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Tamilnadu Urban Infrastructure Financial Services Limited

Final Report

City Corporate Cum Business Plan For Sirkazhi Municipality

February 2009

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LIST OF ABBREVIATIONS

AMP	Asset Management Plan
ARV	Annual Rental Value
BP	Business Plan
CAGR	Compounded Annual Growth Rate
CCP	City Corporate Plan
CIP	Capital Investment Plan
CMDA	Chennai Metropolitan Development Authority
CMWSSB	Chennai Metropolitan Water Supply and Sewerage Board
ESR	Elevated Service Reservoirs
FOP	Financial Operating Plan
GLSR	Ground Level Storage Reservoirs
LCS	Low Cost Sanitation
LPA	Local Planning Authority
LPCD	Litres per Day
MDR	Major District Road
ML	Million Litres
MLD	Million Litres Per Day
MoA	Memorandum of Association
ODR	Other District Road
O&M	Operation and Maintenance
PC	Public Conveniences
P.A.	Per Annum
PWD	Public Works Department
STP	Sewage Treatment Plant
SWD	Storm Water Drain
SWM	Solid Waste Management
TNUIFSL	Tamilnadu Urban Infrastructure and Financial Services Limited
T&CPA	Town and Country Planning Act
TNUIFSL	Tamilnadu Urban Infrastructure Financial Services Limited
TNUDP	Tamilnadu Urban Development Project
TNPCB	Tamilnadu Pollution Control Board
TWAD	Tamilnadu Water Supply and Drainage
UGD	Underground Drainage
ULB	Urban Local Body
WTP	Water Treatment Plant

1 BACKGROUND

1.1 Background of the project

Over the past decade, growing concerns about the ability of the cities to provide the level of urban services commensurate with their contribution to economic activity has led to significant changes in India's urban development policies. As a part of the change the Tamil Nadu Urban Development Project (TNUDP I) was conceptualised. It was followed by TNUDP II to consolidate the gains made by the first generation of the project and carry its objective forward. In 2005, the third generation of the same project TNUDP III was rolled off.

TNUDP III was launched with an objective of building on and consolidating the achievements of TNUDP II, continuing to improve urban infrastructure services in Tamil Nadu in a sustainable manner. The two main objectives of TNUDP III were: -

- ❖ **To strengthen the empowerment of ULBs by continuing the decentralisation process**
- ❖ **To mobilize resources on a sustainable basis for urban investments**

The International Bank for Reconstruction and Development has provided a loan equivalent to \$300 Million to Government of India as part of TNUDP III. As part of the preparatory work and for providing assistance to the Urban Local Bodies (ULBs) in preparing a list of projects to be financed under this programme, TNUIFSL as a financial intermediary intends to assist Madurantagam, Sirkazhi, Tindivanam, Nellikuppam, Panruti, Virudhachalam, Perambalur, Vandavasi, Thiruthuraipoondi, Koothanallur and Mannargudi Municipalities in preparing a City Corporate Cum Business Plan. TNUIFSL has selected the above mentioned ULBs, as they have a good potential for immediate implementation of necessary financial reforms and have also defined their vision plan and have a wish list of projects to be implemented to improve the service delivery. The City Corporate Cum Business Plan will therefore facilitate in strengthening and improving their financial position for effective capital investment management and urban service delivery

City Corporate Plans mainly focus on the vision, strategies and tasks to be carried out by the ULBs in a planned period and the Business Plans focus on devising an action plan indicating clearly the roles, responsibility and time frame for various reforms to be undertaken, strategy for resource mobilisation, actions for expenditure control, addresses issue for better urban governance within the time frame and also develops indicators to monitor the progress.

The objective of the City Corporate Cum Business Plan for the ULBs, is to improve the service delivery, resource mobilization and improve overall urban governance scenario of the town by implementing the suggested projects, and reforms as part of CCP. Further this would enable effective implementation and monitoring through performance indicators. The Business Plan will ensure that the city/town meets its infrastructure priorities through efficient management practices as stated functional areas in the 74th Constitutional Amendment Act.

1.2 Study Objective and Scope of Work

The following section enlists the main objectives of this assignment alongside the scope of work the assignment entails.

1.2.1 Objective

The overall objective of the TNUIFSL project is to improve the financial position of the municipalities for facilitating effective capital investment management and improved service delivery. Therefore, the objective of this assignment is to prepare a City Corporate Plan Cum Business Plan to enable the ULBs to accomplish their objectives covered under the CCP.

The broad objectives of the assignment include the following;

- ❖ Definition of the growth directions and service up gradation envisioned
- ❖ Identification of the gaps in service and demand for the services.
- ❖ Definition of broad infrastructure needs
- ❖ Definition of specific rehabilitation and capital improvement needs
- ❖ Definition of revenue enhancement and revenue management improvements required
- ❖ Definition of reforms required in local administration and service delivery
- ❖ Definition of management changes required to improve O&M of assets

1.2.2 Scope of Work

The scope of work includes the following activities;

1. Assessing the demand for the projects identified by the selected ULBs to be financed under TNUDP III
2. Financial assessment of the ULBs, including assessment of
 - 2.1. Financial information for previous five years
 - 2.2. Base and basis for levies, their revision history and impact
 - 2.3. State assignments and transfer; basis of transfers and their predictability
 - 2.4. Outstanding liabilities (loans, power dues, pension etc.)
3. Reviewing revenue and service management arrangements
4. Reviewing level, coverage and quality of municipal services in both poor and non-poor localities, including review of
 - 4.1. Issues in revenue realisation
 - 4.2. Quality of existing assets
 - 4.3. Institutional constraints

5. Assessing the staffing and management arrangements in delivery of services
6. Developing performance indicators for municipal services
7. Recommending measures for improvement of service coverage and asset quality, including
 - 7.1. Preparation of comprehensive asset management plan
 - 7.2. Definition of priority assets and indicative costs of rehabilitation
 - 7.3. Fiscal impact analysis of investments
 - 7.4. Analysis of funding options for rehabilitation of facilities
8. Preparing Financial and Operating Plan (FOP), which shall include;
 - 8.1. Additional data to be collected
 - 8.2. Areas of reduction in expenditure
 - 8.3. Options for increasing the revenues through non-traditional methods
9. Preparing draft Memorandum of Association between ULB and TNUIFSL, outlining the base line and benchmarks apart from other conditions
10. Initiating consultations with the council and local stakeholders to identify priority areas of the city's infrastructure
11. Finalising action plan for the city

2 APPROACH AND METHODOLOGY

The following section of the report elaborates on the approach that would guide and the methodology which would be followed for the preparation of the CCP&BP for each of the eleven municipalities.

2.1 Study Approach

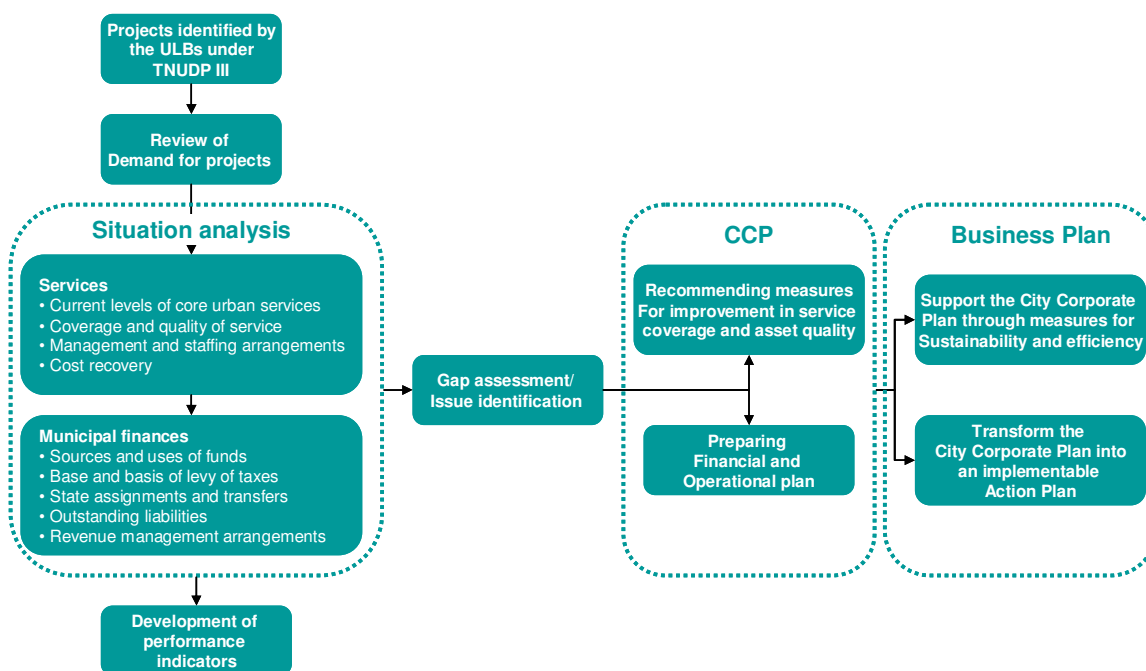
As specified in our proposal, our approach to the assignment has been consultative in nature. This involved a review of the CCPs prepared and the project initiatives. The CCP will be the base and guiding document for preparation of the Business Plan.

The nature of the assignment is such that it required stakeholder consultations through the entire course of the assignment. Stakeholder consultations are extremely important to resolve the potential obstacles which may arise and thereby create an enabling environment for TNUIFSL's intentions. A key strategy which was pursued as a part of the execution of this assignment has been to ensure interaction with all the officials who are associated with the investment programme, the ULBs and the stakeholders. The consultative process would thereby involve a review of vision documents prepared by the ULBs, discussion with various stakeholders (ULB officials, Council, State Line Departments (i.e. TWAD Board, PWD, R & B) Chamber of Commerce, NGOs, Citizen groups if any etc.).

The first phase of the assignment has been preparation of City Corporate Plan (CCP) and second phase of the assignment to convert the ideas and outputs of CCP into an implementable Business Plan (BP). The CCP & BP is a consensus Plan of all the stakeholders (developed after consultations) with a clear implementation schedule/program. This would cover roles envisaged for stakeholders and the ULB for implementation and realization of the goals and objectives of the CCP and BP.

The focus of this process has been to ensure that the process of preparing the City Corporate Plan cum Business Plan receives adequate and appropriate methodological and technical guidance in examining the full range of environmental, social, economic and health issues in the city and through communication, consultation and consensus building. The approach adopted encouraged full participation and consensus within the city to arrive at an adequate, appropriate and agreed rehabilitation strategy. The City Corporate and Business Plan has been a collective effort of all planning partners with ULBs being a key driving force in implementing the Business plan to achieve the shared goals and objectives of CCPBP.

The approach for the assignment, as discussed is presented as the schematic given below:



2.2 Study Methodology

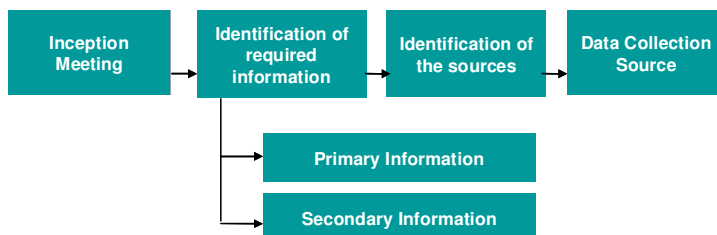
The entire methodology was divided into two parallel functions, namely project management functions and project execution functions. Project management shall include activities for supporting the main activities of project execution, while project execution will include activities to achieve the defined outputs of this assignment.

2.2.1 Activity 1: Inception and Data Collection

The first task involved communicating with the concerned officials in TNUIFSL to discuss the proposal in length. Contact details of the nodal point of contact in TNUIFSL were obtained. The next step involved holding an initial meeting to clarify the expectations of the stakeholders regarding the scope, objectives and outcomes of the assignment. A nodal officer had been mutually agreed upon by TNUIFSL and us.

Task 1: Data Collection

For the purpose of the assignment extensive data requirement existed. Firstly a comprehensive list of the data required was identified and integrated. After the list of required information had been identified, the sources, both primary and secondary, of each of different set of information were identified. The list of required information and the relevant sources were integrated into a data collection plan. As the next activity data collection formats, checklists and questionnaires were prepared. The indicative areas of data that would be collected for each of the



sub components were presented to the concerned ULBs so that the data collection activity could be completed in a timely manner.

Task 2: Listing of Projects

As indicated, all the ULBs have prepared the vision document and as part of this document a shelf of projects were identified. We have listed the project intervention (both new and refurbishment) identified by the ULB. This was an initial exercise to understand the priorities of the ULB. Though the list of projects identified by the ULB may or may not match with actual demand and gap supply analysis, this has been the guideline for us in preparing the shelf of projects for plan period. In addition to ULB projects, we had collected information on project pertaining to the ULB to be implemented by other agencies so as to incorporate the same into the ULB action in consultation with the implementing agency.

2.2.2 Activity 2: Review of Current Situation

Task 3 Assessing demand for the proposed projects

The objective of this task had been to review the information reflecting the current and future demand for municipal services to understand whether the projects identified by the ULBs are suitable to meet that demand. The projects and their expected outcomes in terms of service level improvements would be compared to the needs of the citizen to do the same.

Task 4 Assessment of municipal services

The objective of this activity had been to assess the existing level of services for the core municipal services (water supply, sewerage and sanitation, solid waste management, street lighting, roads and storm water drainage). In addition to gap assessment the quality of existing infrastructure has been assessed, however the extent of it has been limited subject to quality of available secondary information for various services.

We have conducted a situation assessment of the municipal services. Rapid assessment of the current situation has been undertaken by updating the necessary information to current levels. This included service level data and latest financial information such as the actual income and expenditure, demand collection balance statement, staffing information, investment related. This situation assessment has helped to present a clear and comprehensive status of functioning of the ULB with respect to their revenue and service management arrangements, service levels, coverage & quality, staffing and their investment requirements

In addition to services levels we have also presented the Operation and Maintenance expenditure for each service to arrive at the cost for provision of unit level of service. The expenditure review has been for unbundled services (establishment cost, energy cost, and other maintenance costs).

The infrastructure augmentation and rehabilitation requirements shall be eventually analyzed with respect to the towns' financial capacity. The infrastructure assessment has covered the current service levels, coverage and the unit costs adopted for estimating the investment. This would be further reaffirmed with the infrastructure and investment priorities of the town and form part of the Business Plan.

Task 5 Review of municipal finances

In order to assess the fiscal situation of the ULBs we have reviewed the finances of ULB for the previous five years. The objective of this review has been to assess:

❖ Major income sources and major heads and expenditure

❖ Growth rate for both of income and expenditure

The assessment covers in detail municipal finances so as to assess their financial situation and ability of the ULBs to undertake investments. Since ULBs of Tamil Nadu have implemented Double Entry Accrual system from FY 2000-01, the accounts would need to be recast into a standard format for their assessment. The recast municipal finances of ULB over the last 5 years shall be assessed.

In cases of major components of own source of revenue income a detailed assessment will be undertaken in terms of base, basis, collection performance, revision history and its impacts on ULBs finances. A review of the taxation system would include the base and basis adopted to levy taxes. The past revision will be assessed to gauge the impact of such revision on the overall financial health of the ULB. Assessment of transfers (SFC grant), base and basis of these transfers and a verification of their predictability will be taken to assess the dependence of ULB's expenses on such transfers.

While the above-mentioned assessment of the municipal finances is with respect to the Revenue Account, the Capital Account of the ULB has also been assessed from the recast finances. The fiscal review would also look into the debt and non-debt liability (power charges, pension and dues to other agencies). This would include outstanding liabilities (loans, power dues, pension etc) as reflected in the book of accounts of the ULBs. The above analysis shall reflect the actual application of these funds. The fiscal review would form the base for preparing the capital investment plan and the financial operating plan.

While taxation, user charges and reforms will be critical towards improving the collections and enhancing the revenues, the same will be addressed in detail financial analysis with cost implications of poor performance. On the expenditure side, establishment and O&M costs will be analyzed in a similar for cost implications of inefficiencies and lack of capability.

Task 6 Review of revenue and service management arrangements

This task involved understanding the institutional arrangements in service operation and maintenance, especially the delegation of functions and responsibilities of service provision. The system of billing and collection as well as the customer interface would have to be understood.

A review of the policies governing the fixation of tariffs and user charges against municipal services would also be undertaken. Assessment of the cycle of billing, collection, and follow up for defaults and collection of arrears was also carried out.

2.2.3 Activity 3: Preparation of City Corporate Strategy cum Business Plan

Task 7 Visioning exercise and Stakeholder Consultation

The spirit of the city corporate plan has been to formulate a shared vision of the ULBs, in order to achieve which key stakeholders were identified who included the elected Council Members, Municipal Officials, Government and Non-governmental agencies/ institutions involved in service delivery, representatives of Trade and Industry, and senior citizens forum if any.

The stakeholders were familiarized with the purpose and process and expected outcomes of the CCP. Assistance was provided to the city in deriving a consensus along with the stakeholders firming the process and agreeing upon a structured programme to take the process forward. The details of the stakeholder meetings form a part of the chapter on visioning exercise.

Table 1 is the list of the formal stakeholder consultation process which has been conducted during the course of this assignment.

Table 1 List of stakeholder consultation/ workshop

S. No	Consultation	Stage
1	Consultation with ULB officials for Urban Assessment	Rapid Urban Assessment
2	Workshop with Stakeholders for visioning exercise and finalisation of strategy	Interim Report Stage
3	Workshop with ULBs for Council Resolution	Final Report Stage

Task 8 Development of performance indicators

As has been mentioned in the proposal, performance indicators have been developed for both services and finances. These indicators provide quick assessment of the ULBs performance in terms of service delivery and fiscal discipline. The indicators will be classified under following heads.

❖ Financial Indicators- Monthly/Quarterly

- i. Performance indicators
- ii. Efficiency indicators

❖ Service Levels- annually

- iii. Level
- iv. Coverage

Task 9 Recommending measures for improvement of service coverage and asset management

This task entailed identification of the alternate strategies for bridging the service gaps and required improvements. The identification of alternate strategies has been based on our experience and best practices in India and abroad. The various funding options to implement these strategies including PPP initiatives would be assessed

A comprehensive asset management plan for the project ULBs has been developed. The plan will incorporate guidelines and schedules for operation and maintenance, responsible entities, replacement plans etc.

Task 10 Options for Revenue enhancement and scope for expenditure reduction/control

To understand the fiscal impact of the proposed investments on financials of the ULBs, the cash flows related to the proposed projects as projected in sustainable investment plans prepared for these projects have been reviewed. Standard ratios and parameters have been used to report the impact of the cash flows, both outflows-during implementation of the projects and inflows- in the form of revenues

Task 11 Fiscal impact analysis of proposed investments

Based on the outputs of the previous tasks, the Financial Operating Plan (FOP) for ULB has been generated; the FOP shall form the basis for preparing the detail action plan with regard to sustainable investment capacity. Based on the outputs of the FOP a detailed financial framework, reform action plan and implementation strategy has been prepared. These outputs would form the strategic input for preparation of a Business Plan.

The FOP is essentially a forecast of revenue and expenses of the ULB during the planning horizon taking into consideration potential for revenue enhancement from the traditional sources, indicative improvement measures, scope for expenditure reduction by way of refurbishment and privatisation of certain components of municipal services. The FOP will be prepared for the following scenarios;

- ❖ Full Investment without any additional non-traditional resources and Expenditure Control
- ❖ Full Investment with proposed reforms
- ❖ Sustainable investment with proposed reforms and approved by council

Based on the final approved option the indicators with regard to finances, services, reforms, actions etc shall be evolved for performance monitoring and progress on implementation of CCP and BP.

Task 12 Formulation of Financial Management Framework

This task involved integration of all the strategies identified in this activity for the specific components of ULB assets and governance into a single strategy. The linkages between the component wise strategies would be understood to develop a phasing for implementation of the strategies. Similarly the agencies and departments responsible for the implementation of the plan would be identified. Specific roles and activities would be assigned to these entities. We would assist in defining review points and performance indicators for these entities. The draft action plan would incorporate these.

Task 13 Integration of component wise strategies to finalise City Corporate Strategy cum Business Plan

On completion of Task 10 and approval of Business Plan by the municipal council, the consultants shall prepare a draft Memorandum of Association (MoA) between TNUIFSL and the concerned ULB, the MoA shall capture base line information, performance indicators to monitor at regular interval to assess the effective implementation of Business Plan, obligation of the ULB and major assumption of FOP.

Task 14 Finalisation of Memorandum of Association

The preparation of the City Corporate cum Business Plan would be followed by preparation of a draft Memorandum of Association between ULB and TNUIFSL. The MoA would outline the base line (based on the Situation Analysis) and the Performance Benchmarks to be monitored, apart from other financial and loan covenants. The targets will be based on service development targets and outputs of the financial and operating plan.

2.3 Town Visits

The following section in brief highlights the meetings which have been conducted since the commencement of the assignment in the second last week of October. The initial round of meetings was for the purpose of familiarising each ULB with the CCBP process and to collect the required data from them. The second round had been for the purpose of conducting the stakeholder consultation process.

The ULBs were informed of the data requirements and information was provided to them of the visits to their respective towns. This was followed by visit to the respective towns. As a part of the data collection and discussion with the officials, we visited Sirkazhi in the third week of November, beginning 12th November 2007 to 16th November 2007. The data formats were given to the concerned officials at the ULB and the data requirements explained to them. In addition to collecting the basic town level

information and account figures, discussions were held with some of the key officials to understand the issues pertaining to the municipality and the subsequent phases of the assignment were also discussed.

The list of people interacted with is mentioned in the table 2 below:

Table 2: List of officials interacted with at Sirkazhi Municipality

Designation	Purpose
Chairman	Interaction with the chairman and explaining the CCP cum BP process.
Commissioner	Interaction with the chairman and explaining the CCP cum BP process and getting necessary details regarding the Municipality.
Municipal Engineer	Discussion regarding the CCP and BP process and Obtain information regarding the physical infrastructure of the Municipality, and other key information on the Municipality relating to list of ongoing projects etc.
Manager	Obtained relevant administrative information regarding the Municipality.
Revenue Inspector	Collected financial data- the account statements for five years, DCB and loan statement, and debt liability statement.
Town Planning Officer	Collected the Town maps of the municipality, and Master plan Map, along with a copy of the Master plan document of the Municipality
Public Health in Charge	Collected information on the public health and solid waste management facilities of the Municipality.

The town level information was collected for which dealt with the current revenue streams and its improvement potential. The information format included details regarding General information, physical and social infrastructure details and also financial information including Demand Collection Balance (DCB) Statements, Number of assessments, Number of water connections, Shops, Hoardings, Drainage connections, etc. A detailed information format is submitted as a separate volume.

The second rounds of town visits were carried out in February 2009. The purposes of these visits were two fold:

- Presentation of the town analysis to the stakeholders
- Hold a sector specific discussion with the stakeholders to identify the projects which need to be introduced, the growth strategies to be adopted for the development of the town and arrive at a consensus on the same

In addition, the gaps in the data collected in the first round were filled in and data was verified.

3 CITY PROFILE

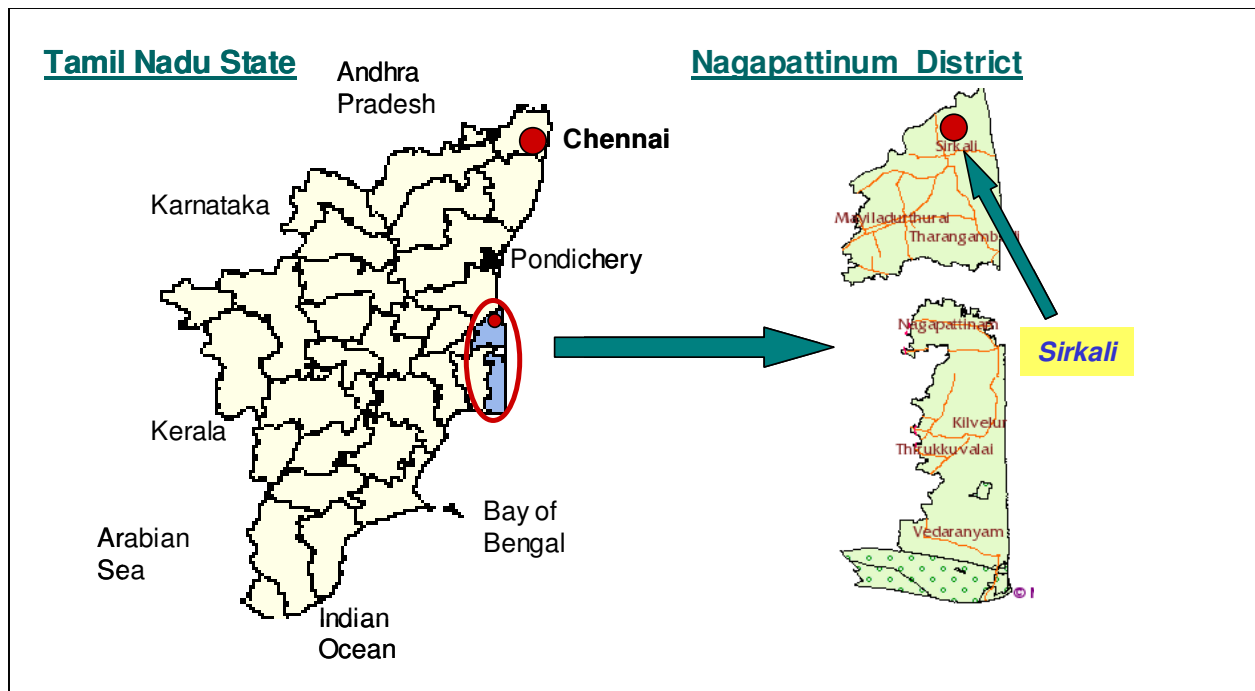
Sirkazhi, a Second Grade municipality in Tamil Nadu, is located in Nagapattinam district at a distance of about 160 km from Trichy. Region-wise, it comes under Thanjavur region and Nagapattinam Parliamentary constituency and constitutes of five revenue villages. Spread over an area of 13.21 sq.km, the town has a population of 32,228 according to 2001 census. Known as the birth place of Thiruganasambanda Moorthi Nayanar, Sirkazhi houses a number of temples and is an ancient and famous pilgrim centre. Based on some ancient religious tale, this place was initially called as 'Sirkazhiswaram', which in long run assumed the name of 'Shiyali' and subsequently known with the present name of 'Sirkazhi'.

