI	49	%
3	Growth in Establishment Expenditure	7.43	%
4	Growth in O&M Expenditure	18.55	%
5	Growth in Total Revenue Expenditure	9.56	% p.a.
C	Liability Management		
1	Per Capita Liability		
	a) Outstanding debt per Capita	98.70	Rs.
	b) Outstanding Non-Debt Liability per Capita	-	Rs.
	c) Total Outstanding Liability Per Capita	98.70	Rs.
2	As a Proportion of Property Tax Current Demand		
	a) Outstanding Debt as % of P.T Demand	83.73	%
	b) Outstanding Non-Debt Liability as % of P.T Demand	-	
	c) Total Outstanding Liability as % of P.T Demand	83.73	%
3	As a Proportion of Property Tax Own Revenue Income		
	a) Outstanding Debt as % of Own Revenue Sources	35.41	%
	b) O/s Non-Debt Liability as % of Own Revenue Sources	-	
	c) Total Outstanding Liability as % Own Revenue Sources	35.41	%

4	Non-Debt Liability as % of Total Liability	-	
5	Debt Servicing Ratio (D/S Revenue Income)	9.95	%
D Performance Indicators			
1	Operating Ratio	73.58	%
2	Growth in Per Capita Own Income	1.39	%
3	Growth in Per Capita Grant	31.70	%
4	Growth in Per Capita Total Revenue Income	10.39	%
5	Growth in Per Capita Establishment Expenditure	4.25	%
6	Growth in Per Capita O&M Expenditure	14.07	%
7	Growth in Per Capita Revenue Expenditure	6.13	%
E Efficiency Indicators			
1	Tax Collection Performance (Current)		
	a) Property Tax	65	%
	b) Profession Tax	90	%
	c) Water Charges	75	%
	d) Non Tax Revenue	55	%
2	No of P.T Assessment per Tax Collection Staff	911	Nos.
3	Property Tax Demand per Assessment	925	Rs. p.a.
4	No. of Municipal Staff per 1000 Population	2.64	Nos.
5	Annual Revenue (Own Source) per Municipal Staff	1.05	Rs.lakh p.a.
6	Population per Residential P.T Assessment	7.85	persons

Annexure IX - n: Status of Loans as on 31.03.2008

S.N	Particulars	Loan	Interest Rate (%)	Interest	Total	Total Repaid in 2007-08			Balance Due		
		Amt		Due	Due	Principal	Interest	Total	Principal	Interest	Total
1	Consolidated Government Loan	46.02	13.5%	18.63	64.65	46.02	18.63	64.65	0.00	0.00	0.00
2	TNUDF	29.21		11.83	41.04	0.26	-	0.26	28.95	11.83	40.78
3	TUFIDCO	21.46		8.69	30.15	7.19	3.87	11.06	14.27	4.82	19.09
4	IUDP	34.02		-	34.02	34.02	-	34.02	0.00	0.00	0.00
	Total	130.71		39.15	169.86	87.49	22.50	109.99	43.22	16.65	59.87

Annexure XII : Institutes in Tamil Nadu Providing Training Programs

The list of local training institutes (Other than the in-house institutes) is as follows;