3.1 Regional Setting

Having an altitude of 5.18 metres above mean sea level with E-79°45' latitude and N-11°12' longitude, Sirkazhi is located to the south of Chennai. Situated at 13 km West of Bay of Bengal, Nagapattinam district is located at a distance of 95 km North-East of Thanjavur and 20 km south of Chidambaram.

Sirkazhi town is bounded by Vilatidasamudram and Arappakkam villages on the North, Umayalpatti, Summangudi, Thillaividangan villages on the East, Tittai Sattanathapuram, Punganur and Marudangudi villages on the South and Nemmeli and Agani villages on the West. It is well connected to surrounding major urban centres like Thiruvarur, Nagapattinam, Cuddalore, Pondichery, Thanjavur, Kumbakonam through rail and road linkages.

Figure 1: Regional setting of Sirkazhi town



3.2 Town History and Growth

Sirkazhi is an ancient Hindu religious place and is famous for possessing rare forms of Lord Shiva. Combining the three usual forms of Lord Shiva generally found elsewhere, three different forms namely Thonniyappar, Prebaeswara Lingam and Sattanathar are found here. Thus this temple town became a famous pilgrimage centre from an early period. Thiru Gnanasambandar, one of the famous Shiva Nayanmargal, was born here. He composed many religious lyrics of Shiva Siddandha, which are recited in many Hindu temples till today.

With such a religious background, the town gradually grew as a small commercial centre serving adjacent rural settlements. Keeping pace with growth, the civic status of the town was also elevated from a Town Panchayat to a Third Grade Municipality in 1972 and subsequently to a Second Grade Municipality in 1980. Sirkazhi is also a Taluk Headquarter for revenue administration. Sirkazhi Local Planning Area or Sirkazhi Municipal area is constituted of three revenue villages namely:

1. Kavilancheri
2. Sirkazhi
3. Thadalan

At present, the municipal area constitutes of 24 wards spread over an area of 13.21 Sq.km.

3.3 Physical Characteristics

3.3.1 Climate

The climate is in general pleasant for human habitation with lesser variations in daily and seasonal temperatures. This can be attributed mostly to the town's proximity to Bay of Bengal and presence of a number of irrigation canals and channels flowing through the town. Summer is the predominant season and winter has a shorter spell.

The town gets abundant rainfall, most of which occurs during the north-east monsoon period from October to December. The average rainfall is about 1250 mm.

3.3.2 Soil

The soil of the region is generally Black soil with fertile Alluvium content. No commercially explore- able mineral sources are found in the town.

3.3.3 Other features

Paddy is the predominant crops cultivated in the area. Though the town is not particularly rich in any specific flora, coconut, neem, tamarind and poovarasu are found in and around the town

4 FORMULATION OF VISION

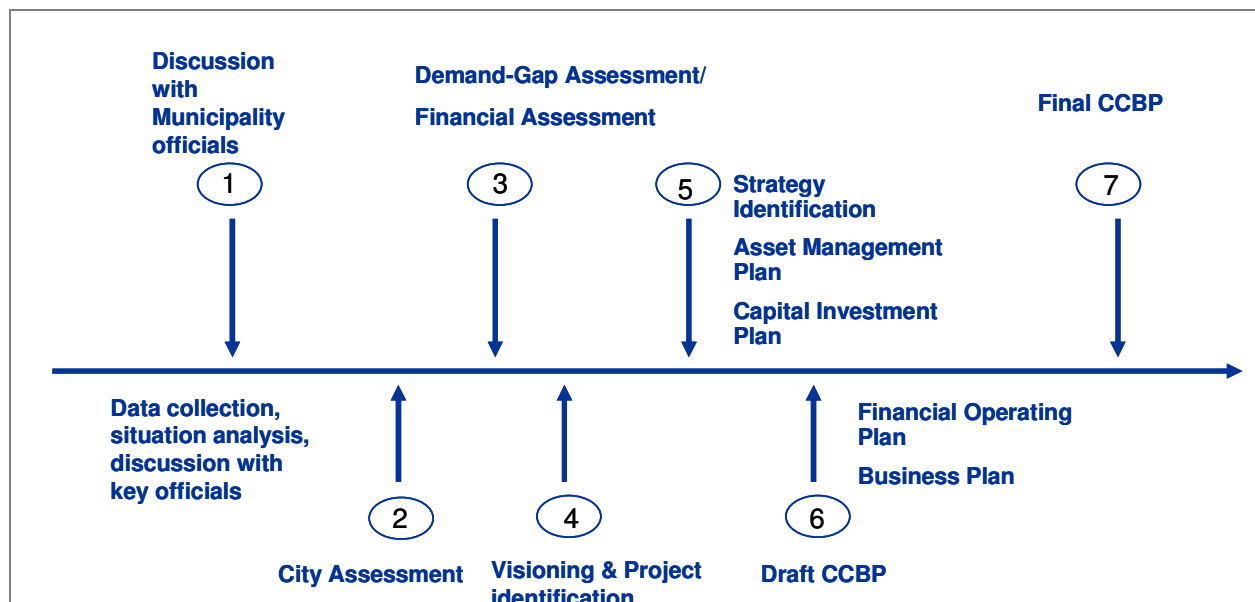
4.1 Approach

The City Corporate Cum Business Plan is the Municipality's strategy that outlines the vision for growth of the city and details how the Corporation together with stakeholders intends to achieve its long-term vision. The CCBP leads to translation of missions into actions and actions into outcomes. City Corporate Plans mainly focus on the vision, strategies and tasks to be carried out by the ULBs in a planned period and the Business Plans focus on devising an action plan indicating clearly the roles, responsibility and time frame for various reforms to be undertaken, strategy for resource mobilisation and actions for expenditure control; addresses issue for better urban governance within the time frame and also develops indicators to monitor the progress.

In this context, stakeholder consultations have been carried out for determining the vision of Sirkazhi Municipality and also the growth strategy plan as reflected in the identification of developmental projects which need to be undertaken. The stakeholder consultations were held at organizational levels, in groups belonging to particular wards, and sectors. The objective was to bring all stakeholders on one platform and enable them to voice their opinions and come to a consensus on strategies and actions for each of the identified priority sectors. The stakeholders included Collector, Chairman, Councillors, NGOs, educationists, and representatives from Electricity and Tamil Nadu Water and Drainage (TWAD) boards

The following figure shows the timeline of the preparation of the City Corporate Cum Business Plan.

Figure 2: Timeline of the CCBP



4.2 Stakeholder Consultation- The Process and Outcome

The consultations/ discussions organised for formulating the CCBP, which followed a structured format, with a pre-defined agenda and objectives, are presented below.

Table 3: List of Stakeholder Consultations

S. No	Nature of Consultation	Participants
1	Consultation with ULB officials for Urban Assessment	Commissioner and key officials from the Municipality
2	Presentation to Key Stakeholders	Chairman, Councillors and other representatives from the Municipality.
3	Workshop with Stakeholders for visioning exercise and finalisation of strategy	Municipality officials, Councillors and stakeholders from the town

The agenda of the discussion was two-fold:

- **Defining the vision statement for the town**
- **Identification of projects required to be implemented in the town**

During the initial consultations with the key officials of the Municipality, the important developmental needs and concerns for the town were gauged. Detailed discussions on the same were however carried out post-presentation of the findings of the inception study to the stakeholders. The presentation highlighted the gaps in the physical and social infrastructure of the town and also gave an insight on stakeholders' views of the financial standing of the Municipality. The details of the process of stakeholder consultations can be found in Annexure 1. In the detailed discussion which followed, the following points concerning the development potential of the town and the existing issues ailing the town emerged.

Table 4: Discussion outcomes

S. No	Sector	Issues
1	Water Supply	<ul style="list-style-type: none"> • Need to increase the water supply network in the town • Requirement for additional storage capacity
2	Sewerage	<ul style="list-style-type: none"> • The town does not have under ground drainage system. The municipality had prepared a proposal and a DPR for the development of a UGD network, and the same has been sanctioned.
3	Roads & Transport	<ul style="list-style-type: none"> • Road widening • Construction of footpath • Construction of ring roads • Up-gradation of bus stand, bus commercial
4	Storm Water Drains	<ul style="list-style-type: none"> • Lack of Storm Water drains in the Municipality
5	Solid Waste Management	<ul style="list-style-type: none"> • Improvement in the disposal facilities
5	Slums	<ul style="list-style-type: none"> • Up gradation of Housing conditions and basic infrastructure developments in the slums
6	Social	<ul style="list-style-type: none"> • Development of existing market area
7	Recreational Facilities	<ul style="list-style-type: none"> • Necessity to develop parks of the Municipality

Urban Infrastructure:

As may be noted from the above table, during the consultation process, stakeholders have highlighted the need for improvement in the status of the basic amenities of the town. The project list identified by them has laid focus on improving the infrastructure status of the town in the short term. The discussion led to the identification of infrastructure improvements required ward wise.

The status of the roads in the Municipality has been of major concern to the stakeholders. Most of the stakeholders have emphasised on the need for up-gradation of the roads to Cement Concrete or Bituminous Tarred. A proposal for underground drainage has been submitted to the TWAD board. However, all the wards have not been covered and the stakeholders expressed the concern to increase the coverage to all the wards of the Municipality. The stakeholders also have made suggestions for town beautification by developing the ponds of the town. Concerns were also raised about understaffing of the conservancy workers.

4.3 Vision Statement

Keeping in perspective the above points, stakeholders engaged in a discussion and defined the vision for their Municipality. The vision statement so defined:

“A town with enhanced quality of life with developed physical and social infrastructure, increased employment opportunities, and a sustainable healthy environment.”

5 RAPID URBAN ASSESSMENT

5.1 Demographic Profile of Sirkazhi Municipality

5.1.1 Population Growth Trend and density

The town had witnessed a positive growth rate during the decades from 1961 to 1991. However, the decadal growth rates show a gradual decline from 16.28% during 1961-71 to 11.21% during 1991-2001. Census figures show that during the decade between 1931 and 1941, the town had actually witnessed a negative growth rate of (-) 0.08%. However it recorded a growth rate of 27.86% which is the highest in the century. The population registered in 2001 is 32,228 against 28,980 in 1991.

While projecting the population for Sirkazhi town, among various projection methods, both the polynomial methods show current population (2001) very close to the actual. Also, they project quite a steady growth of population for future years which is likely in context of present urbanisation trend in the state. Thus either of the methods can be adopted for population projection of Sirkazhi town. Here 3rd order polynomial method has been adopted.

Table 5 shows various indicators of population growth trend.

Table 5: Population growth trend of Sirkazhi

Census year	Population	Decadal growth rate
1961	19531	27.86
1971	22711	16.28
1981	25508	12.32
1991	28980	13.61
2001	32228	11.21
2008 (Estd)	34769	
2011 (Projected)	35919	11.45
2021 (projected)	39936	11.18
2031 (Projected)	44387	11.15

Source: Sirkazhi Municipality

The population of the town is spread over an area 13.21 sq.km with 24 numbers of wards. The population density of the city has increased from 1931 persons per sq.km in 1981 to 2440 persons per sq.km in 2001.

5.1.2 Population Composition

Out of the total population, the percentage of Schedule cast and Schedule tribe population is 22.72%. This is lower than district figure of 29.87% and higher than state figure of 20.04%.

5.1.3 Sex Ratio

The sex ratio has been steady around 950 females per 1000 male during 1971-91. However 2001 census shows the highest female population share since 1961 having 990 female per 1000 male which is higher than state ratio of 987 but lower than district sex ratio of 1014 female per 1000 male.

The SC and ST population also shows a higher female percentage having sex ratio of 1036 and 1235 respectively.

5.1.4 Literacy

The literacy rate of the town is 74.94% which is close to the district figure of 76.34% and higher than the state figure of 73.45%.

Table 6 summarises the demographic profile of Sirkazhi discussed above.

Table 6: Demographic indicators for Sirkazhi Municipality

Area	% of SC/ST Population	Sex ratio	Literacy rate
Sirkazhi	22.72%	990	74.94%
District figure (Nagapattinam)	29.87%	1014	76.34%
State figure (Tamil Nadu)	20.04%	987	73.45%

Source: Census of India, 2001.

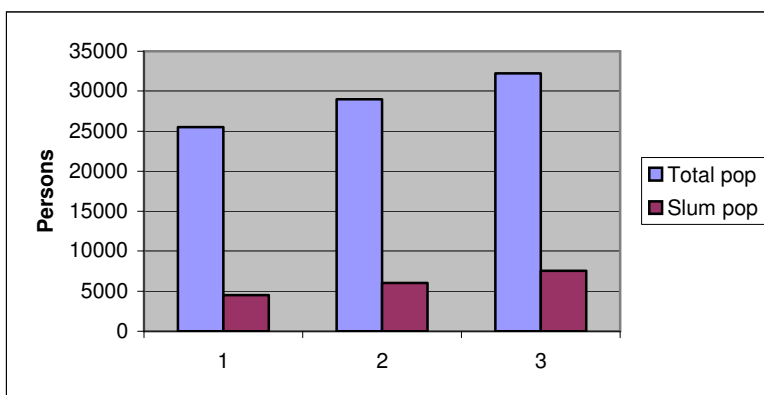
5.1.5 Slums

In 1981, there were 15 notified slums in the town ¹with a population of 4499 persons which was 17.64 of the total population. At present there are still 15 notified slums in the municipal area with a population of 7533². This is almost 23.37% of the total population, the ration between slum population and the total population is shown in Table 7.

Although the number of slums remained the same as 1981 and the total slum area also remained static at 39.45 acres, slum population has grew. This indicated more congestion resulting into unhygienic conditions in slums.

¹ Source: Master Plan of Sirkazhi Local Planning Area

² Source: IHSDP scheme report

Figure 3: Ratio of Slum Population to Total Population


Source: Sirkazhi Municipality

Table 7: Slums in Sirkazhi Municipality

Sl. no	Name of the Slum	Area (Acres)	Population
1	Ambethkar Street, Kovilan street	2.61	548
2	Ottiyan lane, Monnaiyan mettu st. Desathikathivelu street.	4.32	1119
3	Agarathirukolakka	5.93	653
4	Thandalankamarajapuram	7.06	545
5	Koilpattu colony	6.44	442
6	Panamangalam	1.56	496
7	Thuraiyur	0.6	238
8	Uzhiyakaran thoppu, Poonthattam	2.62	599
9	Panankattu street, Periyavaguppukattalai street	3.42	597
10	Manathidal street, sarkan street	2.52	486
11	Thottamaniyam, Kamarajar street	0.21	230
12	Nithiyavanam	0.33	128
13	Pulichakadu mela street	0.63	828
14	Nanganala street	0.36	284
15	Panneerselvam street, Nehru Nagar	0.84	340
	Total	39.45	7533

Source: IHSDP report, Sirkazhi Municipality

5.2 Economic Profile

5.2.1 Economic Base

The economic base of Sirkazhi is mainly constituted by service sector activities showing greater dependence on trading activities and functioning of Govt. offices. Agricultural activities are carried out to a limited extent and the main crop is paddy. Secondary sector like industrial and manufacturing activities are very less.

Sirkazhi being headquarter of Taluk and Panchayat Union administration, houses a number of government offices. This is a reason behind larger share of service sector employment as well as attracts a good number of visitors who commute to the town for various related activities.

5.2.2 Occupational Pattern

An analysis of occupational pattern for past few decades shows a rise in work participation rate from 1971 to 2001, which with an increase from 26.93% in 1971 to 31% in 2001. Male workers continue to dominate the workforce. Table 8 below shows a comparative of workforce between the town, the district and the state.

Table 8: Comparative workforce details of Sirkazhi

Area	% of Total workers among total population	% of Main workers	% of Marginal workers	% of Non workers
Sirkazhi	31	26	5	69
District (Nagapattinam)	39.41	31.48	7.93	60.69
Tamil Nadu	44.67	38.07	15	55.33

Source: Census 2001

Distribution of workers among different occupational categories shows a higher percentage on tertiary sector activities. Tertiary sector has about 50% workers while primary sector constitutes the second largest. Secondary sector has very less share of sectoral employment in the town.

However, considering the overall physical development of the town as well as to upkeep the economic stability, the Master Plan for Sirkazhi Local Planning Area has adopted the following sectoral employment distribution for the purpose of Master Plan proposal.

Primary sector : 30% of the total workers

Secondary sector : 10% of total workers

Tertiary sector : 60% of total workers

5.2.3 Industries

The town is more agriculture and service sector based and there are no major industries in the town except for a few rice mills.

5.2.4 Tourism

As mentioned in earlier sections, Sirkazhi is a famous religious place and a tourism attraction centre. Sirkazhi is the Birth Place of Thiruganasambanda moorthi nayanar. Sri sattanathar temple is located in the town and many other temples of Vaishnava & Saiva are also located in and around. There is a separate temple for Thiru Gnanasambandar within the Sattanathar temple premises. During every Chittarai festival, the second day is celebrated in commemoration of Lordess and a huge number of devotees from the town as well as surrounding places assemble here for the function.

The “Nava graga” temple is located very close to this town.

5.3 Land- use

5.3.1 Existing Land use analysis

The existing land use pattern of Sirkazhi³ shows a major portion of the total area of the municipality still coming under agricultural use. Agriculture constitutes about 69% of the total extent of the town. About 30% of the total town area is developed. Among the various land use categories constituting the developed portion of the town, residential use is the predominant one. It contributes to more than 70% of the developed area of the town while other categories cumulatively contributing to the rest.

Table 9: Major land use categories of Sirkazhi

Land use category	Area(Sq.km)	% to Developed/un-developed area	% to Total extent of town
Residential	2.882	70.84	21.82
Commercial	0.277	6.82	2.1
Industrial	0.373	9.16	2.82
Public & Semi- public	0.536	13.18	4.06
Total Developed area	4.069	100	31.8

Source: Master Plan for Sirkazhi Local Planning Area

There are two major district roads that pass through the town namely:

Thanjavur – Chidambaram Road

Thirumullaivasal – Pangattangudi Road

The developments are denser around the junctions of these two roads. Commercial activities are concentrated in these two junctions as well as around the bus stand area. Dense development is also there in the old settlements of Thadalankoil, Sirkazhi and Kaivilancheri. Grid-iron pattern of residential development could be noticed around the temples.

Public and semi-public areas like offices, head quarters, hospitals are mainly located along southern boundary of Sirkazhi village in Chidambaram-Thanjavur main corridor. New residential colonies have also come up along Chidambaram road and Thanjavur road.

³ As per 1996 Land use pattern shown in Master Plan

5.3.2 Past Planning Efforts

A Master Plan was prepared for Sirkazhi Local Planning area (LPA) approved by directorate of Town and Country Planning, Govt. of Tamil Nadu. The Master Plan designated the town area with various designated zones according to their predominant use. The uses within these zones are subject to permissible uses mentioned under Zoning Regulations.

The Master Plan has proposed a total town area of 13.3 sq.km, suggesting an additional land requirement of 0.09 sq.km, based on normative standard for various activities and projected population for future. Table 10 shows distribution of land under various uses as proposed in the Master Plan.

Table 10: Land use proposed in the Master Plan

Land use category	Area(sq.km)	% to Developed/un-developed area	% to Total extent of town
Residential	2.79	55.09	20.96
Commercial	0.40	7.98	3.04
Industrial	0.58	11.53	4.39
Public & Semi- public	1.29	25.40	9.66
Total Developed area	5.06	100	38.05
Undeveloped (agriculture)	8.239		61.95

Source: Master Plan for Sirkazhi Local Planning Area

5.4 Physical Infrastructure Assessment

5.4.1 Water Supply

The source of sub-surface water supply for Sirkazhi town is Kollidam River which is located at a distance of 15 km from the town. The town is provided with a protected water supply scheme which was commissioned in 1992 at a project cost of Rs.18.69 Lakhs. The length of the total distribution network for all four towns is 45.45 km. The quantity of water transmitted per day is 2 Million Litres.

There are 247 tube wells and 15 bore wells in the town which serve as sources of ground water.

The daily per capita water supply is 57.52 LPCD which is below the normative standard of 90 LPCD. The average transmission and distribution loss as estimated by the ULB is 5% of the total water transmitted. The town has 4 Elevated Storage Reservoirs (ESR) with a total storage capacity of 1.5 million litres. This amounts to almost 75% of the total water supplied per day which is above the norm of 33%.

The percentage of assessment covered by house service connection is 6.5% which is quite less. Non-domestic connections constitute 0.5% of total no of water supply connections in the town. All water supply connections are non-metered. The road covered with distribution network is only about 27% which is below the norm of 85%.

The municipality has also started rain water harvesting initiatives in the town.

Table 11: Indicators for water supply

Sirkazhi		Existing and Desired Level			Service Gap by Year 2016			Service Gap by Year 2031			Unit
		Existing Level	Unit	Desire d Level	Existing (2008)	Demand	Gap	Estimate (2016)	Demand	Gap	
1	Daily Supply	58	Litres	135	2.00	5.99	3.99	5.99	5.99	-	MLD
2	Treatment capacity	0	%	100	0.00	5.99	5.99	5.99	5.99	-	ML
3	Roads Covered with Distribution Network	77	%	85	45.501	56.34	10.84	56.34	66.03	9.69	Km.
4	Elevated Storage capacity w.r.t Supply	75	%	33	1.50	2.00	0.50	2.00	2.00	-	ML
5	Refurbishment of Old Distribution Network						9.10			5.63	Km.
6	Metering System						6,685			-	No.s
7	Transmission Main replacement						20				Km

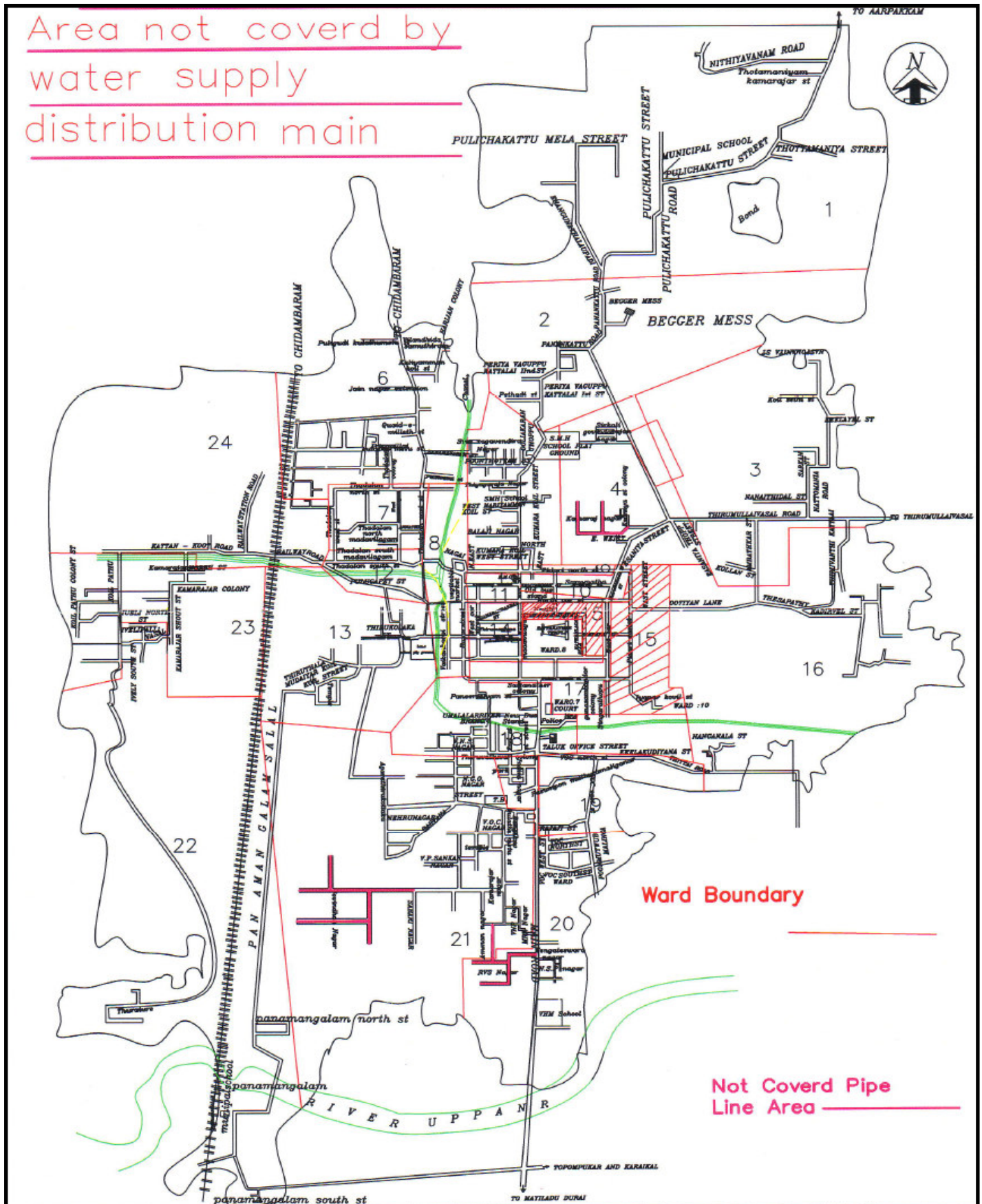
Source: Engineering department, Sirkazhi Municipality and CRISIL estimates

Key findings

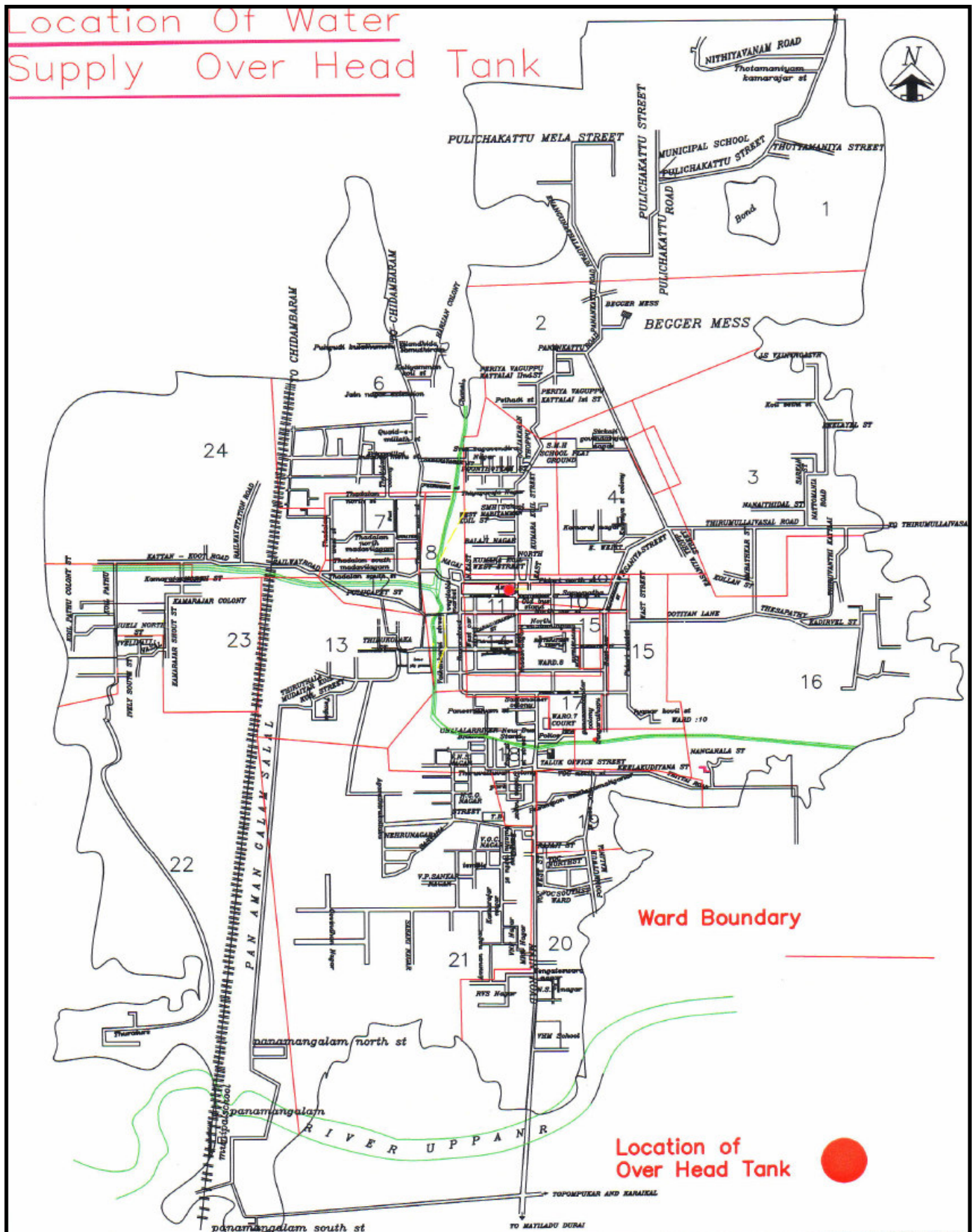
The important findings that come out from the assessment are as mentioned below:

- ❖ Existing daily water supply need to be increased to meet the requirement of daily 135 LPCD water supply
- ❖ Additional water supply requirement of 3.99 MLD to meet demand for 2031
- ❖ Water treatment facility required in the town for 100% of supplied water
- ❖ All connections need to be metered and part of old distribution network (6 km) need to be refurbished by 2016

Town map of Sirkazi Municipality showing area not covered by Water Supply Distribution Mains



**Town map of Sirkazi Municipality showing Location of
Water Supply Overhead Tanks**



5.4.2 Sewerage and Sanitation

There is at present no sewerage or under ground drainage system in Sirkazhi. The sullage water is discharged in to open channels or collected by cess pool. Removing sludge from septic tank is done by municipality from time to time.

There are 3852 nos septic tanks in the town, which covers little more than 205 of the total number of assessed properties in town. There are 9 nos of public convenience system having total 57 seats.

The existing as well as projected population till the year 2031 is below the normative standard of 150,000, which is the minimum population requirement in order to have a separate UGD system. However, the possibility of developing the UGD system combined with other surrounding towns could be explored.

Table 12: Assessment of Sewerage System in the Municipality, future demand and gaps

Sirkazhi		Existing and Desired Level			Service Gap by Year 2016			Service Gap by Year 2031		
		Existing Level	Unit	Desired Level	Existing (2008)	Demand	Gap	Estimate (2016)	Demand	Gap
1	Sewerage generated/ Daily water supply			80	1.60	4.79				
2	Population Coverage	0	%	100	0.00	44387 *	44387	44387	44387	0
3	UGD Network/ Road Length Covered	0	%	80	0.00	53.02 **	53.02	59.65	62.14	9.12
4	Sewerage Treatment (Against generation)	0	%	100	0.00	4.79 ***	4.79	4.79	4.79	0.00
5	Intermediate pumping stations, Pumping machinery & Transmission mains						10			5

* Persons, ** Km, *** MI

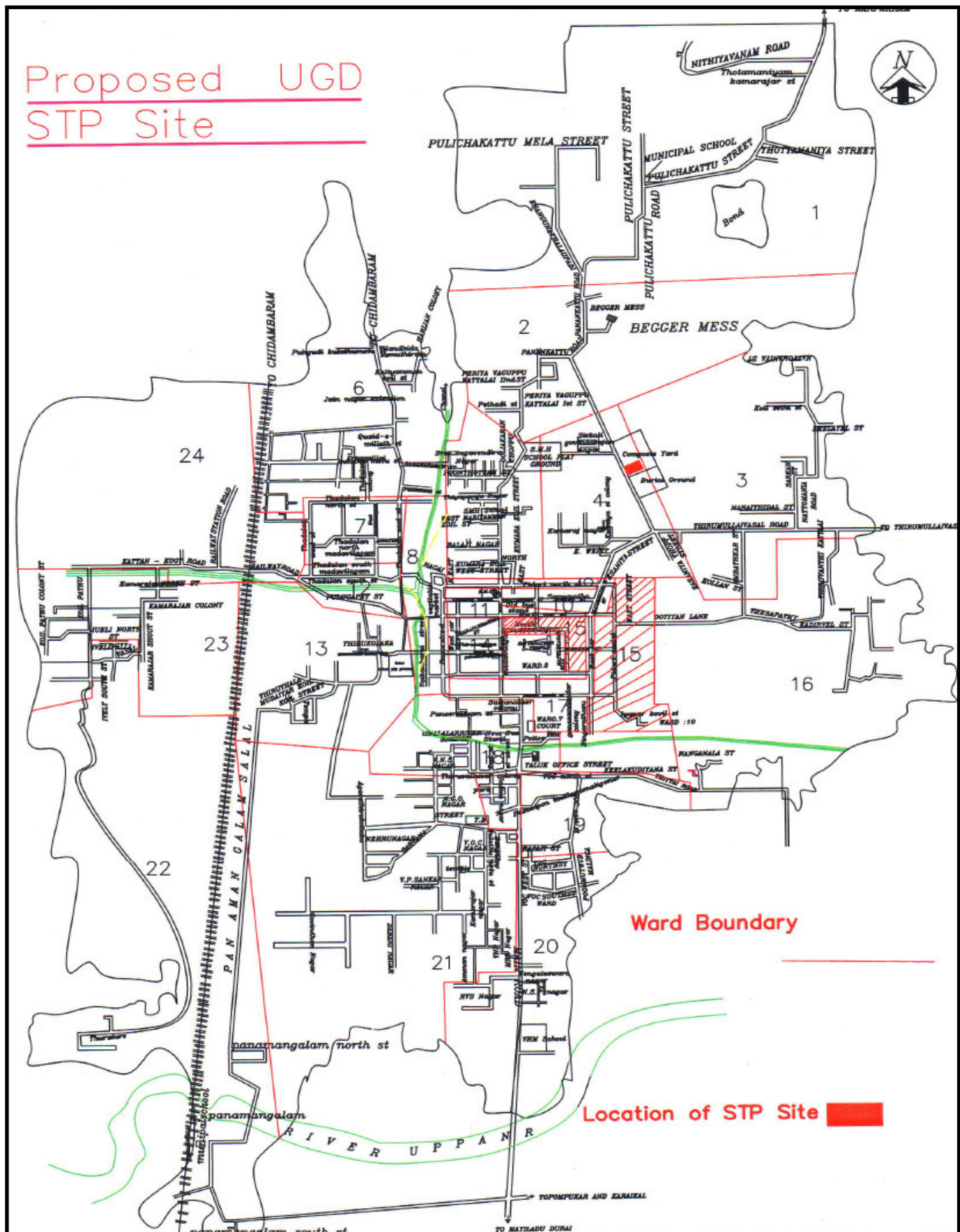
Source: Engineering department, Sirkazhi Municipality and CRISIL estimates

Key findings

The important findings that come out from the assessment are as mentioned below

- ❖ The town has to provide for sewerage collection and treatment facility for 4.79 MLD for 2031 population demand as well as to cover existing population
- ❖ The need for UGD network coverage is assessed at 53 km to cover 80% of road length in 2016

Proposed	UGD
STP Site	



5.4.3 Solid Waste Management

Out of a total solid-waste generation of around 13 tonnes per day, Sirkazhi municipality with their own fleet arrange to transport 92% of garbage. Out of the 13 tonnes 7 tonnes is domestic waste and rest is commercial waste. There are total 120 nos of dustbins in the town with an average capacity of 60 kg per bin. The per capita waste generation is 374 grams. Average road length covered by per conservancy staff is 0.76 km.

The primary collection of waste is carried out through 7 handcarts owned by the municipality. In addition to this, the ULB owns one tractor, one mini lorry, one sullage lorry and two tripper Lorries. There is one compost yard with an area of 3.6 acres at Esamiya Street where solid wastes are disposed. It is located at a distance of 2 km from the town. The Municipality is currently making necessary arrangements to upgrade the compost yard.

Door to door collection of segregated waste has started in the municipal area and cycle rickshaws and push carts are being used for the purpose. From the primary collection points, the wastes are transferred to the disposal site by mini lorry, tractor and tripper Lorries.

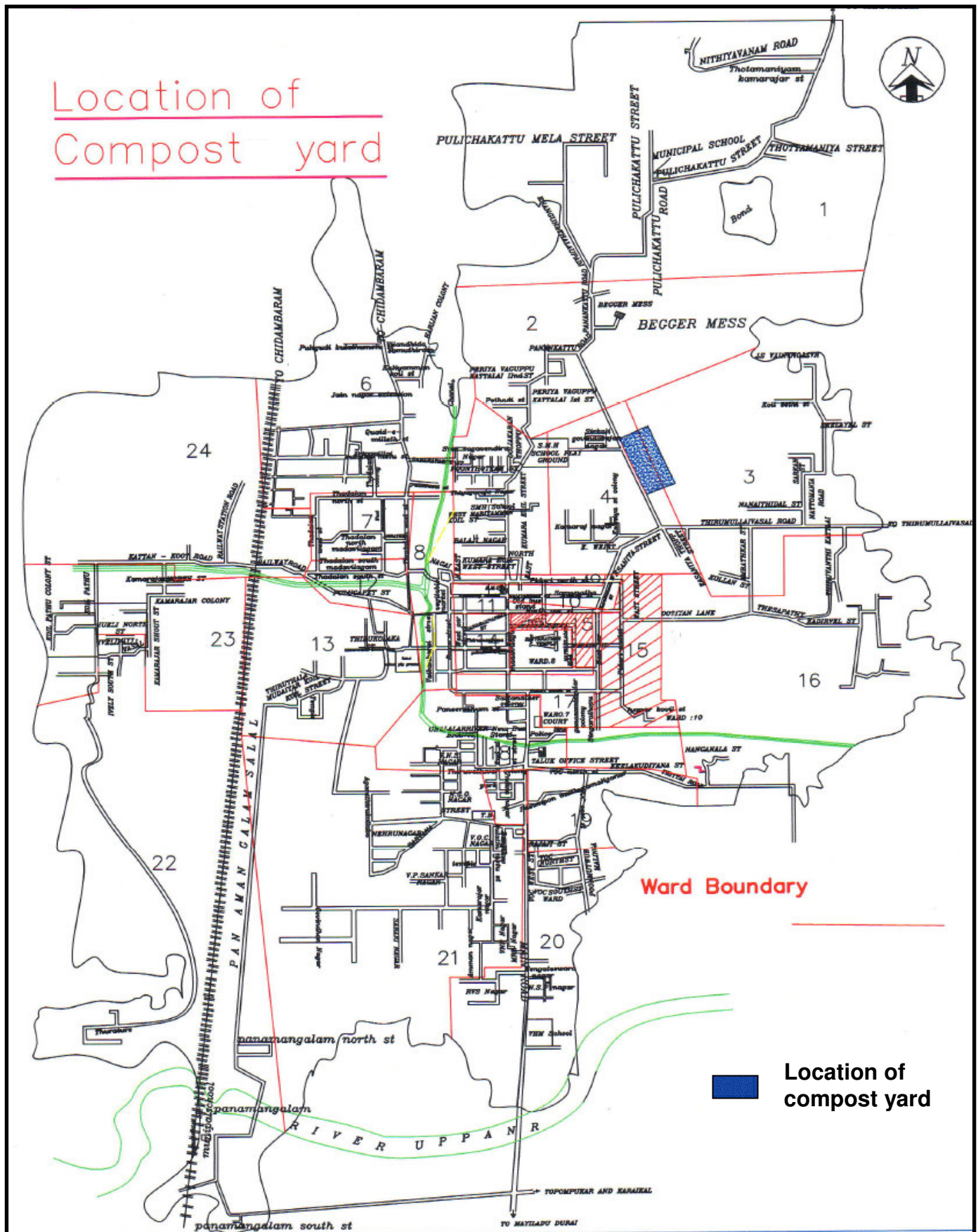
Table 13: Assessment of Solid Waste Management in the Municipality, future demand and gaps

Sirkazhi	Existing and Desired Level			Service Gap by Year 2016			Service Gap by Year 2031		
	Existing Level	Unit	Desired Level	Existing (2008)	Demand	Gap	Estimate (2016)	Demand	Gap
Waste Generated per capita	374	Grams	374	13	15.1		15.11	16.8	
Collection Performance	87.5	%	100						
No. of trips per Vehicle/ day	1.75	Nos.	3.0						
Vehicle Carrying Capacity				11.50	7.75	0.00	11.50	8.62	0.00
Push Carts		% HHs	25%	10	13	3	13	14	1
Tricycles		% HHs	75%	20	38	18	38	42	4
Disposal Site	10.68	Acres		10.68	12.32	1.63	12.32	33.45	21.13
Land Fill Infrastructure (as per CPHEEO Standards)		%	67			10.13			1.13
Composting Plant		%	33			4.99			0.56
Secondary Collection (Area Coverage)	0.00	Sq. Km	0.20						
1.Container Bins - 2.5 MT (Addl 5 bins for servicing)				0	14	14	14	53	39
2.Dual Loaded Dumper Placers		No. of Trips	3	1	2	1	2	3	1
Slum Population per Seat of Public Convenience	188	Persons	60	40	126	86	126	126	0

* Tonnes, ** Numbers, # Tonnes per day, ## Seats

Source: Public Health Department, Sirkazhi and CRISIL estimate

Town map of Sirkazi Municipality showing Location of Secondary Solid Waste Compost yard



Key findings

The important findings that come out from the assessment are as mentioned below

- ❖ No of trips per vehicle per day need to be increased to more than 2 trips per day
- ❖ There should be waste composting facility for 51.11 tonnes per day by 2016
- ❖ Land fill infrastructure need to be augmented to meet 51.11 tonnes per day capacity by 2016

5.4.4 Roads and street lights

Other than local roads, some other important roads pass through Sirkazhi providing connection to nearby important towns. The local roads that are maintained by the ULB have a cumulative length of 59.231 km. Based on this, the per capita road length estimates to about 1.7 metres, which is very close to the norm of 1.75 metres/capita. The shares of various categories of roads in the total road length do not match the normative standard in some of the categories.

Table 14: Assessment of the Roads in the Municipality, future demand and gaps

Sirkazhi		Existing and Desired Level			Service Gap by Year 2016			Service Gap by Year 2031		
		Existing Level	Unit	Desired Level	Existing (2008)	Demand	Gap	Estimate (2016)	Demand	Gap
A	Roads									
1	Degree of Connectivity	1.70	Per-capita road length (m)	1.75						
2	Road width	7.00	Average road width (m)	7.00						
3	Roads – Surface type	12	Concrete (%)	20	7.29	13.26	5.96	13.26	15.54	2.28
		84	BT (%)	80	49.71	53.02	3.31	53.02	62.14	9.12
		3	WBM (%)	0	1.79	0.00	-1.79	0.00	0.00	0.00
		1	Earthen (%)	0	0.44	0.00	-0.44	0.00	0.00	0.00
	Total municipal road length		Km		59.23	66.28	7.05	66.28	77.68	11.40
4	Up gradation									
	BT to CC		Km				1.99			0.76
	WBM to BT		Km				1.79			0.00
	Earthen to BT		Km				0.44			0.00
5	New Formation									
	CC		Km				3.98			1.52
	BT		Km				1.08			9.12
B	Street Lighting									
1	Spacing Between Lamp Posts	32	meters	30	1826	2209	615	2209	2589	380
2	Distribution Type									
i	Tube Light	69	%	80	1261	1767	506	1767	2071	304
ii	High Power	31	%	15	564	331	0	331	388	57
iii	High Mast Lamps	0	%	5	1	110	109	110	129	19
3	New Installations									
i	Tube Light						506			304
ii	High Power						0			57
iii	High Mast Lamps						109			19

Key findings

The important findings that come out from the assessment are as mentioned below

- ❖ Total municipal road length to be increased to 67 km by 2016
- ❖ New concrete road to be constructed for a length of 3.98 km
- ❖ 1398 additional street lights required by 2016

5.4.5 Storm Water Drainage:

Although Sirkazhi has storm water drainage system, the coverage of the same is low. The town has predominantly open storm water drainage system with both pucca and kuchha drains. The total length of pucca open drains is 5.97 Km which is only about 10% of the road length. Others are kuchha drains and closed drains are almost non-existent. The ultimate disposal points of drains are compost yard or dry lands

Table 15: Assessment of Storm Water Drains in the Municipality, future demand and gaps

Sirkazhi	Existing and Desired Level			Service Gap by Year 2011/ 2016			Service Gap by Year 2031		
	Existing Level	Unit	Desired Level	Existing (2008)	Demand	Gap	Estimate (2016)	Demand	Gap
Road Length Covered with Drains	10	%	150	0.60	99.42	98.82	99.42	116.51	17.10
Distribution by Type									
i Kutcha Open	10	%	0	0.60	0.00	-0.60	0.00	0.00	0.00
ii Pucca Open	0	%	60	0.00	39.77	39.77	39.77	69.91	30.14
iii Pucca Closed	0	%	90	0.00	59.65	59.65	59.65	104.86	45.21
Desilting & Strengthening of Primary Drains			0	0.00	0.00	0.00	0.00	0.00	0.00
Upgradation									
i Kutcha to Pucca Open						0.30			0.00
ii Kutcha to Pucca Closed						0.30			0.00
iii Pucca open to Pucca Closed						0.00			39.77
New Pucca Open Drains						39.47			69.91
New Pucca Closed Drains						59.35			5.44

Source: Public Health Department, Sirkazhi and CRISIL estimates

Key findings

The important findings that come out from the assessment are as mentioned below:

- ❖ A length of 100 km of storm water drainage network to be developed for meeting the need of 2016. This will consist of 40 km of pucca open drains and 60 km of pucca closed drains
- ❖ Disilting and strengthening measures to be taken for 100% of primary drains

5.4.6 Parks and Playgrounds

The town has three parks namely Gandhi Park located at North Car Street, Murugan Park located at Chidambaram Road and T.T.Pillai Park located at Thenpathy

5.4.7 Assessment of physical infrastructure in slums

The municipality has been making efforts to improve the existing conditions of the slum dwellers through the Swarna Jayanthi Rojgar Yojana Scheme (SJSRY), National Slum Development Programme (NSDP) AND Integrated Housing and Slum Development Programme (IHSDP) scheme of the central government.

Accesses to infrastructure facilities in slums in general are yet to meet basic normative standards. However, basic amenities and shelter upgradation are partly provided in the slums under NSDP and SJSRY schemes. Projects have been prepared to upgrade basic amenities and housing in slums under IHSDP scheme.

5.5 Social Infrastructure Assessment

Development of social infrastructure is imperative for the overall development of the town and its surrounding region. The following is a brief description of existing social infrastructure facilities available in Sirkazhi.

5.5.1 Primary Health

There are 11 hospitals in the town across all categories with approximately 121 beds. These cater to an average of 1200 patients per day on an average basis. The hospitals have total of 32 doctors. In addition, there are 15 dispensaries in the town.

5.5.2 Education

Sirkazhi has quite a few educational institutions across all categories. Apart from nine (9) municipal schools, the town has 14 Primary, 3 Secondary, 3 Higher-Secondary and 3 Matriculations institutes. It also has two colleges. However, the town does not have any technical training institute within its area.

5.5.3 Markets

The municipality has one daily market owned by the local body. It has 23 shops and is located in Pidari West Street. Other than these, the town has two super markets and scattered commercial developments along important roads and bus stand area.

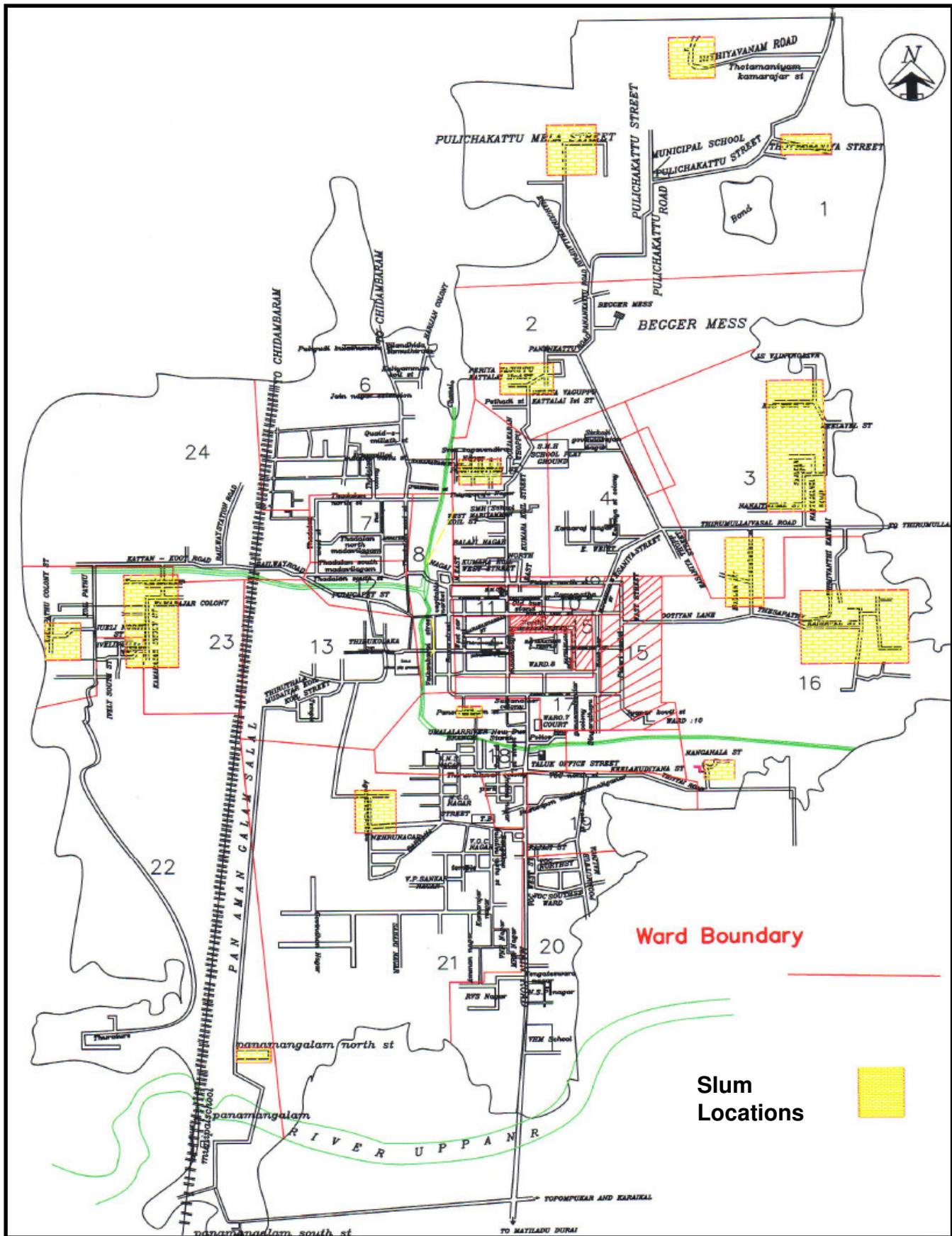
5.5.4 Recreation

In recreational facilities, the town has regular facilities like cinema hall, marriage halls, hotels etc. there are about 3 cinema halls and 9 hotels in the town.