S.N	Name of Institute	Contact Details	Courses offered
1	Dr. Ambedkar Institute of Productivity (Training Institute of National Productivity Council)	6, SIDCO Industrial Estate, Ambattur, Chennai – 600 098 Ph: 044-2625 3144 Fax:044-2625 3122 Email: npc-chennai@eth.net	<ul style="list-style-type: none"> • Human Resource related (e.g Problem Solving Techniques, Leadership & Team Building, Human Resource Management, etc) • Engineering Courses (e.g. Total Productive maintenance, Municipal Solid Waste Management etc) • Environmental related courses (e.g. Environmental impact assessment, Air Pollution Management, etc) • Other courses e.g. Managing Information Resources, ISO courses, etc. • Hazardous waste characterization and disposal
2	Environmental Training Institute	76, Anna Salai, Guindy Chennai – 600 032 Ph : 044-2235 3134/3159 Email: tnceti@gias.md01.vsnl.net.in	<ul style="list-style-type: none"> • Natural Disaster Management • Environmental Management, Hazard Prevention methods • Avoidance of Pollution and maintenance of good environment
3	Institution of Road Transport	100 feet road, Taramani Chennai – 600 113 Ph:044-22541730/1761 Fax:044-2254 1761 Email : irt.taramani@vsnl.net Web: www.tn.nic.in/transport	<ul style="list-style-type: none"> • Traffic Congestion Control • Traffic Control and Best Practices
4	Institution of Labor Studies	3, Kamarajar Salai, Chennai – 600 005 Ph: 044 -2844 0102/5778 Fax: 044-28440966	<ul style="list-style-type: none"> • Labor Laws • Various national and state acts • Personnel and Industrial Acts • Personnel and Industrial Management
5	Institute of Water Studies	Taramani, Chennai – 600 113 Ph: 044-22541580 Fax:044-2254 2360	<ul style="list-style-type: none"> • Water Supply maintenance and management • Computerized design of water supply • Water and Waste Water treatment
6	Institute of Public Health	Poonamallee, Chennai – 600 056 Ph: 044 2627 2062 Fax: 044-24335075	<ul style="list-style-type: none"> • Public Health Reforms • Preventive measures to maintain Public Health • Reproductive and Child Health • Induction Training to medical Practitioners • Municipal Health Administration • Public Health Act • Malaria Control, Mosquito control • Prevention of Epidemics and Endemics

Annexure XIII - a: Details of Depreciation Statement for Assets as on 31.03.2007 – Revenue

S.No.	Item	Gross Block	Depreciation	Net Block
1	Land	1148.2	-	1148.2
2	Buildings	143.4	37.06	106.38
3	Subway & Causeways	10.40	10.36	0.04
4	Drains & Culverts	90.37	77.87	12.50
5	Heavy Vehicles	0.70	-	0.70
6	Light Vehicles	15.24	19.52	-4.28
7	Other Vehicles	0.66	0.75	-0.09
8	Furniture, Fixtures & Office Equipments	11.02	9.21	1.81
9	Electrical Installation Lamps	10.38	14.16	-3.78
10	CC Roads & Payments	410.09	408.87	1.22
11	BT Roads	366.89	445.81	-78.92
12	Other Roads	0.67	1.41	-0.74
13	Project in Progress	137.41	-	137.41
14	Project in Progress - Grants	99.62	-	99.62
	Total	1282.61	1025.02	1420.03

Annexure XIII - b : Details of Depreciation Statement for Assets as on 31.03.2007 – Water supply

S.No.	Item	Gross Block	Depreciation	Net Block
1	Land	245.06	-	245.06
2	Buildings	-	-	0.00
3	Drains & Culverts	6.84	4.58	2.26
4	Plant & Machinery	8.72	10.06	-1.34
5	Water Supply Head works, OHT etc.	191.51	11.90	179.61
6	Drainage & Sewerage Pipes, Conduits etc.	24.16	2.92	21.24
7	Ground Water Wells & Deep Bore Wells	69.65	18.10	51.55
8	Hand Pumps - India Mark II	2.55	2.52	0.03
9	Other Items	3.98	0.32	3.66
10	Project in Progress	29.84	-	29.84
11	Projects in Progress - Govt. Grants	11.37	-	11.37
	Total	593.68	50.40	543.28

Annexure XIII - c : Details of Depreciation Statement for Assets as on 31.03.2007 – Education

S.No.	Item	Gross Block	Depreciation	Net Block
1	Land	343.06	-	343.06
2	Buildings	27.85	8.81	19.04
3	Furnitures, Fixtures & Office Equipments	0.01	-	0.01
4	Project in Progress	5.03	-	5.03
5	Projects in Progress - Govt. Grants	5.08	-	5.08
	Total	381.03	8.81	372.22