5.5.5 Bus stand

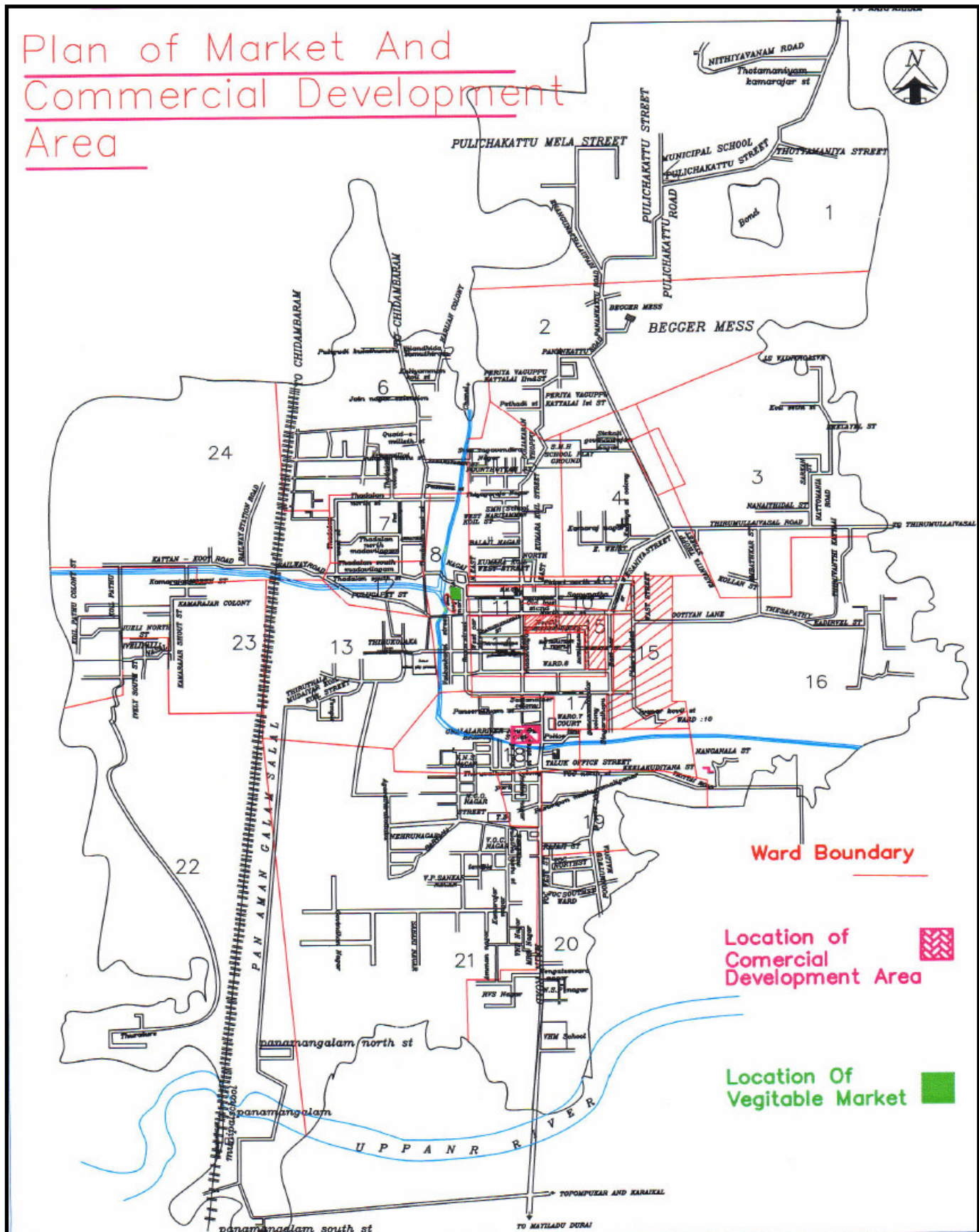
There is one bus stand in the town located at the heart of the town, constructed in the year 1995. It is "B" class Bus stand, having 36 Bus bays.

Town map of Sirkazi Municipality showing Location of Notified Slums



Town map of Sirkazi Municipality showing Location of Market and Commercial Areas

Plan of Market And Commercial Development Area



5.6 Financial Assessment of Sirkazhi Municipality

Assessment of the financial status of the ULB is an essential component of the process of preparation of the City Corporate cum Business Plan. The assessment would cover in detail municipal finances so as to assess their financial situation and ability of the ULBs to undertake investments.

5.6.1 Recasting of Annual Accounts

Annual accounts are the financial document/report prepared by ULBs. However, it does not reflect correct picture of ULBs surplus due to incorrect classification of revenue heads. In order to gauge the correct financial picture of the ULB, it is critical to recast the accounts details as per the standard nomenclature. Since ULBs of Tamil Nadu have implemented Double Entry Accrual system from FY 2000-01, the accounts have been recast into a standard format for their assessment. This would help in highlighting the true financial picture of the ULBs. Based on the recast, the financial assessment has been carried out. The recast from the accrual to the cash flow system has been done by deducting the amounts to be recovered from the actuals in the general account. The financial assessment of the recast figures have thereafter been done in terms of year on year growth, the sectoral composition of the finances of the ULB, the extent of dependence and the extent of it on the State Government, status of debt servicing the performance efficiency and similar performance indicators. The recast municipal finances of ULB over the last 5 years have been assessed.

It may be noted here that the financial assessment of the ULB have been done for the years beginning 2002-03 to 2006-07. However, audits have been carried out only up to 2004-05 and the process of auditing for the remaining years is underway at the ULB.

5.6.2 Existing Situation Analysis

The Sirkazhi municipality maintains its accounts in the form of funds; the income and expenditure items are maintained under the Revenue and Capital fund, Water Supply and Drainage Fund, and Educational Fund. The Municipal revenue is from the two head of accounts

❖ Revenue Account

❖ Capital Account

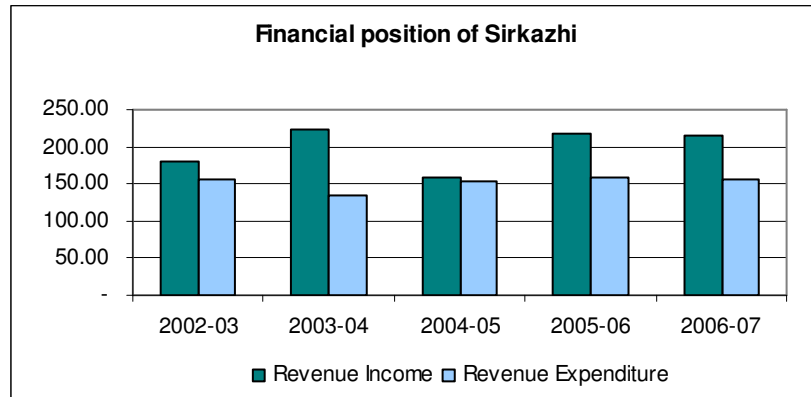
The Revenue and Capital division is done to have clarity on the difference between annual receipts and expenditure- which is recurring and consistent in nature and the receipts of which are meant for specific investments/disbursements on capital works etc. The revenue receipts and expenditure and the capital receipts and expenditure have been mentioned separately.

5.6.3 Financial Status

The finances of the Sirkazhi Municipality have been reviewed for the last five years, commencing from the financial year 2002 – 03 to 2006 – 07. For the years 2002-03 to 2004-05, the audited accounts have been taken into account and for the year 2005 – 06 unaudited account is taken in to account, while for the last year 2006 – 07 due to non availability of the account with ULB, the projection for the same has been made based on the last four year information. The items of both receipts and expenditure have been classified under the revenue and capital accounts as per their sources and uses.

Figure 4: Financial Position of Sirkazhi

The revenue income of the municipality has been showing surplus over the entire period of the analysis. The revenue income has been showing the inconsistency; like it has been increased from Rs. 179.57 lakhs in 2002 – 03 to Rs. 221.86 lakhs in 2003 – 04 but again got decreased to Rs. 157 lakhs in 2004-05 due to decrease in grant contribution. The revenue expenditure has also got reduced from Rs. 156 lakhs in 2002 - 04 to Rs. 133 lakhs in 2003 – 04. The rise in the revenue expenditure in 2004-05 is mainly on account of the rise in the expenses incurred towards establishment and operations and maintenance expenditure of the municipality.



Operating revenue surplus of the municipality is ranging from Rs. 24 lakhs to Rs. 59 lakhs in 2005-06. Revenue income has grown with a CAGR of 6.60% during the analysis period, while revenue expenditure is growing with CAGR of 0.57%, resulting in the revenue surplus.

For the entire period of the analysis, the revenue account of Sirkazhi Municipality indicates an overall sound financial position.

Table 16: Financial Status at a glance-Municipal Fund

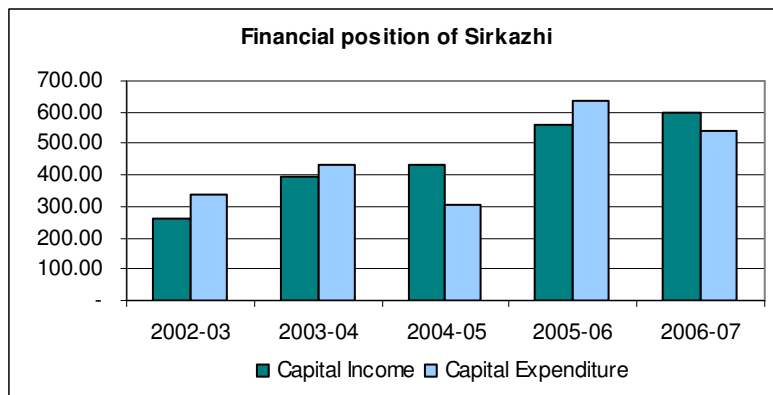
(Figures in Rs. lakhs)

Items	2002-03	2003-04	2004-05	2005-06	2006-07
Revenue Account					
Income	179.57	221.86	157.34	217.54	215.77
Expenditure	155.90	133.19	153.54	158.60	155.95
Surplus Deficit	23.67	88.67	3.80	58.94	59.82
Capital Account					
Income	259.50	396.03	430.64	560.72	596.43
Expenditure	336.49	435.39	306.77	634.59	540.72
Surplus Deficit	(76.99)	(39.36)	123.87	(73.87)	55.72

Source: Revenue and Capital Fund Accounts, Sirkazhi

Capital income comprises of loans, grants and contribution in the form of sale proceeds of assets and contribution. A major share of capital income is in the form of loans and grants. In the case of Sirkazhi municipality, grants have a major share in the capital income of the municipality.

Figure 5: Capital Account Status



The capital account has been for the years under study, been in deficit. The capital expenditure incurred by the municipality far exceeds the capital income receipts of the municipality. A high capital expenditure incurred by a ULB is generally reflective of the development expenditure being incurred by the municipality.

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

5.6.4 Revenue Receipts (own and assigned revenue)

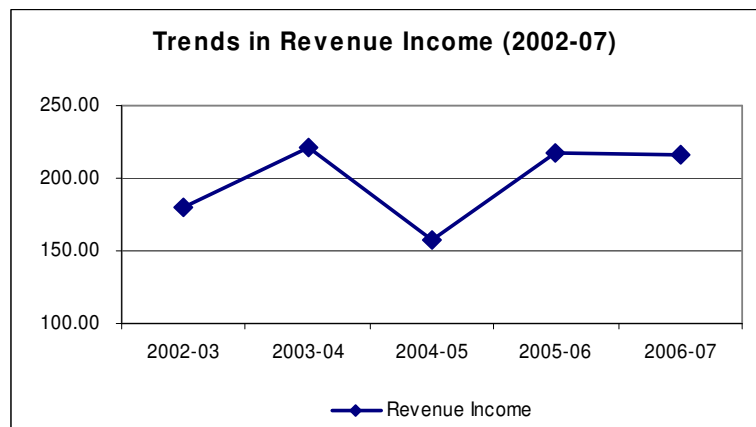
The trend in the revenue income of the municipality as can be seen in Figure 6 reflects decreased rate of growth of income.

Figure 6: Trends in Revenue Income

The revenue incomes of the municipality is showing fluctuating trend. This fluctuation in the income is mainly attributed to the reduction in the SFC devolution from the state to municipality.

A detailed analysis of the revenue income of the municipality also entails understanding its composition of Sirkazhi municipality can be seen in Table 17.

The income sources of the municipality can be broadly categorised as Own sources of revenues, assigned revenue, grants and contribution.



Own Sources of Revenue Income

Own-source income includes income from resource mobilisation activities of Municipality in the form of taxes, fees for building permission, trade licences, etc. Own revenue sources are further classified as tax revenue and non-tax sources that are generated by various sections of the Municipality.

- ❖ **Tax Sources:** The sections contributing tax income include property tax, professional tax and other taxes. Property tax is the largest revenue-generating item.
- ❖ **Non-Tax Sources:** Non-tax sources include all non-tax revenues such as fees and charges levied as per the Municipal Act. Such revenue sources include income from special services, income from properties, interest on investments and miscellaneous items etc.

Table 17: Source Wise Revenue Income

(Figures in Rs. lakhs)

Items	2002-03	2003-04	2004-05	2005-06	2006-07
Own Source	78.84	89.69	83.81	89.56	93.27
Assigned Revenue	45.86	42.56	31.58	20.58	22.73
Grants & Contribution	54.87	89.61	41.95	107.40	99.78
Total	179.57	221.86	157.34	217.54	215.77

Source: Revenue and Capital Fund Accounts, Sirkazhi

The share of own sources of income to the total revenue income of the municipality has on an average been 44.4%. The share of own source of revenue to the total revenue income has not remained consistent; it varied from 40% in 2003-04 to 53% in 2004-05 then again reduced to 42% in 2005-06. The variation in its share has primarily been on account of variation in the total revenue income. As per the own source revenue considered, its growing with a CAGR of 4.34% during the last five years. Table 18 shows the revenue income for the municipality from its own sources of revenue.

Table 18: Revenue Income from Own Sources (Tax and Non Tax)

(Fig in Rs. lakhs)

ITEMS	2002-03	2003-04	2004-05	2005-06	2006-07
Taxes					
Property Tax	27.94	31.05	32.27	30.75	32.38
Professional Tax	7.42	4.73	7.34	6.32	5.81
Other Taxes & Charges	-	0.33	0.30	0.18	0.20
Non Tax Income					
Income from Properties	16.50	20.56	19.05	20.69	21.68
Income from Investments(Excl. Interest)	-	0.01	0.01	0.01	0.01
Interest from Investments	1.82	1.44	1.91	1.12	1.27
Income from Fees	19.34	19.01	14.10	14.09	14.16
Miscellaneous Income	5.84	12.56	8.83	16.39	17.76
Total	78.84	89.69	83.81	89.56	93.27

Source: Revenue and Capital Fund Accounts, Sirkazhi

Income through own sources which contribute substantially to the revenues of the municipality include:

5.6.4.1 Property Tax

Property tax is a generic term and it includes within it General Purpose Tax, Water Tax, Drainage, Lighting Tax, Scavenging Tax and Education Tax. The property tax is calculated on the basis of Annual Rental Value method. It is calculated on the basis of four main factors -- location, age of the building, usage (residential or commercial) and occupancy factor (owner/tenant). In the case of Sirkazhi municipality, Property tax is one of the major sources of revenue for the municipality and it ranges on an average 16% of the revenue receipts of the municipality.

A revaluation exercise of the properties of the municipalities was last undertaken in 1998 and the assessment was done on a zero base. The total municipal area was divided into four zones viz. Zone A, Zone B, Zone C and Zone D, the rates are ranging from Rs. 2.25 Rs. per sq.ft to Rs. 0.35 per sq.ft depending upon the zone and use of property. The detailed rates are shown in the Table 19.

Table 19: Property tax rates

Zonal Rates- Rupees per Sq. foot		Zone A	Zone B	Zone C	Zone D
i	Residential- Owner	0.75	0.50	0.35	-
ii	Non-Residential/ Commercial	2.25	1.50	1.05	-
iii	Industrial	1.50	1.00	0.70	-

Source: Revenue Department, Sirkazhi Municipality

The property tax being a very important source of revenue income to the corporation, it has registered a growth of 7% CAGR over the five years of analysis. The demand – balance statement showing that the collection efficiency of the property tax has gone down from 67% in 2004-05 to 70% in 2005-06.

Table 20: Demand, Collection, Balance Statement of Sirkazhi Municipality

ITEMS	2002-03	2003-04	2004-05	2005-06	2006-07
Demand					
Current	29.25	31.05	32.27	30.08	54.22
Arrears	12.47	13.82	15.73	20.32	25.56
Total	41.72	44.86	48.00	50.41	79.78
Collection					
Current	24.39	24.85	23.18	23.11	44.53
Arrears	3.50	4.28	4.50	6.42	11.65
Total	27.90	29.14	27.68	29.53	56.19
Total No. of Assessments	5,580	5,582	5,665	6,165	6,233
Growth in Assessment		0.04	1.49	8.83	
Total of Collection Performance(%)	66.87	64.94	57.66	58.59	70.43

Source: Demand Collection Balance Statement, Revenue Department Sirkazhi

5.6.4.2 Professional Tax

Professional tax is also collected by the Municipality from all registered organisations, companies or firms, public or private, individuals and state & central government departments. In Sirkazhi municipality, professional tax contributes on an average 3.4% to the total revenues of the municipality.

5.6.4.3 Remunerative Income (Non Tax Income)

The component of non tax income primarily includes income from remunerative enterprises such as rentals from assets owned by the municipality, such as shopping complexes, market fees, parking fees and income from other real assets owned by the Municipality. It also includes income from the investments made by the Municipality. Non tax income on an average constitutes 25% of the total revenue income of the municipality. The share of non tax income in the total revenue income of the municipality has seen an increase for the entire period under analysis. The rise in the non tax income has been on account of increases in income from the fees charged by the municipality and the miscellaneous income earned by the municipality. The Municipality also earns less than a percent return as interest on the investments made by it. Income from fees charged and miscellaneous income charged by the Municipality have seen marginal increases over the period of analysis.

5.6.4.4 Assigned Revenues

Besides the income received on account of the services rendered by the Municipality, it also receives a share of the revenue from a few taxes levied and collected by the Government of Tamil Nadu (GoTN) under specific Acts. These transfers from the State Government to the Municipality are done in order to supplement the Municipality's income. Entertainment tax, and surcharge on transfer of immovable properties are the important items on which revenues are realised by the Municipality.

The share of Assigned revenues in the total income of the Municipality has on an average been a significant 17% of the total revenues. Entertainment Tax has an average share of 5.6%. Surcharge on stamp duty transfer has had a significant share of 11.4% in the total revenues of the Municipality. The income from assigned revenue is shown a fluctuating trend in last five years, registered the reduction in last three years. .

Table 21: Income from Assigned Revenue

Items	2002-03	2003-04	2004-05	2005-06	2006-07
Entertainment Tax	12.42	17.30	15.17	1.95	6.18
Surcharge on Stamp Duty	33.43	25.26	16.41	18.64	16.54
Other Transfers	-	-	-	-	-
Total	45.86	42.56	31.58	20.58	22.73

5.6.4.5 Revenue Grants and Contributions

The Municipality also receives revenue grants and contribution from the government under various heads. Revenues and grants form a very important component of the income sources to the Municipality with an average share of 38.6% for the five years of analysis. The most important of the grants received by the Municipality has been the funds devolved under SFC grants.

Table 22: Income from grants and contribution

Items	2002-03	2003-04	2004-05	2005-06	2006-07
SFC Fund	53.71	89.61	41.41	105.94	99.06
Other Grants	1.16	-	0.55	1.46	0.72
Total Grants	54.87	89.61	41.95	107.40	99.78

Source: Revenue and Capital Fund Accounts, Sirkazhi

The SFC devolution is carried out on the basis of the SFC recommendations. As per SFC recommendation, 12% of state revenue under pool B is transferred to each local body based on formula

recommended by SFC. The dependency of this Municipality is high on SFC grants, since there is negligible income from other grants.

5.6.5 Revenue Expenditure

Revenue expenditure of Municipality has been analysed based on expenditure heads broadly classified under the following departments General Administration and Taxes, Public Works and Roads, Street Lighting, Public Health & Conservancy, Town Planning and Miscellaneous Items. Revenue expenditure is further classified under establishment, Operation & Maintenance and Debt Servicing.

It may be noted from the adjacent Fig: 7 that the revenue expenditure incurred by the Municipality has shown an inconsistent trend since 2002-03. Through the period of the analysis, the revenue expenditure registered a CAGR of 2%.

Figure 7: Trend in Revenue Expenditure

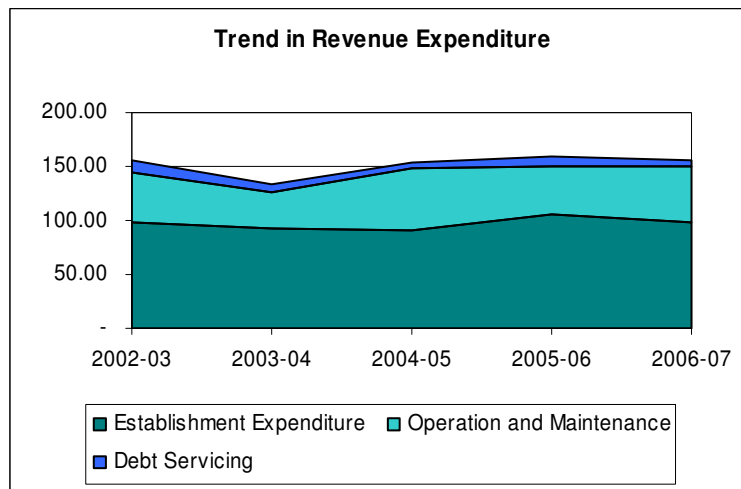


Table 23: Sector Wise Revenue Expenditure

(Figures in Rs. lakhs)

Items	2002-03	2003-04	2004-05	2005-06	2006-07
Establishment Expenditure	97.47	91.76	90.60	105.98	98.83
Operation and Maintenance	46.94	34.32	58.41	43.19	50.54
Debt Servicing	11.49	7.12	4.53	9.43	6.58
Total Expenditure	155.90	133.19	153.54	158.60	155.95

Source: Revenue and Capital Fund Accounts, Sirkazhi

This average growth when compared with the negative growth in the revenue income of the municipality reflects an unhealthy financial position of the Municipality and thereby indicating that the revenue incomes have not stabilised when compared with the revenue expenses incurred by the municipality.

5.6.5.1 Establishment Expenditure

Establishment expenditure accounts for 64.12% of the total revenue expenditure incurred by the Municipality. Establishment expenditure has seen a continuous increase for the period of analysis at a rate of 2.83% CAGR. The increase in the establishment expenditure has been more pronounced from 2004-05 till 2006-07.

5.6.5.2 Operation and Maintenance Expenditure

Operation and Maintenance expenditure has had an average share of 30.71% of the total revenue continuously expenditure incurred by the Municipality. The broad head of Operation and Maintenance expenditure mainly comprises of expenditures incurred by the Municipality on general administration, public works and road, street lighting, public health and conservancy, town planning, contribution to other funds, and other miscellaneous items of expenditure.

Figure 8: Composition of Operation and Maintenance Expenditure

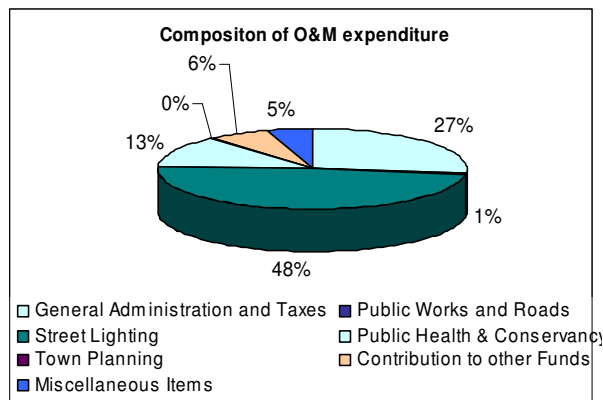


Figure 8 depicts the composition of Operation and Maintenance expenditure incurred by the Municipality and an average share of all the items of expenditure. The highest expenditure incurred by the Municipality is towards the electricity charges for street lighting.

5.6.5.3 Debt Servicing

The Municipality on an average spends 5.17% of its expenditure towards debt servicing and DSR (as a % of revenue income) is ranging from 6.2% to 2.7% which is much lower than the threshold of 25% considered by the financial institutions. The share of

debt servicing has however, increase continuously through the period of the analysis, thereby reflecting that the Municipality has made sustained efforts at paying off its borrowings.

5.6.6 Capital Income and Expenditure

5.6.6.1 Capital Receipts

Capital income comprises loans, grants and contributions and income from any sale proceeds. The detailed components of capital income are enumerated in the table. An analysis of this account over the past five years indicates that the loans contributed 24% of the capital income against 72% grants & contributions. Incoming loans and their major share indicate the right utilisation by the municipality, its credit worthiness and taking up capital asset creation. Major other source of capital income apart from loans have been the grants from the state government and the contributions from the municipal fund.

Figure 9: Composition of Capital Income

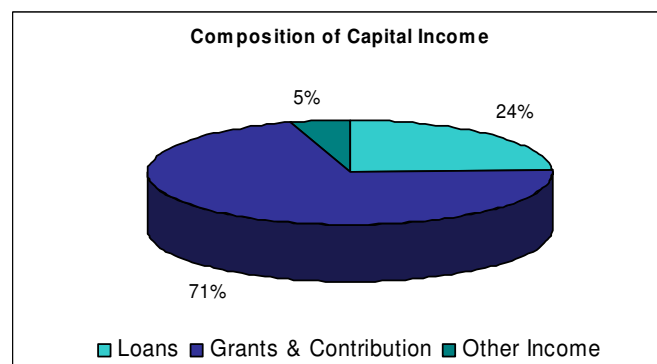


Table 24: Sources of Capital Income

Items	2002-03	2003-04	2004-05	2005-06	2006-07
Loans	88.96	141.03	105.02	98.43	111.72
Grants & Contribution	156.43	215.13	314.84	445.42	460.83
Other Income	14.11	39.87	10.79	16.87	23.89
Total	259.50	396.03	430.64	560.72	596.43

Source: Revenue and Capital Fund Accounts, Sirkazhi Municipality

5.6.7 Capital Expenditure

The Municipality incurs capital expenditure towards roads, street lighting, solid waste management, storm water drains, bridges & flyovers, elementary education and towards other services rendered by it. Majority of the expenditure incurred by the Municipality has been towards roads, followed by the expenditure incurred on storm water drains and street lighting. The total capital expenditure incurred by the Municipality saw a substantial increase in 2005-06, on account of a sharp increase in the expenditure made towards roads, buildings, and causeways. However, the share of this component in the total capital expenditure incurred by the Municipality has shown consistency during the analysis period except in 2004-05. While the total capital expenditure incurred by the Municipality has shown an inconsistent rate of year on year growth, it has registered grown at an average growth rate of 29% per annum in last five years.

Table 25: Capital Expenditure incurred by the municipality

Items	2002-03	2003-04	2004-05	2005-06	2006-07
Roads, Subways, Causeways and Buildings	250.17	330.53	202.70	461.84	406.90
Street Lighting	37.17	37.17	40.48	41.58	41.26
Solid Waste Management	10.16	10.16	10.16	10.16	10.16
Storm Water Drains	34.21	35.98	42.61	63.18	47.26
Bridges & Flyovers	1.89	1.89	2.53	49.53	17.98
General	2.89	19.66	8.29	8.29	17.16
Elementary Education	-	-	-	-	-
Others	-	-	-	-	-
Total	336.49	435.39	306.77	634.59	540.72

Source: Revenue and Capital Fund Accounts, Sirkazhi

5.6.8 Debt Liability of the Municipality

Table 26 shows the Debt liability position of the Municipality as on 31st March 2007. Currently, against the total loans of Rs. 324 lakhs taken from IUDP, IDSMT, MUDF, state government and TNUDF for development projects. The Sirkazhi municipality has so far repaid Rs. 274.49 lakhs towards principal amount. Currently, Sirkazhi Municipality Sirkazhi Municipality has an outstanding loan of Rs.259.79 lakhs as a principal and Rs. 6.75 lakhs as interest. Due to same situation with all the ULBs across the state, in year 2008, GoTN has taken a decision to write off government loan, IUDP, MUDF loan. After this step of GoTN now the debt liability of Sirkazhi municipality is reduced to Rs. 84.46 lakhs and Rs. 106.91 lakhs of TUFIDCO and TNUDF respectively.

S.No.	Item of loan	Year of Drawl	Installment	Total Loan	Loan Outstanding at the beginning of year	Demand for 2006-07		loan remitted 2006-07		Balance Annuity	
						Principal	Interest	Principal	Interest	Principal	Interest
I	IUDP										
1	Construction of New Bus stand I Phase	1987	20	300,000							
2	Construction of New Bus stand I Phase	1987	20	500,000							
3	Construction of New Bus stand I Phase	1988	20	1,000,000							
4	Construction of New Bus stand I Phase	1989	20	500,000							
5	Construction of New Bus stand I Phase	1990	20	200,000							
6	Construction of New Bus stand II Phase	1991	20	500,000							
7	Construction of New Bus stand II Phase	1992	20	500,000	4,225,229	546,868	347,638	546,868	347,638	3,678,361	
8	Construction of New Bus stand II Phase	1993	20	500,000							
9	Construction of New Bus stand II Phase	1994	20	500,000							
10	Construction of New Bus stand II Phase	1995	20	400,000							
11	Construction of New Bus stand II Phase	1996	20	500,000							
12	Construction of compound	1997	20	250,000							
13	Land	1998	20	457,760							
14	Construction of Bus stand	1999	20	100,000							
	Total IUDP			6,207,760	4,225,229	546,868	347,638	546,868	347,638	3,678,361	-
II	MUDF										
1	Internal roads	1990	16	1,146,000							
2	Water Supply	1990	16	375,000							
3	SWM	1990	16	337,500	2,261,278	292,644	186,033	292,644	186,033	1,968,634	
4	Sanitation	1990	16	669,000							
5	Shopping Complex	1990	16	1,334,000							
6	Office Complex	1990	16	148,400							
	Total MUDF			4,009,900	2,261,278	292,644	186,033	292,644	186,033	1,968,634	

S.No.	Item of loan	Year of Drawl	Installment	Total Loan	Loan Outstanding at the beginning of year	Demand for 2006-07		loan remitted 2006-07		Balance Annuity	
						Principal	Interest	Principal	Interest	Principal	Interest
III	IDSMT										
	Construction of Pay & use Toilet	2005	10	5,223,500	5,223,500		256,545		256,545	6,223,500	
	Total IDSMT			5,223,500	5,223,500	-	256,545	-	256,545	6,223,500	-
IV	State Govt. Loan										
1	Full loan Road works	1992	10.00	300,000	50,000	1,000	4,250	1,000	4,250	40,000	
2	Half loan half grant road works	1992	10.00	125,000	7,500	7,500	675	7,500	675		
3	Basic amenities	1996	36.00	450,000	185,000	3,000	16,650	3,000	16,650	155,000	
	Total State Govt. loan			875,000	242,500	11,500	21,575	11,500	21,575	195,000	-
V	TNUDF Loan										
1	Road Works	2002	20	5,768,000	5,768,000		788,679		788,679	5,768,000	
2	Solid waste management	2006	10 semi annual	500,824	500,824		41,768		41,768	500,824	
	Total TNUDF loan			6,268,824	6,268,824	-	830,447	-	830,447	6,268,824	-
VI	TUFIDCO/TWAD										
1	Water Supply	1997	36	6,592,500	4,788,154	365,750	1,065,175	365,750	1,065,175	4,422,402	675,000
2	Water Supply Works			223,000	223,000					223,000	
	Total water works			6,815,500	5,011,154	365,750	1,065,175	365,750	1,065,175	4,645,402	675,000
1	Road Project			3,000,000	3,000,000		60,275		60,275	3,000,000	
	Total Loan			32,400,484	26,232,485	1,216,762	2,767,688	1,216,762	2,767,688	25,979,721	675,000

Source: Accounts Section, Sirkazhi

5.7 Water Supply and Drainage Account

The water and drainage accounts of Sirkazhi Municipality have been reviewed for the last five years, commencing the financial year 2002-03 to 2006-07. The items of both receipts and expenditure are classified under revenue and capital accounts as per their sources and uses.

The revenue income of the Water Supply and Drainage Account (W&D) account of Sirkazhi Municipality has grown to a level of Rs 13.22 Lakhs in FY 2006-07 from Rs 6.21 lakhs in FY 2002-03, registering a CAGR of 27% for the period of analysis, while revenue expenditure exhibited an increase at a CAGR of 13.3% over the same period. The revenue account has been in surplus for the period of analysis, thereby reflecting a sound financial situation of the water supply and drainage account.

The status of this account is in line with the sound financial situation of the Revenue and Capital Fund Account of the Municipality.

Table 26: Status of Water Supply and Drainage Account

(Figure in Rs. Lakhs)

Items	2002-03	2003-04	2004-05	2005-06	2006-07
Revenue Account					
Income	6.21	26.37	14.25	13.02	13.22
Expenditure	7.98	9.83	6.59	11.60	10.37
Surplus/ Deficit	(1.77)	16.53	7.65	1.42	2.85
Capital Account					
Receipts	71.81	89.70	97.34	105.18	119.29
Payments	125.98	126.86	130.67	65.26	86.41
Surplus/ Deficit	(54.17)	(37.16)	(33.33)	39.93	32.88

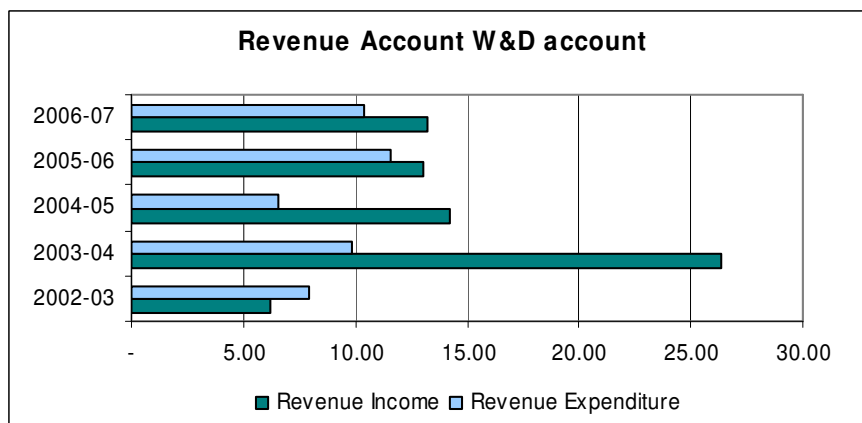
Source: Revenue and Capital Fund Accounts, Sirkazhi Municipality

On the capital account front, Sirkazhi incurred Rs. 86.41 lakhs in year 2006-07 on capital expenditure. The expenses incurred by the Municipality are however, within the capital income raised by it. Overall the W&D account of Sirkazhi municipality has had a sound financial position since last two years.

The following section provides a detailed review of the revenue account, in order to assess the Corporation W&D account fiscal status and to provide a base for determining the potential of each of the sources and the ability of Sirkazhi to sustain the extent of planned investments identified under the City Corporate Cum Business Plan.

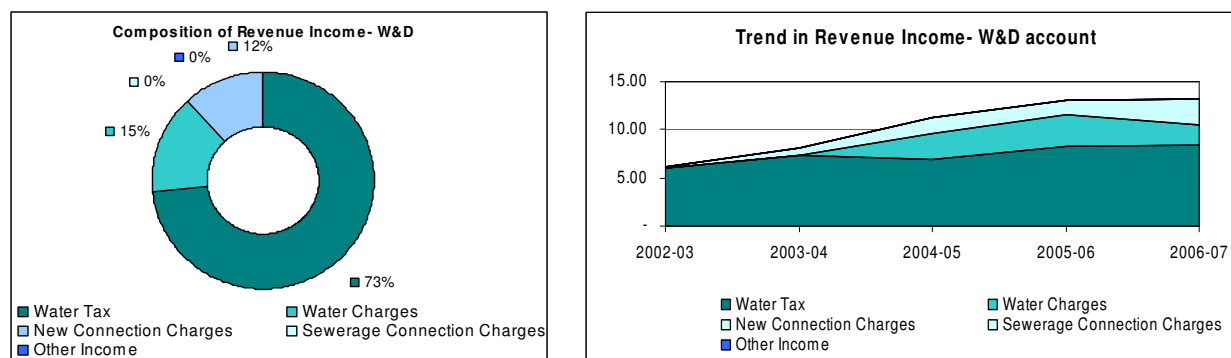
5.7.1 Water and Drainage -- Revenue Account

The revenue account comprises two components - revenue income and revenue expenditure. Revenue income comprises internal resources in the form of water charges, new water deposits, connection fee and others. External resources are in the form of shared taxes/ transfers and revenue grants from the State. Revenue expenditure comprises expenditure incurred on salaries, operation & maintenance cost, contribution & donations and debt servicing.

Figure 10: W&D Revenue Account


5.7.2 Revenue Income

The main contributors of income are from water charges and water tax, which constitute 12.1% and 60.1% respectively. In the last five review years the income from water tax has increased from Rs 6.04 Lakhs in 2002-03 to Rs 8.28 Lakhs in 2005-06. The income from water charges has also increased substantially from the levels of Rs 0.30 Lakhs in 2003-04 to Rs 3.24 Lakhs in 2005-06.

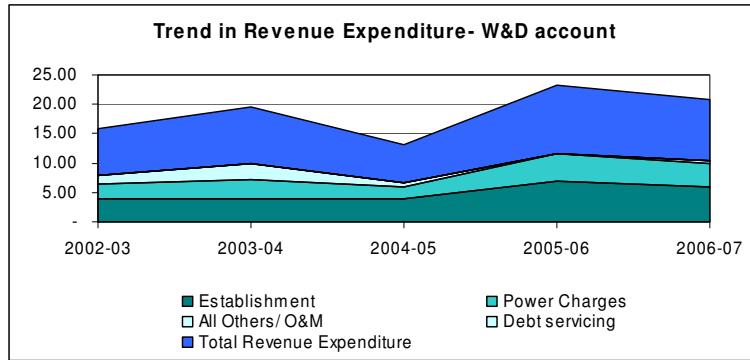
Figure 11: Composition and Trends in Revenue Income of W&D Account

Table 27: Source-wise revenue break-up of W&D Account

Items (Rs in lakhs)	2002-03	2003-04	2004-05	2005-06	2006-07
Water Tax	6.04	7.34	6.92	8.28	8.35
Water Charges	-	0.03	2.71	3.24	2.19
New Connection Charges	0.17	0.75	1.64	1.50	2.68
Sewerage Connection Charges	-	-	-	-	-
Other Income	0.01	18.24	2.98	-	-
Total Revenue Income	6.22	26.37	14.24	13.02	13.22

Source: Recasted Accounts of Water Supply and Drainage Fund, Sirkazhi Municipality

5.7.3 Revenue Expenditure

Figure 12: Trends in Revenue Expenditure-W&D Account



Revenue expenditure of Sirkazhi has been analysed based on expenditure heads which are broadly classified into general administration & operation and maintenance. The application of funds by heads of accounts is presented in Table 29.

The revenue account indicates that the overall revenue expenditure registered a average annual growth of 13.3% against revenue income of 27%. The analysis indicates that the

quantum of revenue income has been higher than the revenue expenditure;

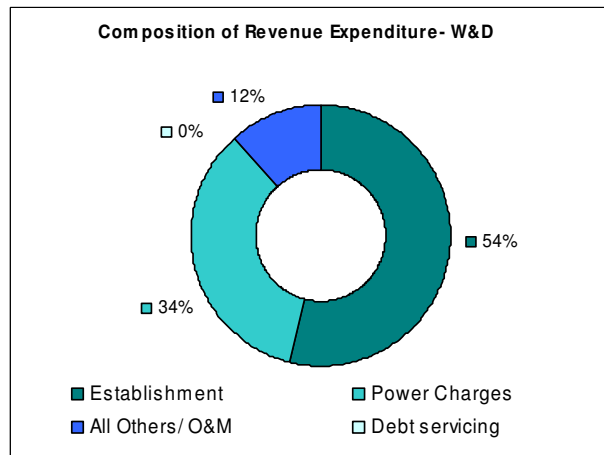
Table 28: Application of funds by heads of W&D Accounts

(Figure in Rs. Lakhs)

Items	2002-03	2003-04	2004-05	2005-06	2006-07
Establishment	3.97	3.89	4.04	7.05	6.05
Power Charges	2.58	3.30	1.97	4.48	3.91
All Others/ O&M	1.43	2.64	0.58	0.07	0.41
Total Revenue Expenditure	7.98	9.83	6.59	11.60	-

Source: Recasted Accounts of Water Supply and Drainage Fund, Sirkazhi Municipality

Figure 13: Composition of Revenue Expenditure-W&D Account



The composition of expenditure includes – Establishment expenses, Operation and Maintenance expenses and power charges. The expenditure incurred by the Sirkazhi Municipality on establishment expenses constitutes 54.53% of the total revenue expenses. However, the expenditure is made towards power charges at 34.61%.

5.7.4 Water and Drainage -- Capital Account

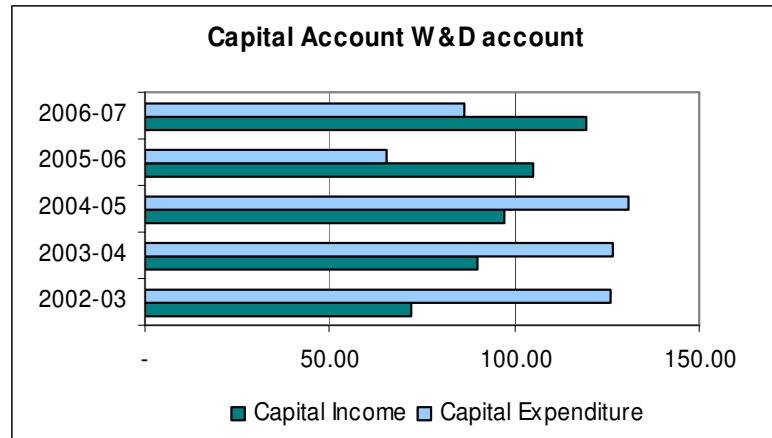
The capital account comprises all income realized/mobilized for and expenditure incurred on capital works, which include creation of real and infrastructure assets and purchase of vehicles, plant, equipment and machinery. The capital income comprises of income from loan and contribution from Municipal Fund

Figure 14: W&D Capital Account

5.7.4.1 Capital Income

In general, the capital income of Sirkazhi for W&D account comprises only of loans from the Government and grants from Municipal Fund.

Sirkazhi has availed loans from TUFID in the last four years of analysis.



5.7.4.2 Capital Expenditure

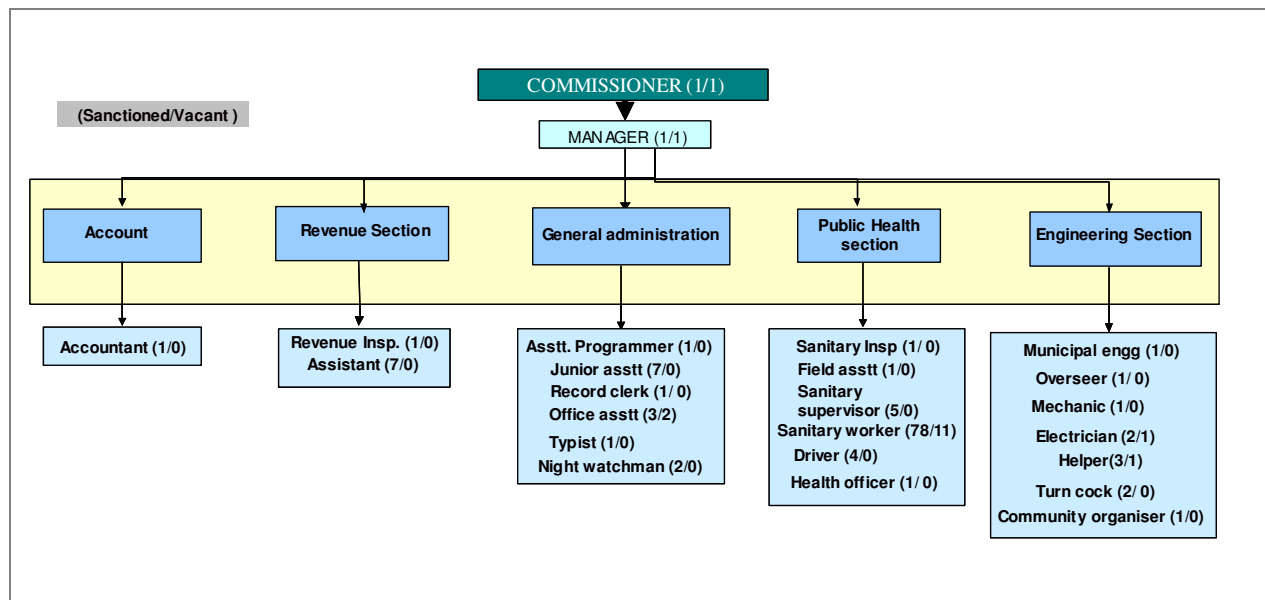
The capital expenditure of Sirkazhi includes all expenditure incurred on asset creation. In case of Sirkazhi, the Municipality has incurred cumulative of around Rs 535.8 Lakhs during the last five years. These capital items are also the most flexible item of the city's budget, and are normally contingent upon receipt of associated revenue.

5.8 Institutional setup of Sirkazhi Municipality

Sirkazhi Municipality was upgraded to the status of a Second Grade Municipality in the year 1980. This up gradation was based on the G.O. 1191 R.D & L.A Dept. Prior to this, since 1972, the Municipality had been a Third Grade Municipality.

5.8.1 Municipal Structure

Figure 15: Institutional structure of Sirkazhi Municipality



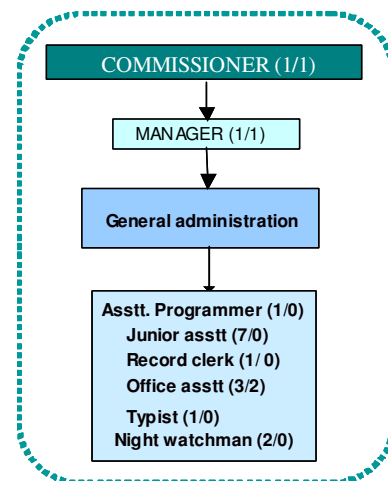
5.8.2 Departments

Sirkazhi consists of five major functional departments viz. general administration, engineering, public health, revenue and accounts. Apart from these, there is one Town Planning Dept in the Municipality.

5.8.2.1 General Administration

The general administration department takes care of the administrative functions of the municipality. Besides the general administrative functions, the other responsibilities of this department include, Public relations and redressal of public grievances, Appointments and transfers, Council subjects, Correspondence, Record maintenance, etc.

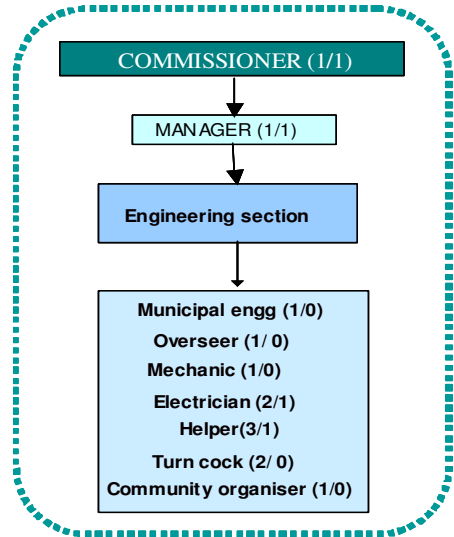
The general administration is headed by the Municipal Commissioner. The Commissioner is assisted by a Manager. In addition, there is 12 support staff including Assistants, record clerk, typist etc. who are responsible for handling administrative work.



5.8.2.2 Engineering

All the activities relating to Public Works and maintenance of civic facilities which are to be provided by the Municipality have to be provided done by the Engineering Department. The functions in specific for which the department is responsible are Public Works which include construction and maintenance of roads and storm water drains, maintenance of school buildings, construction and maintenance of Public Conveniences, maintenance of other facilities viz., Bus stand, Markets, streetlights, provision and maintenance of water supply and sewerage system and maintenance of parks and garden etc.

In the case of Sirkazhi Municipality, the public works related to water supply and drainage is also managed by the Tamil Nadu Water supply & Drainage Board (TWAD). The municipal engineer (of executive engineer level) heads the engineering department, and is assisted by an overseer and other staff. The department has 1 overseer and 5 others to carry out some technical work.



Functions

A major function of the municipality is formulation and execution of works- like construction and maintenance of roads, buildings and other infrastructure systems.

Original Works- Capital works under specific schemes or master plan proposals include new construction whether entirely of new works or of major additions/ modifications to existing assets like buildings, roads, infrastructure network, etc.

Maintenance Works- Maintenance and repair of existing buildings and infrastructure systems, and construction of minor works involving the co-ordination of various functional departments within the local body, including the engineering, administration and accounts departments, council, etc.

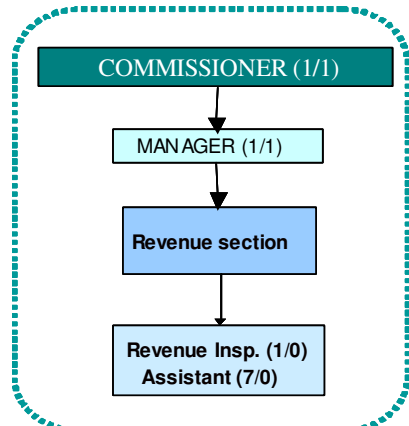
5.8.2.3 Revenue Section

The main function of the revenue department is the collection of taxes and charges as levied by the municipality. The department serves demand notices to the tax payers and charge sheet in the case of default. The revenue department is headed by a revenue inspector who in turn is assisted by 7 assistants.

Functions

This department is solely responsible for the revenue management functions of the municipality. The function of the department is two-fold:

1. Levy, assessment and collection of taxes, fees and charges; and
2. Accounting of collection.



5.8.2.4 Accounts

The accounts section carries out functions related to finances, and accounts of all the departments except water supply and drainage. In addition to this, this section also monitors the grants and state government transfers and devolution, and manages debt servicing, provident fund accounts, pensions, salaries, advances, etc.

The accountant is responsible for the accounting function of the municipality. His/her functions include the recording of transactions, maintaining the accounts and compilation of accounts and overseeing all the activities of this section. A major function of the accountant is the preparation of the annual budget.

5.8.2.5 Public Health

The Public health department is headed by a sanitary inspector. This inspector is in turn assisted by one Field Assistant, 5 sanitary supervisors and four drivers who mainly would be responsible for the transport of the solid waste collected and meant for disposal. In Sirkazhi Municipality, there are total 78 posts for sanitary workers out of which, 67 posts are filled and rest are vacant.

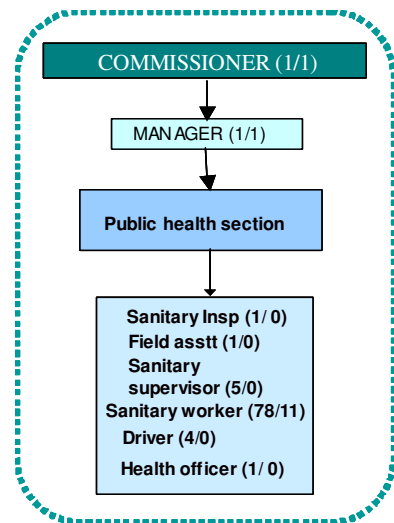
Functions

The public health department is vested with the responsibility of ensuring safe sanitation and cleanliness of the town. The department is also responsible for the maintenance of municipal dispensaries, burial grounds and slaughter houses.

Maintenance of Sanitation

One of the most crucial services of the municipality is maintenance of sanitation and cleanliness in the town. This involves mainly conservancy works involving sweeping of roads, garbage collection and disposal, cleaning of drains, and disinfecting of drains.

There are 5 sanitary supervisors who co-ordinate and assist the entire conservancy work. The sanitary workers sweep the roads and clean choked drains on a daily to weekly basis depending upon the prevailing activities. For the transportation of the garbage collected to the disposal point, the municipality employs own and hired trucks. The maintenance and upkeep of the trucks is also the responsibility of the public health department.



5.8.2.6 Town Planning

The primary function of the Town Planning department is to ensure proper implementation of the development proposals as elaborated in the master plans, and in the process ensure orderly growth in the town and avoid unauthorised constructions and also to formulate projects. The department is vested with the powers to issue building licenses, grant planning permissions, collecting development charges and encroachment charges etc. The department is headed by a town planning inspector and is assisted by one junior assistant.

Functions

With regard to day-to-day operations, the town planning department is responsible for issue of building permissions and licenses.

5.8.3 Staffing Pattern

The following Table 30 presents at a glance the department wise staffing pattern for Sirkazhi municipality.

Table 29: Staffing Schedule in Sirkazhi Municipality

	Department/ Section	Sanctioned posts	Occupied posts	Vacant posts	Daily wages employees	Total Employee Cost/month
a	General Administration				NIL	
i	Commissioner/ Chief Officer	1	1	0		19997
ii	Manager	1	1	0		15296
iii	Assistant			0		
iv	Asst. programmer	1	1	0		13354
v	Jr. Assistant	7	7	0		61925
vi	Record Clerk	1	1	0		8150
vii	Typist	1	1	0		7780
ix	Office assistant	3	1	2		21024
x	Night watchman	2	2	0		13447
	Total Gen admin	17	15	2		160973
b	Engineering					
i	Municipal Engineer	1	1	0		21210
ii	Overseer	1	1	0		10526
iii	Mechanic	1	1	0		7914
iv	Fitter	0		0		
v	Electrician	2	1	1		18436
vi	Wireman	0		0		
vii	Helper	3	2	1		19636
viii	Turn Cock	2	2	0		13060
ix	Community Organizer	1	1	0		7308
x	Cleaner	1	1	0		6364
	Total Engg section	12	10	2		104454
c	Public Health					
i	Sanitary Inspector	1	1	0		9998
ii	Health officer	1	1			18922
iii	Field Assistant	1	1	0		8922
iv	Driver	4	4	0		36206
v	Sanitary Supervisor	5	5	0		40112
vi	Sanitary worker	78	67	11		449051
	Maternity Assistant			0		
	Maternity Ayah			0		
	Total Pub health	90	79	11		563211
d	Revenue section					
i	Revenue inspector	1	1	0		12059
ii	Revenue Assistants	7	7	0		58940
	Total revenue	8	8	0		70999
e	Accounts section					
i	Accountant	1	1	0		9523
	Total a/c section	1	1	0		9523

	Department/ Section	Sanctioned posts	Occupied posts	Vacant posts	Daily wages employees	Total Employee Cost/month
f	Others					
i	Park watchman	4	4	0		24796
ii	Town planning inspector	1	1	0		9998
	Chain man	1	1	0		8880
	Total others	6	6	0		43674
	TOTAL STAFF	41	29	12	0	347264

Source: General Administrative Department, Sirkazhi

5.8.4 Capacity Assessment

Issues identified

The Municipality faces the issue of understaffing. This pertains right from the top most authority in the municipality to other levels within the various departments. The Municipality does not have a full time Commissioner. The Commissioner currently has only taken up the municipality as an additional charge and therefore the position lies vacant. At the level of the junior management within the General administrative section, though there are 7 sanctioned posts for junior assistants, only 5 of them remain occupied. In the engineering department, the Municipality is short of 1 person each for the post of Mechanic, wireman, and helper. Similarly in the case of the department of Public Health, the municipality does not have a health officer, Sanitary Inspector or a Field Assistant. Both these posts remain vacant in the municipality.

5.8.5 Status of E Governance

E-governance at Urban Local Bodies (ULBs) is aimed to provide on-line citizen services, information to all hierarchies and monitor performance of ULBs. It is in practice that citizens are approaching the respective ULB's to pay revenues, get certificates, approvals. In Sirkazhi Municipality, the Municipal administration has been moved to computerised operations from 1999.

The Revenue collections like Property tax, Profession tax, and non-tax and water charges are collected through computerized collection center at Municipal office. A Computerised collection centre at office premises functions to collect tax dues from the public directly and generate computerised bills. The office treasury is also computerized and the miscellaneous collection is carried out via the computer. Births and Deaths are registered every day in the computer. Birth Certificates are issued through computer. Sirkazhi Municipality is linked with all the Municipalities in Thanjavur region and with The Regional Director of Municipal Administration, Thanjavur through WAN connectivity.

One Assistant Programmer has been appointed by the Commissioner of Municipal Administration to look after computerization work and programming work of this Municipality. Citizen Services includes the following items,

- ❖ Birth Registration
- ❖ Death Registration
- ❖ Property Tax
- ❖ Profession Tax

- ❖ Water Charges

- ❖ Non - Tax (Lease Items)

Also, there is e-mail facility for the purpose of communication with higher authorities. The following manual records have been computerised to give e-governance services to citizens.

- ❖ Financial accounting computation on municipal accounts

- ❖ Pay roll – P.F. maintenance

6 STRATEGY FOR GROWTH AND DEMAND ASSESSMENT OF PROJECTS IDENTIFIED

6.1 Strategic Development Plan

For the growth and development of the Municipality, development of civic infrastructure, including both physical and social amenities, is critical. To arrive at a sector-specific growth strategy, the first step taken has been to undertake a rapid urban assessment of the status of the infrastructure of the Municipality, the findings of which were presented in the Inception Report. The gaps in the status of the infrastructure of the town have been analysed from both a medium term and long-term perspective. To address these gaps, the consultants have identified a list of sector specific projects. These projects have been arrived at in consultation with the ULB, stakeholders and on the basis of our demand-gap assessment. In addition to project identification, options for structuring of each of these projects would also be indicated.

To facilitate both short term and long term development of the town, it would be necessary to evolve sector wise strategies. The strategies are essentially derived from thorough analysis of the town's development potential as well as constraints (SWOT analysis) and in line with the vision formulated for its future growth direction. Given below are the major strengths, weaknesses, opportunity and threats posed by Madurantagam town.

Strength and opportunity	Weaknesses and threats
<ul style="list-style-type: none"> The economy of the town is primarily dependant on tertiary Sector based activities acts as a trading centre for surrounding villages. Potential for market development catering to surrounding towns/ villages 	<ul style="list-style-type: none"> Agricultural activities are carried out to a moderate extent however, majority of workforce is engaged as agricultural labourers The town does not have any substantial manufacturing base The Municipality at present lacks formal organised market areas Lack of proper civic infrastructure in terms of water supply, sewerage, storm water drainage, road network and recreational facilities. Individual sector analysis is discussed in the strategy section. Slum situation in the ULB area is poor

6.1.1 Strategy for Economic Development

Existing potential of the town in terms of its connectivity and manpower assets could be exploited to develop the town as a trade centre. Development of a proper market place catering to the town population and also surrounding villages would facilitate further growth. being situated in a economically backward area, the town does not have an established manufacturing base. However, local economy can be boosted by supporting agro based industries and existing cottage industries like coir weaving.

6.1.2 Strategy for Development of Civic Infrastructure

For the growth and development of the Municipality, development of the civic infrastructure including both physical and social amenities is critical. To arrive at sector specific growth strategy, the first step taken has been to undertake a rapid urban assessment of the status of the infrastructure of the Municipality, the findings of which were presented in the Inception Report. The gaps in the status of infrastructure in the town have been analysed from both medium term and long term perspective. The sector growth strategies which have been proposed include measures which need to be taken to address the gaps and also include the developmental projects which were proposed during the town level stakeholder consultations.

In the following sections, the outcome of the infrastructure assessed has been presented sector wise, following which sector specific strategies have been proposed. The strategies have been further categorised as Long Term Needs (2031) and Priority Needs (2016). In case of water supply and UGD, however, all issued has been addressed based on long term demand i.e., demand projected in 2031. In order to meet the short and long term requirements, the action measures which the Municipality would have to take up have been enumerated. In addition to suggesting strategies for development of the core town infrastructure, the additional projects suggested by the stakeholders have also been listed.

6.2 Water Supply

The assessment of water supply scenario in Sirkazhi Municipality has highlighted that there is an urgent need to improve the water supply situation in the Municipality in order to adequately meet the existing and future demand. The current level of per capita water supply at 58 lpcd is much lower than the norm of 135 lpcd. In order to improve the water supply situation in the Municipality within a specific plan period, the Consultant has arrived at a core strategy which needs to be adopted and also the list of projects which would have to be taken up such that existing and future requirement for water is adequately met.

Core Strategy

The gaps which have been identified in the provision of water supply service by the Municipality have been arrived at after consideration of the existing demand requirements and also for the demand scenario in 2016 and 2031. Unlike the approach which would be followed for sectors such as roads, SWM etc, in the case of water supply, the planning for augmentation for water supply requirements would have to consider the demand arising in 2031 and make necessary provisions for the same by 2016. The systems and infrastructure would therefore have to be designed such that the long term needs are addressed and planned for by 2016. The broad strategy therefore has been to identify the projects addressing the future demand which the Municipality would have to take up in the short run for which necessary investments will also have to be planned for.

Long term and Short term sector interventions required:

The table below presents the broad strategies being proposed to address the gaps identified in the existing levels

Sector Interventions Required	<ul style="list-style-type: none"> Water supply source requires to be augmented to 3.99 MLD to meet both the current and future demand for water supply. The water storage capacity would also have to be increased keeping in perspective the long-term planning requirements. Elevated storage capacity is to be increased up to 33% of the total water supplied. Refurbishment of the old dilapidated distribution network has to be planned to reduce the loss in transmission.
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	<ul style="list-style-type: none"> Treatment plant has to be provided for water treatment. To improve the revenue from water charges, complete metering has to be executed.
Expected Outcome	<ul style="list-style-type: none"> Assured 135 lpcd water supplies to 100% HSCs within the municipal limit Improvement in water quality Improvement in the revenue from water charges, enhanced service delivery

For meeting the demand arising in 2031, the following sub projects are being recommended by the Consultant and would have to be executed by the ULB by 2016.

Table 30: Demand assessment for projects identified for Water sector

ULB's Suggestion	Project's Proposed by Consultant
<ul style="list-style-type: none"> Scheme to increase the per capita supply of water Transmission main replacement – 20 km from kolidam River to Sirkazhi via Chittamalli 	Integrated Water supply Scheme for the town of Sirkazhi
Project Rationale	Sub- Projects
<ul style="list-style-type: none"> Water Supply in the town not adequate to meet the existing and future demand Current treatments were restricted only to chlorination Revenues from water charges are not adequate, and the installation of water meters becomes important both from the perspective raising revenues and checking water consumption 	<ul style="list-style-type: none"> i. Source/ system capacity augmentation – 3.99 MLD ii. Treatment capacity augmentation – 5.99 MLD iii. Refurbishment of old Distribution Network – 9.1 km (Including Transmission main replacement – 20 km from kolidam River to Sirkazhi via Chittamalli) iv. Metering System – 6685 nos

6.2.1 Details of Sub-projects to be undertaken:

The Integrated Water Supply Scheme which would be commissioned would have to make provisions for the following sub components:

- Source Augmentation:** The Municipality needs to design water supply system whereby the total water supply in the town is increased to a total of 3.99 MLD by 2031. However, given the current status of per capita supply, the Municipality would have to on priority basis make provision for meeting both the existing and future demand. The additional water requirement can be met by adopting either of the following options:
 - laying deeper bore wells
 - sourcing water from the rain water harvesting
- Water treatment facility:** A water treatment plant with a total capacity of 3.99MLD would have to be constructed. It may be pointed out here that since at present the Municipality does not have a water treatment facility, the construction of one is of utmost priority. However, the capacity of the treatment plant to be constructed would have to be decided upon only after a detailed investigation.
- Installation of water meters:** At present there are only 401 total water supply connections, all of which are non-metered. The water supply improvement scheme would have to make provisions for metering of the current connections and also making appropriate arrangements for installing meters for all the serviced connections that would arise in the future.

In the following table, the steps which need to be taken by the Municipality on a priority basis have been listed:

Table 31: Project development initiatives to be taken by the Municipality

Immediate measures to be taken	Authorities/Agencies responsible
Finalising the sub projects to be undertaken	Sirkazhi Municipality in consultation with Councillors and other stakeholders
Preparation of Detailed Project Report(s) for finalised projects	ULB in consultation with TWAD Board
Submission of DPR to funding agency for seeking approvals	Sirkazhi Municipality
Undertake measures for compulsory installation of water meters: <ul style="list-style-type: none"> Create awareness among the ward councillors and citizens on the need for installation of water meters Roll out measures (incentives/disincentives) for making meter installation mandatory 	Sirkazhi Municipality

6.3 Sewerage

At present, the Sirkazhi Municipality does not have a sewerage system network in the town. On the basis of both the demand–gap assessment of the sewerage network and the consultation process with the ULB officials and the stakeholders, the need for developing a sewerage network in the town is evident. The Municipality is in the initial phase of preparing a detailed proposal along with the TWAD board to set up an underground drainage (UGD) network in the town.

Core Strategy

The lack of a sewerage network in town necessitates development of a sewerage network which would efficiently manage the existing and future demand. Similar to planning and designing for water supply network, the planning for development of sewerage network would have to consider the demand arising in 2031 and make necessary provisions for the same by 2016. The systems and infrastructure would therefore have to be designed such that the long term needs are addressed and planned for by 2016. The broad strategy therefore has been to identify the projects addressing the future demand which the Municipality would have to take up in the short run for which necessary investments will also have to be planned for.

Long term and Short term sector interventions required:

The table below presents the broad strategies being proposed to address the gaps identified in the existing levels

Sector Interventions Required	<ul style="list-style-type: none"> Laying of underground drainage system of 70 km to cover the entire population of the Municipality Construction of a sewerage system which can handle a capacity of 4.79 MLD by 2031 Treatment plant should be provided to facilitate environmentally safe disposal
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Expected Outcome	Synchronisation with water supply capacity, ability to meet service level targets and disposal norms
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For meeting the demand arising in 2031, the following sub projects are being recommended by the Consultant and would have to be executed by the ULB by 2016.

Table 32: Demand assessment for projects identified for Sewerage Sector

ULB's Suggestion	Project's Proposed by Consultant
<ul style="list-style-type: none"> ❖ Scheme for laying of sewerage network for the town ❖ Wards which are hitherto not covered in the proposal being prepared by the Municipality should also be covered. 	Sewerage Scheme for the town of Sirkazhi
Project Rationale	Sub- Projects
The sewerage system in the town consists of septic tanks, soaks pits, open surface drainages and finally disposes into the natural drains or ponds. The city consumes about 2 MLD of water (surface water) and after usage the waste water is discharged into the drains. About 1.6 MLD of sewerage (80 percent of water supply as per CPHEEO norms) is estimated to be generated in the town. There is no underground drainage network in the city. The waste water flowing in open drain results in bad odour and the conditions are severe during monsoon when the sewerage overflows on the road.	<ul style="list-style-type: none"> i. UGD network development – 53.02 km ii. Treatment capacity development (STPs) – 4.79 MLD iii. Pumping machinery (Intermediate pumping stations/ transmission mains)– 10 nos

6.3.1 Details of Sub-projects to be undertaken:

The Sewerage Scheme which would be commissioned would have to make provisions for the following sub components:

- Laying of under ground sewerage network:** The construction of the sewer network to be constructed takes into consideration the factors of existing and future water supply to the town and the population size being catered to. The capacity of the system has been estimated at 4.79 MLD (80% of the future water supply) and the length of the network has been estimated at 70 km. Both these capacity and network parameters have taken into consideration the demand arising in 2031 and provisions would have to be made for the same by 2016.

Table 33: Project development initiatives to be taken by the Municipality

Immediate measures to be taken	Authorities/Agencies responsible
Finalising the sub projects to be undertaken	Sirkazhi Municipality in consultation with Councillors and other stakeholders
Preparation of Detailed Project Report(s) for finalised projects	ULB in consultation with TWAD Board
Submission of DPR to funding agency for seeking approvals	Sirkazhi Municipality

6.4 Roads, Transport Management and Street lighting

Assessment of the quality and length of roads in Sirkazhi Municipality has highlighted the need to take up road improvement on priority basis. This is in line with the demand for road up gradation put forth by the stakeholders during the workshop. The areas of total road length, the quality of the roads, and the component of street lighting has to be addressed in the strategy evolved for addressing this sector. The average road length per capita at 1.70 mt is marginally lower than the norm of 1.75mt. Similarly several of the roads need up gradation. To address the issues highlighted in the rapid assessment, the strategy to be pursued has been elaborated below.

Core Strategy

In the case of the road sector, the broad strategy which the Municipality would follow is one wherein the existing gaps in this sector and the future requirements would be addressed in terms of two categories of priority or short term needs and long term needs. The suggestions which had been put forth in the stakeholder consultation would have been clubbed under the category of short term requirements and the long term requirements should be addressed by the Municipality in the second phase.

Long term and Short term sector interventions required:

The broad sector interventions to address both the short and long term requirements have been enlisted below:

Sector Interventions Required	<ul style="list-style-type: none"> Construction of new roads in areas which are at present earthen. Up-gradation of roads to CC or BT. New roads to cater to missing links and developing areas: total road length reaching 66 km in 2016 and 78 km by 2031 Improved bus stand and related amenities Increase in the number of high power and high mast lamps, and installations of more streetlights w.r.t to roads
Expected Outcome	<ul style="list-style-type: none"> Improved connectivity, Hassle-free travel on roads, safe driving during nights

Following are the projects proposed during the stakeholder consultation and also based on the rapid urban assessment carried out by the Consultant.

Table 34: Demand assessment for projects identified for Roads &Transport Sector

ULB's Suggestion	Project's Proposed by Consultant
<ul style="list-style-type: none"> ❖ Upgradation of roads to CC in a few identified wards ❖ Construction of By-pass road: By-pass road has been approved in the Master Plan. Municipality would need to acquire land from the private parties. Municipality at present does not have adequate funds to purchase the funds ❖ Construction of over bridge: Sirkazhi needs two ROB to be constructed with in municipal area along with the coordination with Highways department and Railway department. ❖ Up-gradation of the existing bus stand: 	Road and traffic improvement project for the town of Sirkazhi

a. Current bus stand is B grade with 36 Bays. Proposal for up-gradation to A grade with 50 bays b. Vacant plots available surrounding the Bus Stand which can be developed for commercial purposes c. Lack of footpaths d. Lack of organised parking facilities	
Project Rationale	Sub- Projects
❖ The current road length per capita is much lesser than the norms, also the type of road needs to be improved. Keeping in view the growth of the town, the total road length needs to be extended. Other traffic related facilities/ amenities need to be provided at the same time.	i. Upgradation of road surface – 2 km of BT to CC and 1.8 km of WBM and 0.44 km of earthen roads to BT ii. New Construction of road – 3.98 km of CC road and 1.08 km of BT road. iii. Installation of new lamp posts – 615 nos iv. Construction of two ROB's.

6.4.1 Details of Sub projects to be undertaken:

- Road Construction:** To address the current gap of per capita road length, and the future demand, the Municipality would have to construct 7km of additional roads by 2016. The Municipality would on a priority basis identify the stretches and areas where roads at present do not exist and or have poor connectivity. Also for the areas where future residential growth is anticipated or being planned for road construction can be undertaken. The Municipality would have to commission for preparation of DPR for construction of new roads.
- Road Up gradation:** The Municipality would have to upgrade the internal roads from their existing type to CC or BT category. The road up-gradation may be taken up in two phases coinciding with the two planning periods of 2016 and 2031 respectively. The proposals include; up-gradation of 34 km of BT roads to concrete surfacing. These priority streets may be taken up in addition to the up-gradations which need to be made as identified in the assessment of the roads of the Municipality.
- Up gradation of Bus Stand:** The bus stand of the Municipality would require up-gradation as has been pointed out in the stakeholder consultations. Up-gradation of the bus stand with additional bus bay facilities and commercial shopping complexes has been proposed.
- Addition of Streetlights:** In the short run, the Municipality also needs to augment the number of street lights in the Municipality area. The Municipality needs to add 616 street lights to match the existing and future demand. Out of which 113, 187 and 1098 will be high mast, high power and tube lights respectively.

Table 35: Project development initiatives to be taken by the Municipality

Immediate measures to be taken	Authorities/Agencies responsible
Finalising the sub projects to be undertaken	Sirkazhi Municipality in consultation with Councillors and other stakeholders
Preparation of Detailed Project Report(s) for finalised projects	Sirkazhi Municipality
Submission of DPR to funding agency for seeking approvals	Sirkazhi Municipality

6.5 Storm Water Drainage

At present, the Sirkazhi Municipality has no proper storm water drainage network facility. The town has no developed primary, or secondary drainage network in the city resulting in seasonal water logging issues, though a few of the streets have kutchra drains along with a few patches of pucca drains. On the basis of the assessment and the outcome of the stakeholder consultation held at the Municipality, construction and laying of a new drainage network has been proposed. To address the issues highlighted in the rapid assessment, the strategy to be pursued has been elaborated below

Core Strategy

In the case of storm water drainage, the broad strategy followed would be similar to that proposed in the case of road sector, wherein the existing gaps in this sector and the future requirements would be addressed in terms of two categories of priority or short term needs and long term needs. The existing gaps and the demand arising for the year 2016 may be taken up as priority projects. The suggestions which had been put forth in the stakeholder consultation would have been clubbed under the category of short term requirements and the long term requirements (2031) should be addressed by the Municipality in the second phase.

Long term and Short term sector interventions required:

The broad sector interventions to address both the short and long term requirements have been enlisted below:

Sector Interventions Required	<ul style="list-style-type: none"> Construction of storm water drains running into a length of 100 km by 2016, of which 60 km should be pucca closed. Augmentation of network length by 17 km post 2016 to meet the demand of 2031
Expected Outcome	<ul style="list-style-type: none"> Universal coverage and disposal capacity

Following are the projects proposed during the stakeholder consultation and also based on the rapid urban assessment carried out by the Consultant.

Table 36: Demand assessment for projects identified for Storm Water Drainage

ULB's Suggestion	Project's Proposed by Consultant
❖ Scheme for laying of storm water drainage network for the town	Storm Water Drainage network for the town of Sirkazhi
Project Rationale	Sub- Projects
According to normative standards, the length of the drains are assumed at 150% of road length considering all divided roads to have drains on either side and undivided roads on at least one side. Likewise the total drain length in the town shall be of about 117 kms. Further the drains in the initial phase shall be open and subsequently will be made closed; hence the investment is towards up-gradation annually and for	<ul style="list-style-type: none"> i. Drains New Formation – 98.82 km ii. Drains upgradation – Kutchra to Pucca Open - 0.3 km Kutchra to Pucca closed – 0.3 km iii. Desilting & Strengthening of Primary Drains

<p>construction of new closed drains. All existing open drains shall be first upgraded to closed drains and subsequently new drains shall be constructed.</p> <p>Prominently, all the road and storm water projects are to be taken up simultaneously to match the levels of the roads with the drains and allow draining of rain water from the city.</p>	
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6.5.1 Details of Sub projects to be undertaken:

- 1. Construction of storm water drains:** The Municipality needs to undertake laying of 60 km of pucca closed drains by 2016. In addition to the construction of pucca closed drains, the municipality is required to construct 40 km of pucca open drains, such that by 2016, the total length of storm water drains in Sirkazhi reaches the required level of 100 km. This construction may be done in tandem for the new roads and the existing road up gradation activities which the municipality has to construct. These construction activities would have to be carried out on an immediate basis to address the existing and future demand-supply gap.
- 2. Upgradation of existing drains:** The Municipality is also required to undertake drain upgradation works for the existing drains in town. The upgradation activities need to be carried out as mentioned in the list of sub projects mentioned above.

Table 37: Project development initiatives to be taken by the Municipality

Immediate measures to be taken	Authorities/Agencies responsible
Finalising the sub projects to be undertaken	Sirkazhi Municipality in consultation with Councillors and other stakeholders
Preparation of Detailed Project Report(s) for finalised projects	ULB in consultation with TWAD Board
Submission of DPR to funding agency for seeking approvals	Sirkazhi Municipality

6.6 Solid Waste Management

The assessment of the solid waste management sector has revealed that, the projects which the Municipality has to undertake are to meet the demands of the future. The Municipality generates 13 Metric Tonnes (MT) of waste per day and this would increase to 15.1 MT by 2016 and 17 MT by 2031. As of today, the Municipality has adequate vehicle carrying capacity to ensure efficient collection of waste. However, keeping in mind future waste generation, the Municipality needs to plan to increase the area for disposing off the waste and also augment the infrastructure at the landfill site.

Core Strategy

In order to facilitate improved solid waste management, the Municipality would have to focus on two aspects- adoption of better practices to ensure proper collection, segregation and disposal of waste and the second being augmenting the existing infrastructure. The current status of the infrastructure needs to be improved by increasing the equipments required for effectively handling the waste, and most importantly developing an adequate sized landfill site. Apart from the focus on augmenting the resources, the Municipality would be required to train its conservancy staff to carry out the tasks effectively. Immediate priority needs to be placed on improving the skills of the conservancy staff and also to increase.

Long term and Short term sector interventions required:

The broad sector interventions to address both the short and long term requirements have been enlisted below:

Sector Interventions Required	<ul style="list-style-type: none"> • Upgradation of the infrastructure required for effective collection and disposal of waste • Adoption of scientific technology for disposal of waste • Improve the skills of the conservancy staff
Expected Outcome	<ul style="list-style-type: none"> • Hygienic conditions and a clean city

Following are the projects proposed during the stakeholder consultation and also based on the rapid urban assessment carried out by the Consultant.

Table 38: Projects identified by ULB and Consultant for Solid Waste Management

ULB's Suggestion	Project's Proposed by Consultant
Purchase of 14 bins and one dumper placer Improvement of compost facility with provision of compound walls, composting facilities, Pulveriser Machine	Development of Sirkazhi landfill site
Project Rationale	Sub- Projects
The present compost yard lack improved facilities for proper composting of the waste. Thus enhancement of waste carrying capacity as well as improvement of compost yard is important.	<ul style="list-style-type: none"> i. Purchase of primary and secondary collection vehicles and equipments ii. Acquiring new disposal site and development of land fill infrastructure iii. Construction of public toilets – 86 seats

6.6.1 Details of Sub projects to be undertaken:

- 1. Development and augmentation of the landfill site:** The demand-gap assessment indicates generation of 17 MT of waste in the town by 2031 against the current generation of 13 MT. By 2016, the generation is estimated to be 17 MT. Future generation of solid waste is assumed at 2.2 percent per annum for the first ten years and at a reduced rate of 1.9 percent per annum and 1.6 percent per annum for the next two decades. The Municipality needs to identify and acquire additional land in the long term for development of permanent landfill infrastructure and composting facilities. The requirements are accordingly planned for the estimated generation of 17 MT of solid waste by the horizon year 2031. The dumping site would have to be well-equipped to ensure proper waste segregation and composting facilities. In addition, the dumping site would need to be provided with the basic facilities of compound walls, BT/CC approach road, electrification, etc
- 2. Increasing the number of equipments required for carrying about effective waste collection:** The proposal includes purchase of container bins, and two dual load dumper placers and construction of additional public conveniences.

Table 39: Project development initiatives to be taken by the Municipality

Immediate measures to be taken	Authorities/Agencies responsible
Augmenting the size of the conservancy staff	Sirkazhi Municipality in consultation with Councillors and other stakeholders
Purchase of additional equipments	Sirkazhi Municipality
Identification of areas for construction of public conveniences	Sirkazhi Municipality

6.7 Slums and Basic Services for the Urban Poor

The Municipality has 15 notified slums which house 23.37% of the total population residing in the Municipality. The lack of and poor status of core infrastructure in the slums have hinted at the need to take up slum development on a priority basis.

Core Strategy

Development of the slums in the Municipality in terms of Housing, civic and social infrastructure would need to be taken up on a priority basis. At present the conditions in the slums is extremely poor and requires immediate intervention on part of the Municipality. The development of housing and related amenities in the slum can be done under IHSDP scheme. As per the discussion in the stakeholders meeting, 13 more slums have been identified but not yet notified, have to be notified first and then has to be developed by municipality. These slums are on lands owned by the Temple Trust so municipality needs to incur cost in acquiring the lands A detailed plan for development of the slum would have to be drawn up the Municipality.

Long term and Short term sector interventions required:

The broad sector interventions to address both the short and long term requirements have been enlisted below:

Strategy Identified	<ul style="list-style-type: none"> Up-gradation and maintenance of the slum roads Provision and maintenance of streetlights in the slums Construction of pucca closed drains on both sides of the roads of the slums Development of pucca houses under IHSDP scheme in the slums
Expected Outcome	<ul style="list-style-type: none"> Improved living standard in the slums in the Municipality

Following are the projects proposed during the stakeholder consultation and also based on the rapid urban assessment carried out by the Consultant.

Table 40: Projects identified for Slums & basic services for urban poor

ULB's Suggestion	Project's Proposed by Consultant
<p>Slum Development under IHSDP project: for 15 identified slums Under IHSDP scheme, project worth Rs. 134 lakhs, which includes</p> <p>Construction of 52 new houses – Rs. 168.80 Lakhs</p> <p>Construction of Roads and Pavements and Storm water drains – Rs. 86.3 lakhs</p> <p>Rest 13 slums have to be identified</p> <p>Construction of 48 houses approx</p> <p>Construction of Roads and storm water</p>	<p>Slum Development in Sirkazhi</p>
Project Rationale	Sub- Projects
<ul style="list-style-type: none"> ❖ The condition of the civic infrastructure in the slums 	<ul style="list-style-type: none"> ❖ Development of housing ❖ Upgradation and maintenance of civic & social infrastructure in the slums

6.7.1 Details of Sub projects to be undertaken:

1. **Development of housing:** The Municipality would have to undertake a detailed slum survey to assess the condition of the houses in the slum and identify the new constructions and up gradations which would have to be taken up on a priority basis. The entire activity of housing development for the slums can be undertaken under IHSDP scheme, and the Municipality would have to take in this connection the necessary steps which would result in bringing all the slums in the Municipality under the umbrella of IHSDP.
2. **Upgradation and maintenance of civic infrastructure in the slums:** In addition to the housing development which would have to be taken up, the development and up gradation of roads along with construction of pucca closed drains would also have to be constructed.

Table 41: Project development initiatives to be taken by the Municipality

Immediate measures to be taken	Authorities/Agencies responsible
Finalising the sub projects to be undertaken	Sirkazhi Municipality
Preparation of Detailed Project Report(s) for finalised projects	Sirkazhi Municipality
Submission of DPR to funding agency for seeking approvals	Sirkazhi Municipality

6.8 Commercial Amenities

During the stakeholders' meeting held at the municipality, a number of commercial projects were identified to improve the commercial facilities in the town. These projects are expected to increase the revenue income of the Sirkazhi municipality and have been listed below:

1. Market development

1. **Construct an organized Daily Market** – A daily vegetable market is to be constructed with 30 no. of shops.
2. **Construction of Shopping Complex** – a shopping complex is to be constructed with 50 no. of shops.
3. **Construction of one community hall**

6.9 Non Commercial Amenities

Apart from the commercial amenities, a number of social facilities are also required to provide services to the people of the town. Identified projects to develop these social facilities are discussed below:

1. **Up-gradation of Burial ground:** The stakeholders have requested for up gradation of the burial grounds in the Municipality. 15 existing burial grounds have been identified for up gradation with amenities such as compound walls, levelling.
2. **Construction of a Gasifier Crematorium:** The stakeholders have suggested for the construction of a gasifier crematorium in the Municipality.
3. **Development of Parks:** At present the Municipality has four parks of which two have been developed under Cholanattu Tirupattikal Tourism Development Scheme. In addition, the Municipality has identified 26 plots for development of parks. The total area thus identified for park development is 83.6 Acres.
4. **Construction of Educational Institutes:** The stakeholders have recommended for construction of educational institutes within the Municipal limits. The suggestions have been for:
 - i. Undergraduate college
 - ii. Secondary School
 - iii. New building for the existing Thadalan Muslim School

7 CITY INVESTMENT PLAN

A City Investment Plan in line with the identified vision for Sirkazhi has been prepared through a comprehensive process of assessment of gaps in its physical and social infrastructure sectors. This assessment has also led to the identification of sector-specific strategies, implementation actions and associated reforms with specific inputs from stakeholders.

The strategies adopted primarily have three dimensions -- improving the service delivery through efficiency measures, improving service delivery by creating infrastructure assets and improving the governance aspects of Sirkazhi Municipality. This section summarises the capital investments required for creating infrastructure assets and various strategic interventions required in the implementation of such projects; these strategies are both investment-oriented and administrative-oriented.

7.1 City Investment Plan (CIP)

The City Investment Plan is the multi-year scheduling of identified and prioritized investments. The scheduling or phasing of the plan is based on the assessment of fiscal resources' availability (for new investments and O&M), technical capacity for construction and operation and maintenance (O&M), and the choice of specific improvements to be carried out by 2012-13.

The CIP essentially covers all the project needs of the town including some of those projects which do not come under the ULBs purview which are mentioned separately at the end of this chapter.

The need for the CIP is to have an account of:

- City growth and infrastructure needs (to be carried out once every five years)
- Scheduling of investments of ongoing projects due to cost and/ or time overruns
- Assigning of priorities within the constraints of available financial resources

7.1.1 Institutionalising the CIP Process

The City Investment Plan is an important element and is significant in terms of the city's management process and sustainability with regard to the delivery of basic services. The CIP also provides a framework for the annual budget cycle of the Sirkazhi Municipality for the future 6-10 year period.

As a part of Sirkazhi CCCBP, the CIP prepared includes the following:

- The desired service levels/ standards for infrastructure provision
- The roles and responsibilities of various stakeholders in the implementation of identified projects
- Project phasing and strategies for implementation

In Sirkazhi, the Sirkazhi Municipality has the primary responsibility for delivering municipal service. The CCCBP proposals have to be implemented by the municipality. The projects, prioritization, investment phasing, strategies and action plan are framed accordingly.

The CIP involved the identification of public capital facilities to cater to the demand of the city populace by the year 2016 and 2031 according to their short and long-term infrastructure needs. The project

identification has been done through a demand-gap analysis of the services and a review of the reports available with the Sirkazhi Municipality. Further, project prioritisation and phasing of investments is based on the strategies listed out under each service sector primarily based on the stakeholders' consultations. The projects derived are aimed at ensuring the optimal and efficient utilisation of existing infrastructure systems and enhancing the capacity of the systems/ services to cater to the demands of future population additions. Certain other projects listed as part of the CIP include developmental projects other than those addressing the core service sectors, viz., greenery development, parking spaces, system modernisation, etc.

The CIP and forecasted future needs for provision of capital facilities under each identified sector is presented below. These assets will help Sirkazhi to universalise the services for the current population as well as accommodate the expected increase in population by 2031. In sectors where long-term planning is required (for example, source development for water supply, and development of landfill site) the planning horizon till the year 2031 is considered. Assets created in such sectors consider the projected population in this horizon. The Sirkazhi Municipality expects that these infrastructure assets would not only guarantee services to its citizens, but also signal a proactive commitment to potential investors.

7.1.2 Summary of Investments

The total estimated capital investment required for providing efficient services to the present population and future population of Sirkazhi by the year 2031 is **Rs. 99.72 crores** at constant prices. Of the total identified investment need, a total sum of **Rs. 86.46 crores** is proposed for investment for the Sirkazhi Municipality by 2012-13.

Table 42: Agency/ Period wise summary of Capital Investments

S. No	Investment Head (Agency/ Period)	Rs. Crores
1	Total investment Need of Sirkazhi by 2031	99.72
	Investment Need of Sirkazhi Municipality by 2012-13	86.46

The planning horizon for the projects identified in the sectors of urban poor/ slums, system modernization, city beautification, etc which are immediate in nature is 2012-13. Accordingly, the entire identified investment is proposed for funding by 2012-13 itself. In case of the core service sectors of water supply, sewerage, drainage, and solid waste management, 2031 is considered as the planning horizon and hence only a part of the identified investment is proposed for funding by 2012-13. Sirkazhi will need to plan for the remaining identified investment to be funded beyond 2012-13.

The phasing of the identified projects and investments is based on the following principles.

- *Priority needs, with developed areas receiving priority over future development area*
- *Inter and intra-service linkages, viz. water supply investments shall be complemented by corresponding sewerage/ sanitation improvements*
- *Size and duration of the requirements, including preparation and implementation period*
- *Project-linked revenue implications, such as installing house connections*

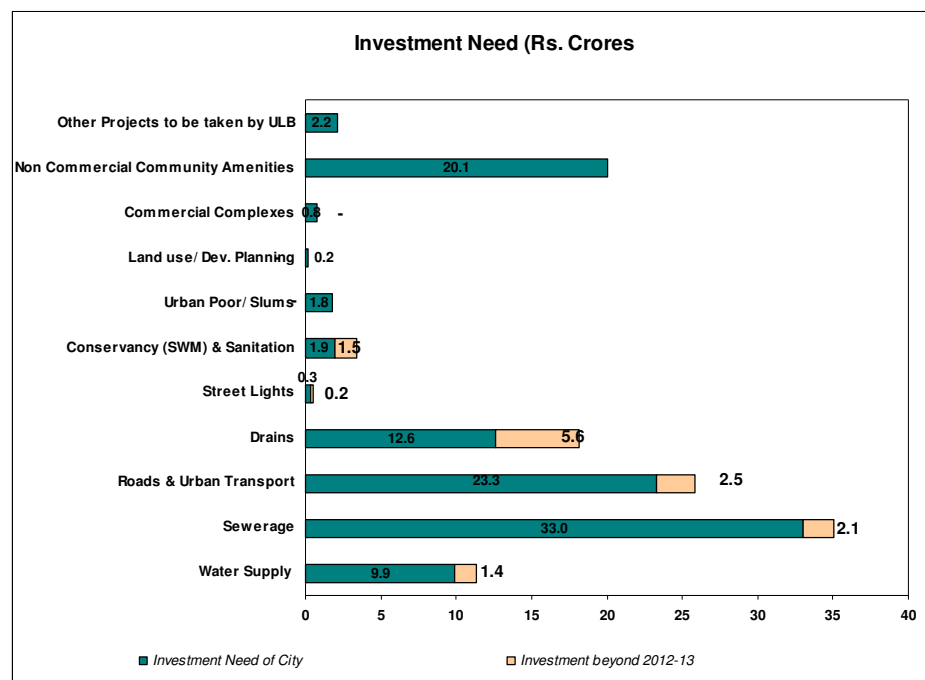
The table below presents the summary of sector-wise total investment needs and investments up to 2012-13.

Table 43: Summary of Capital Investments

Sector		Total Investment Need (Rs. Lakhs)	Investment by 2012-13(Rs. lakhs)			% Investment till 2012-13 against Total
			Base Cost	Escalated Cost*	% Sector wise	
1	Water Supply	1,132	987	1,210	11.3%	87%
2	Sewerage	1,566	3,300	4,417	15.7%	87%
3	Roads & Urban Transport	2,584	2,331	2,783	27.0%	90%
4	Drains	1,815	1,259	387	14.6%	69%
5	Street Lights	47	30	1,700	0.3%	64%
6	Conservancy & Sanitation	342	192	37	2.2%	56%
7	Urban Poor/ Slums	181	181	230	2.1%	100%
8	Land use/ Dev. Planning	15	15	10	0.2%	100%
9	Commercial Complexes	75	75	220	0.9%	100%
10	Non-Commercial Community	2,007	2,007	-	23.2%	100%
11	Others	216	216	17	2.5%	100%
Total		9,980	10,593	11,011	100.0%	87%

* Escalated cost includes Physical contingencies and Technical assistance at 10 percent of total cost and 6 percent cost escalation due to inflation.

Figure 16: Investment need for the Sirkazhi Municipality



As can be observed from the table above, 87% of the identified investment need is proposed for funding by 2012-13. From the perspective of sector priorities, about 90% of the investment required for Roads and transport will be proposed by 2012-13. Water and Sewerage at 87% each respectively follow the Roads. Conservancy and Drainage sectors envisage using more than 56% and 69% respectively of the identified investment by 2012-13 while the street lighting sector envisages consuming about 64 % of the identified investment by 2012-13.

Within the total investment proposed by 2012-13 for the Panruti Municipality, the maximum share will be taken by the roads & transport sectors at 27% followed by Park developments and sewerage sector at 23% and 15.7% respectively. Drainage and water supply sectors accounts for 14.6% and 11.3% respectively of the investment. The conservancy sector accounts for 2.2 percent of the total investment by 2012-13.

Sector wise details of the City Investment Plan, capital facilities identified to be created, supportive actions and implementation aspects/ strategies are discussed in the following sections in detail. The projects were identified based on demand gap assessment carried out in previous stage as well as stakeholder feedbacks. The costing assumptions of the same are presented in Annexure 3 and the summary of capital investment phasing under each sector is presented in Annexure 4.

7.2 Sector-wise CIP details – Capital needs/ investments

7.2.1 Water Supply

7.2.1.1 Long-term needs (2031)

The demand-gap assessment presented in strategies indicates a water demand of 5.99 MLD supply by 2031 at 135 lpcd (CPHEEO Norms). A secondary treatment facility is required for the 5.99 MLD water supplies by 2031. For effective coverage of the system, the distribution network is expected to run to a minimum length of 85 percent of the road length and accordingly a total network length of 66 km is required to meet the needs of 2031. In line with the augmentation of the system, commensurate storage capacity is required of a minimum capacity of 33 percent of water supply is envisaged to be in the form of an elevated storage facility.

The total investment need for the water sector by 2031 is estimated at Rs. 1,124 lakhs. However, the above-mentioned gaps in the system are to be filled in phases in line with the quantum of population addition. Accordingly, a part of the identified investment is proposed to be funded by 2012-13 to cater to the current gaps and meet the immediate requirements.

At present, no Detail Project Report (DPR) has been prepared by the Sirkazhi Municipality for augmentation of raw water from the Kolidam river bed, about 15 km from town. This project should be taken up immediately and water should be supplied after proper treatment. Considering the number of beneficiaries, Sirkazhi may have to contribute the full cost incurred for the supply line from the treatment plant to its reservoirs and construction of reservoirs, boosting station, new lines, etc.

7.2.1.2 Priority needs (2012-13)

A sum of Rs. 987 lakhs (87percent of the total investment need in the water supply sector) is the capital cost estimation for the proposed interventions for augmentation of water supplies. The proposals include Rs. 200 lakhs for source augmentation and Rs. 180 lakhs for a treatment plant with a capacity of 5.99 MLD. A new network length requirement of 10.84 km would cost about Rs.108 lakhs An elevated storage reservoir's capacity would be required 0.2 ML to improve the supply pressure and achieve equitable distribution among the consumers. Refurbishment of about 9.10 km of the old distribution network, which requires about Rs. 73 lakhs and conversion of the entire house service connections into metered

connections, will cost Rs. 216 lakhs. Transmission line of 20 km from Kolidam River to town has to be replaced, which requires about Rs. 200 lakhs.

7.2.1.3 Action Plan for Implementation (2006-07 to 2012-13)

Water Supply		2008-09	2009-10	2010-11	2011-12	2012-13
Investment upto 2012-13 (Rs. lakhs)	Rs. 987 lakhs	277	302	337	72	-
Capital Facilities	Water supply Augmentation	✓	✓	✓		
	Treatment Plant		✓	✓	✓	
	Distribution network augmentation	✓	✓	✓		
	Elevated storage reservoirs of 0.25 ML capacity	✓	✓			
	System refurbishment & replacements	✓	✓	✓		
Support & System Sustenance Measures	Metering System	✓	✓	✓		
	Regularise unauthorised connections, Check distribution leaks and reduce UFW	✓	✓	✓		
	Improve collections to reach 85% collection efficiency by 2012-13		✓	✓	✓	✓
	Revision of tariff during 2008-09 by 25% and thereafter every three years by 25%	✓				
Action Measures	<ul style="list-style-type: none"> The Municipality would have to develop a comprehensive watershed management plan for the city including details of groundwater availability, use, and potential for increasing the water drawn from the available ground water source of the town. Identify the areas hitherto not covered by the water distribution network and develop a comprehensive plan for providing water supply to these areas. Increase the number of domestic connections. Reserve land for zones that are good for water recharge and water conservation. 					
Sector Notes	<ul style="list-style-type: none"> Capital investments on system refurbishment and replacement shall happen only after conducting water audit and identification of UFW sources. Improvement of collection efficiency is applicable to both arrears and current demand. 					
Performance Monitoring Indicators	<ul style="list-style-type: none"> Daily per capita water supply (min of 135 lpcd) Elevated storage capacity w.r.t supply (33%) Distribution network reach as % of road length (min 85%) System coverage – water HSCs as % of PT assessments (min 85%) Cost recovery through user charges (100% O&M expenses) 					

7.2.2 Sewerage

7.2.2.1 Investment need

As there is no sewerage network in the Sirkazhi town, based on CPHEEO norms, it is assumed that 80 percent of the water supply will generate 4.79 MLD of sewerage by 2031. The system is planned to cover 100 percent of the population and 80 percent of the road network for efficient service delivery through the collection network of intercept and diversion sewers; accordingly, a total network length of 70 km is required to be in place to meet the needs of 2031. In line with the augmentation of the system, treatment capacity is required to be augmented to cater to the entire quantum of sewerage generated, which is 4.79 MLD.

The total investment need for the sewerage sector by 2031 is estimated at Rs. 3,300 lakhs (as per DPR estimates). However, the above mentioned gaps in the system are proposed to be filled in phases in line with the quantum of population addition and augmentation of water supplies to the town.

7.2.2.2 Action Plan for Implementation

Sewerage System/ UGD		2008-09	2009-10	2010-11	2011-12	2012-13
Investment Upto 2012-13 (Rs. lakhs)	Rs. 3,300 lakhs	-	165	990	825	1,320
Capital Facilities	Conveyance and Rising mains for capacity augmentation		✓	✓	✓	✓
	Collection network augmentation by about 53.02 km		✓	✓	✓	
	Sewerage Treatment Plants about 4.79 ML capacity				✓	✓
	Pumping Machinery			✓	✓	✓
Support & System Sustenance Measures	Ensure every house tax assessment & water connection is also connected to the UGD			✓	✓	✓
	Improve collections to reach 85% collection efficiency by 2012-13			✓	✓	✓
Action Measures	<ul style="list-style-type: none"> Prepare DPR for laying of UGD system in the town Eradicate the conditions which give rise to conditions of malaria and other water-borne diseases Ensure access of sanitary facilities to the slum dwellers Isolate sewerage system from storm water and drinking water channels 					
Sector Notes	<ul style="list-style-type: none"> Capital investments on system refurbishment and replacement shall happen only after conducting water audit and identification of UFW sources. Improvement of collection efficiency is applicable to both arrears and current demand. 					
Performance Monitoring Indicators	<ul style="list-style-type: none"> Treatment capacity- 80% of water supplied Distribution network reach as % of road length (min 90%) System coverage – sewerage connection as a % of water HSCs (min 90%) Cost recovery through user charges (100% O&M expenses) 					

7.2.3 Roads, street lighting and traffic management

7.2.3.1 Long-term needs (2031)

The demand-gap assessment presented above indicates a need for about 77.68 km of road length by 2031 for effective coverage and connectivity in the town. The system is planned to provide a per capita road length of at least 1.75m and a minimum average road width of 7.0m with either CC or BT surfacing for the entire road length. This would generate a requirement of about 15.54 km of CC roads and 62.14 km of BT roads. This length of the road network to be well lit at an average spacing of 30 m between lamp poles would require a total number of 2,209 street lighting poles with fixtures.

The total investment need for roads, street lighting and traffic management by 2031 is estimated at Rs. 2,631 lakhs. However, the above mentioned gaps in the system are proposed to be filled in phases in line with the area being developed and quantum of population addition. Accordingly, a part of the identified investment is proposed to be funded by 2012-13 to cater to the current gaps and meet the immediate requirements.

7.2.3.2 Priority needs (2012-13)

A sum of Rs. 2,331 lakhs (90 percent of total the investment need in the roads) is required for the roads and the transport sector, while Rs. 30 lakhs is needed for the street lighting sector (64% of the total requirement is for the street light sector). A sum of Rs. 102 lakhs is the capital cost estimation for the proposed interventions towards up-gradation and Rs. 155 lakhs for new construction on the roads, while Rs. 158 lakhs is required for to increase no. of bus bays and commercial developments at bus stand. And about Rs. 297 lakhs is required for inner ring road land acquisition, cost of road development is considered while calculating the cost for new road development. And Rs. 800 lakhs each will be required for construction of two Rail over bridge in the municipal area.

For street lighting, the investment proposed for installing tube lights and high mast lamps is Rs. 19 lakhs and Rs. 11 lakhs respectively.

7.2.3.3 Action Plan for Implementation

Roads, Street lighting and Traffic Management		2008-09	2009-10	2010-11	2011-12	2012-13
Investment upto 2012-13 (Rs. lakhs)	Rs. 2361 lakhs	9	9	208	1145	991
Capital Facilities	Roads up-gradation			✓	✓	✓
	New CC roads			✓	✓	✓
	Construction of Flyovers				✓	✓
	Land acquisition for Inner ring road			✓	✓	
	Improvement of traffic system and Junction improvements				✓	✓
	Street lighting (615 new installations)	✓	✓	✓	✓	
Action Measures	<ul style="list-style-type: none"> Identification of earthen roads which need to be upgraded to BT/CC Improve connectivity within the Municipal area Provide parking lots and introduce parking fee Provide for footpaths on the existing and yet to be developed roads 					
Sector Notes	<ul style="list-style-type: none"> The design of the new roads should have provision for shoulder, footpaths, utility 					

Roads, Street lighting and Traffic Management		2008-09	2009-10	2010-11	2011-12	2012-13
	ducts and storm water drains under the foot paths.					
	<ul style="list-style-type: none"> New roads development shall be integrated with drain construction (i.e., for any new road, drainage facility is to be planned and constructed alongside). 					
Performance Monitoring Indicators	<ul style="list-style-type: none"> Road network – Degree of connectivity in terms of per-capita road length (min 1.75 m) Road condition – percentage of municipal roads surfaced (100% - CC/ BT surfacing) 					

7.2.4 Storm Water Drainage

7.2.4.1 Long-term needs (2031)

The demand-gap assessment presented above indicates a need for about 101 km of drain length by 2031 for effective service delivery in the town. The system is planned to provide a network length of 130 percent of the road network. Identified investments are towards up-gradation of the existing open network to closed network and construction of new drains to cater to current and future service gaps. The total investment need for the drains sector by 2031 is estimated at Rs. 1,815 lakhs. However, the above mentioned gaps in the system are proposed to be filled in phases in line with the road network being developed and the quantum of population addition.

7.2.4.2 Priority needs (2012-13)

A sum of Rs. 1,259 lakhs (69 percent of the total investment need in the drains sector) is the capital cost estimation for the proposed interventions towards up-gradation and new construction of drains. The proposed interventions are in line with the new roads to be developed as part of the CCCBP interventions. Further, the Sirkazhi Municipality will need to plan beyond 2012-13 for further augmentation of the network by another 14.8 km of new closed drains in line with the new roads to be developed beyond 2012-13 to cater to the long-term needs of 2031.

7.2.4.3 Action Plan for Implementation

Storm Water Drainage		2008-09	2009-10	2010-11	2011-12	2012-13
Investment upto 2012-13 (Rs. lakhs)	Rs. 1,259 lakhs	2	4	254	500	500
Capital Facilities	Upgradation of Kuttcha drains to pucca open/closed drains	✓	✓	✓		
	Construction of new pucca open drains (39.47km)			✓	✓	✓
	New formation of closed (59.35 Km) drains			✓	✓	✓
Support & System Sustenance Measures	Ensure that every divided road has closed drains on either side and undivided roads have drains on at least one side.	✓	✓	✓	✓	✓
Action Measures	<ul style="list-style-type: none"> Prepare DPR for augmentation of storm water system in the town Isolate sewerage system from drinking water and storm water lines 					

	<ul style="list-style-type: none"> Identify, delineate, sanitize and protect the natural drainage system of the city
Sector Notes	<ul style="list-style-type: none"> Improve drainage network on a priority basis in flood-prone areas. All new roads to be designed shall have adequate provision for storm water drains. New drains shall be integrated with new roads development.
Performance Monitoring Indicators	<ul style="list-style-type: none"> Drainage network should reach 99.82 km of road length (min 130%) All divided roads will have drains on either side and undivided roads drains on at least one side. Drains will be cleaned before and after monsoons for better functioning.

7.2.5 Conservancy/ Solid Waste Management & Sanitation

7.2.5.1 Long-term needs (2031)

The total investment need for the conservancy and sanitation sectors by 2031 is estimated at Rs. 342 lakhs. However, the above mentioned gaps in the system are proposed to be filled in phases in line with the road network being developed and the quantum of population addition. Accordingly, part of the identified investment is to be funded by 2012-13 to cater to the current gaps and meet the immediate requirements.

7.2.5.2 Priority needs (2012-13)

A sum of Rs. 192 lakhs (56% percent of the total investment need in the conservancy sector) is the capital cost estimation for the proposed interventions. The proposals include Rs. 105 lakhs for the development of permanent landfill infrastructure and composting facilities; Rs. 20 lakhs for 14 nos. of bins and purchase of dumper placer for secondary collection of waste; Rs. 25 lakhs for the construction of welfare and divisional office buildings at identified locations; and Rs. 43 lakhs for construction of pay & use public conveniences system at various locations.

Further, the Sirkazhi Municipality will need to plan beyond 2012-13 for further augmentation of the system through acquisition of an additional 6 acres of land and development of land fill site, apart from continuous development of landfill and compost infrastructure at the landfill site to cater to the long-term needs of 2031.

7.2.5.3 Action Plan for Implementation

Solid Waste Management		2008-09	2009-10	2010-11	2011-12	2012-13
Investment upto 2012-13 (Rs. lakhs)	Rs. 192 Lakhs	30	63	48	51	
Capital Facilities	Acquisition of new vehicles for primary and secondary collection	✓	✓			
	Land fill infrastructure and composting facility development at disposal site	✓	✓	✓	✓	
	Construction of welfare and divisional office buildings		✓	✓	✓	
	Construction of pay & use public convenience systems in slums	✓	✓	✓	✓	
Support & System	Implementation of complete door -to-door collection	✓	✓	✓	✓	

Solid Waste Management		2008-09	2009-10	2010-11	2011-12	2012-13
Sustenance Measures	Part-privatisation of house-to-house collection from 80% households (Sirkazhi Municipality to cover only 20% households)	✓	✓	✓	✓	
	Awareness campaign on source segregation	✓	✓	✓	✓	
Other actions/ Measures		<ul style="list-style-type: none"> • Increase the ambit of Solid Waste Management to include “recycling” and facilitate and regulate the sector accordingly • Ensure optimum utilization of existing fleet • I-E-C campaigns to be initiated for awareness among the urban poor and slum dwellers towards better SWM practices • Initiate steps towards sharing the responsibility of primary collection of segregated garbage with citizens • Develop transfer stations in a scientific, eco-friendly manner – processing waste at these sites, for different types of material • Develop decentralized waste processing sites at each zone using appropriate technologies • Improve and ensure access to sanitary facilities for the urban poor and slum dwellers. • Encourage pay & use category of public conveniences with community involvement in the maintenance of the same 				
Sector Notes		<ul style="list-style-type: none"> • The Sirkazhi Municipality shall be the prime implementing agency for the sector. • For establishment of Intermediate Transfer Stations to reduce cost of transportation, identify sites which are cost-effective. • Identify localised/decentralised locations for processing/disposal/reuse of bio-degradable and plastic waste. 				
Performance Monitoring Indicators		<ul style="list-style-type: none"> • Source segregation – reduction of waste to be collected (min 70 % of waste generated) • Door-to-door collection as % of households covered (min 80%) • Optimum fleet utilisation (No. of trips/ vehicle/ day - average minimum of 2.5) • Vehicle capacity as % of rated capacity to waste generated (minimum 100%) 				

7.2.6 Slums and Basic Services for Urban Poor

The requirements in the sector are of immediate priority and hence, the planning horizon for the sector is 2016. Accordingly, projects and investments identified are to be funded by 2012-13. Development works for the notified 15 slums is already going on under IHSDP scheme of project cost Rs. 134 lakhs, out of which Sirkazhi has already received 43 lakhs as a first instalment.

For taking the development in rest of 13 slum areas, which are to be identified is about Rs. 92 lakhs. This means total sum of Rs. 226 lakhs is the required for various improvement projects and is intended to provide basic services to the urban poor.

It is further proposed that 10 percent of the project cost shall be ploughed back into the system through beneficiary contribution at the time of the handover of the developed units to the beneficiaries. As 43 lakhs is already received by the municipality, so the required investment is of about Rs. 181 lakhs.

7.2.6.1 Action Plan for Implementation

Slums and Urban Poor		2008-09	2009-10	2010-11	2011-12	2012-13
Investment upto 2012-13 (Rs. lakhs)	Rs. 181 Lakhs	54	54	72		
Capital Facilities	In situ rehabilitation of slums- housing (100 houses including the new areas)	✓	✓	✓		
	Infrastructure development for slum rehabilitation	✓	✓	✓		
	Land acquisition of slum rehabilitation (as necessary)					
Support & System Sustenance Measures	Inventory and geographical mapping of all slums and infrastructure in slums for the Sirkazhi Municipality		✓			
	Socio-economic survey of all slums in the Sirkazhi Municipality		✓			
	Training for women in slums and urban poor towards self-employment and other income-generating activities. NGOs and CBOs to play the lead role and Sirkazhi Municipality shall assume a secondary/ supportive role.		✓	✓	✓	
Other actions/ Measures	<ul style="list-style-type: none"> • Provide for reservation of lands for EWS in or near each type of commercial/industrial/residential land use in the DP. • Facilitate access to credit for urban poor. Sirkazhi Municipality can explore the option of acting as a guarantor • Organise frequent meetings with slum dwellers to encourage participation in slum development programmes, create awareness on beneficiary contribution to project development and also assume responsibility for implementing the projects • Facilitate and encourage the neighbourhood concept in slums to carry out recreational activities such as reading, sports and drama 					
Sector Notes	<ul style="list-style-type: none"> • Infrastructure and basic services' provision in slums is in line with overall infrastructure development in the city. • Awareness on health and hygiene shall be created among slum dwellers in line with the long-term goal of moving towards individual toilets and doing away with public convenience systems. 					
Performance Monitoring Indicators	<ul style="list-style-type: none"> • Water Supply – Individual house service connections to all • Sewerage - Individual house service connections to all • Sanitation – Community toilets in the short run and individual toilets in the long run • Solid Waste Management -- Coverage of all slum households under door-to-door collection and awareness campaigns on source segregation 					

7.2.7 Land use/ Development planning

The total funding required is estimated at Rs.15 lakhs in view of the preparation of the DP, which should have proposals for a total area of 13.21 sq.km. The proposals include a number of lands reserved for various social and other developments. An existing land use survey is to be taken up for GIS-based mapping solutions and future revisions to the DP. The CCCBP has provided Rs. 15 lakhs for the purpose.

7.2.7.1 Action Plan for Implementation

Land Use / Development Planning		2008-09	2009-10	2010-11	2011-12	2012-13
Investment upto 2012-13 (Rs. lakhs)	Rs. 15 lakhs	15				
Capital Facilities	GIS-based existing land use survey	✓				
Support & System Sustenance Measures	Inventory and geographical mapping of all slums and infrastructure in slums	✓				
	Inner/Core areas revitalisation		✓	✓	✓	
Other actions/ Measures	<ul style="list-style-type: none"> Decongesting core areas through selective relocation of commercial, wholesale and trading activities (priority markets are steel, rice and fruits and vegetables) Building Regulations to be framed to encourage decongestion of the core areas through revision of FSI norms and incentives, parking norms, and specific regulations for accommodation and reservation Discourage development in critical, ecologically sensitive areas Identify and demarcate environmentally critical locations. Special DCR to be made applicable to these areas to restrict encroachments and unauthorised developments Develop available open spaces, parks and playgrounds as lungs of the city Use market-friendly mechanisms like densification, accommodation, and reservation to generate more urban land and to further generate open space Reserve more lands for health and institutional purposes and facilitate development with all basic services 					

7.2.8 Commercial Complexes

The total investment required for the development of the commercial complexes is Rs. 75 lakhs up to 2012-13.

Shopping complexes or expansion of shops at identified locations as discussed in strategies requires Rs. 50 lakhs, while Rs. 15 lakhs is required for the development of the daily market. An investment of Rs. 10 lakhs is required for development of Marriage hall in the selected ward.

7.2.8.1 Action Plan for Implementation

Economy, City beautification		2008-09	2009-10	2010-11	2011-12	2012-13
Investment upto 2012-13 (Rs. lakhs)	Rs. 75 lakhs	43	32			
Capital Facilities	Shopping/ Commercial complexes	✓	✓			
	Vegetable Market	✓	✓			
	Marriage Hall	✓				

7.2.9 Non-Commercial Community Amenities

Non-commercial community amenities require an investment of Rs. 2,007 lakhs in the next five years till 2012-13, which includes Rs. 1,671 lakhs for park development; Rs. 40 lakhs for a gasifier crematorium; Rs. 250 lakhs are required for Construction of Educational Institutes; Rs 36 lakhs for improvements of burial grounds and Rs. 10 lakhs are for repairing Noon meals centers.

7.2.9.1 Action Plan for Implementation

Economy, City beautification		2008-09	2009-10	2010-11	2011-12	2012-13
Investment upto 2012-13 (Rs. lakhs)	Rs. 2,007 Lakhs	436	454	449	334	334
Capital Facilities	Park development	✓	✓	✓	✓	✓
	Construction of Educational buildings	✓	✓	✓		
	Improvements of burial grounds	✓	✓	✓		
	Gasifier Crematorium	✓				
	Upgradation of Noon meal centers	✓	✓			

7.2.10 Other Infrastructure Projects

A sum of Rs. 156 lakhs is the proposed investment by 2012-13 for construction of houses for 78 conservancy staff, while Rs.20 lakhs has been proposed to be spent by 2012-13 towards Construction of two arch gates at the entry and exit of town on Thanjavur – Chidambaram road. Rs. 15 lakhs are proposed for system studies at Municipality, these projects would involve administrative reforms implementation, computerisation efforts etc.

7.2.10.1 Action Plan for Implementation

Economy, City beautification		2008-09	2009-10	2010-11	2011-12	2012-13
7.2.10.2 Water Bodies development						
Investment upto 2012-13 (Rs. lakhs)	Rs. 216 lakhs	108	93	5	5	5
Capital Facilities	Construction of houses for conservancy staff	✓	✓			
	Construction of Two arch gates at entry and exit of town	✓	✓			
Support & System Sustenance Measures	Support system studies	✓	✓	✓	✓	
	Rationalisation of tax administration process	✓	✓			
	Restructuring of administration systems		✓	✓		

7.2.11 Regular Minor Capital works

Apart from various major capital investments proposed, the Sirkazhi Municipality also proposes to invest Rs. 25 lakhs through budget allocations for regular minor development works, identified on a year-to-year basis by 2012-13, like the construction of compound walls of burial grounds. These regular capital works are in addition to the proposed investment; they shall be fully funded by Sirkazhi Municipality's budget.

7.3 Projects identified

On the basis of the assessment of civic infrastructure in the town, projects have been identified for the town to meet the current and future need of 2016 population, the investment of the same needs to be done by the year 2012-13. The list of these projects which are necessary for the development of the town have been listed below.

Projects under municipalities' purview

Project component	Capacity / size	Project Cost
Water supply		Total Investment required: Rs 9.87 Crores
I. Source/ system capacity augmentation	- 3.99 MLD	- Rs 2.00 crores
II. Treatment capacity augmentation	- 5.99 MLD	- Rs 1.80 crores
III. Distribution network expansion	- 10.84 km	- Rs 1.08 crores
IV. Refurbishment of old Distribution Network	- 9.10 km	- Rs 0.73 crores
V. Elevated storage	- 0.20 MLD	- Rs 0.02 crores
VI. Metering System	- for all connections	
Sewerage and sanitation		Total Investment required: Rs 33.00Crores
I. UGD network development		- As per DPR costs
II. Treatment capacity development (STPs)		
III. Pumping machinery (Intermediate pumping stations/ transmission mains)		
Transportation (road, street light, bus stand)		Total Investment required: Rs 23.61Crores

Project component	Capacity / size	Project Cost
I. Up gradation of roads	- 1.99 km BT to CC	- Rs 1.02 crores
II. Construction of new roads	- 1.79 km WBM to BT	- Rs 1.55 crores
III. Installation of new lamp posts	- 0.44 km Earthen to BT	- Rs 0.30 crores
IV. Public transport improvements (Upgradation of new bus stand, traffic junction improvements etc)	- 1.41 km CC	- Rs 1.78 crores
V. Road improvements (Construction of ROBs, widening etc)	- 5.64 km BT	- Rs 16 crores
VI. Land acquisition	- 616 nos	- Rs 2.97 crores
Storm Water Drainage		Total Investment required: Rs 12.59 Crores
I. Drains New Formation	- 85.66 km	- Rs 12.50 crores
II. Drain upgradation	- 0.60 km	- Rs 0.09 crores
III. Desilting & Strengthening of Primary Drains		
Solid waste management		Total Investment required: Rs 1.92 Crores
I. Acquiring new disposal site and development of land fill infrastructure	- 10.13 acres	- Rs 0.09 crores
II. New vehicles for primary and secondary disposal	- 20 nos	- Rs 0.20 crores
III. Construction of public toilets	- 86 seats	- Rs 0.43 crores
IV. Other infrastructure		- Rs 1.21 crores
Slum development		Total Investment required: Rs 1.81 Crores
I. Housing	As per IHSDP project report	- Rs. 1.81 crores
II. Physical Infrastructure (Roads, drains etc)		
III. Social Infrastructure facilities		

Project component	Capacity / size	Project Cost
Commercial / non-commercial / other amenities Total Investment required: Rs 23.13 Crores		
I. Market development-shopping office complexes, vegetable/fish market,	- 30 units	- Rs 0.65 crores
II. Construction of houses for sanitary workers	- 78 units	- Rs 1.56 crores
III. Marriage halls	- 1 unit	- Rs 0.10 crores
IV. Gasifier crematorium	- 1 unit	- Rs 0.40 crores
V. Park development		- Rs 16.71 crores
VI. Educational institutions		- Rs 2.50 crores
VII. Construction of arch gates	- 2	- Rs 0.20 crores
VIII. Landuse planning, other works		- Rs 0.65 crores

- **Projects under other agency's purview**

- Development of religious tourism in town by building on the potential for temple tourism – Sirkazhi temple trust, State tourism department, RDMA

- **Projects already in pipeline/ DPR prepared**

- UGD proposal under preparation

8 ASSET MANAGEMENT PLAN

Sirkazhi Municipality has several assets that require regular maintenance for sustenance of reasonable service delivery levels. Sirkazhi's average O&M cost during the period 2002-03 to 2006-07 was Rs.47 lakhs, which is 31% of its revenues given the high impact the O&M expenses have on the finances of the municipality, it is prudent to undertake a proper review of the assets under its control. This would aid in identifying the revenue-generating assets as well as the ones that are causing a drain on municipal revenues. A comprehensive asset management plan aids in achieving the same. The municipality has several assets, which, if maintained properly would generate higher revenues.

Management of municipal assets is an essential part of urban management. Most municipal entities do not have a proper database; hence creating and listing assets is one of the first activities a municipality should carry out. An asset management plan typically involves the development and maintenance of infrastructure asset portfolios. This also ensures:

- *Asset requirement and management is driven by defined service levels and performance standards.*
- *Scarce financial resources are allocated properly and optimally invested.*
- *Long-term approach in determining asset operations, maintenance and renewal is followed.*

8.1 The process

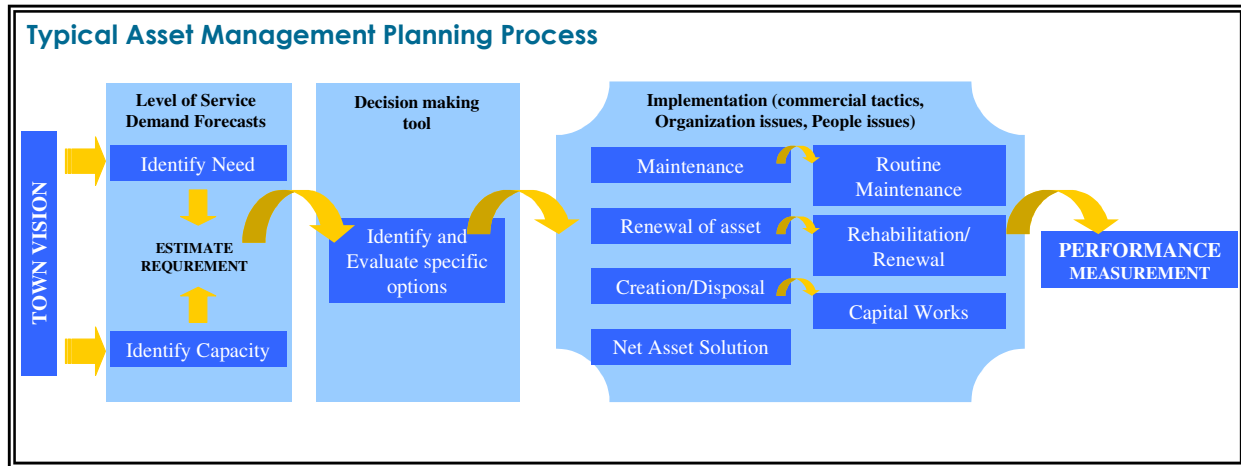
Management of assets is an evolving process that improves as the understanding of asset conditions, their performance and operational costs improve. The benefits of implementing the asset management plan would include:

- Improved understanding of service level options and costs
- Improved decision-making based on the benefits and costs of alternatives
- Proper justification of investments to stakeholders
- Proper timing and magnitude of investments
- Establishment and evaluation of performance benchmarks

Some of the benefits associated with the development of an AMP of mixed urban infrastructure assets are effective management of assets, optimisation of maintenance expenses, reduction of emergency interventions and introduction of the ISO 9000 concept

Asset Management Plan – Process

Figure 17: Asset Management Plan



8.1.1 Activities of Asset Management Plan (AMP)

Asset identification and facilities audit

All movable and immovable equipment, immovable municipal properties, and assets of the 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 revenue records; land registers and land surveys, etc.

Updating 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). A municipal facilities asset register should be compiled with approximate replacement asset values assigned. Additionally, present-day asset values should be assigned based on a 'condition-survey' of the infrastructure facilities. Land and property records should be crosschecked and municipal registers updated to include previously undetected land, properties and development. A comprehensive list of municipal land, properties and development should be compiled with approximate valuations assigned.

Assessment of revenue-earning potential

The Municipality should review the existing revenue earning potential of all its assets. New projects or initiatives should be taken to maximise the revenue-earning potential of assets, including infrastructure facilities.

Computerisation 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.

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.

Asset Management shall be implemented at two levels of effort and detail.

- *A very high level assessment is appropriate for purposes of strategic planning, policy making and defining in a broad perspective the resources that are required to sustain the infrastructure assets. This high level assessment can be very effective even when based on little more than knowledge of the infrastructure inventory, its age and judgements about its life expectancy. In fact, it is a logical starting point for addressing the issues of asset management and getting an effective program.*
- *The second level of effort and detail requires much more detailed inventory, some detailed program of condition and performance assessment, and necessary considerations to produce a specific work plan of projects for a defined time frame. The collection of data and its analysis can require a multi-year program, which should not delay the formation of policy and the definition of the scope of the issues and resources required. The detailed asset management program is project-specific, and addresses individual project actions at the optimum time.*

Both levels of effort and detail are compatible, complimentary and necessary. For the purpose of the City Corporate Cum Business plan, level -1 procedure is considered because of non-availability of information required.

8.2 Classification of municipal assets

Municipal assets are normally classified into movable and immovable assets. All the assets developed, operated and maintained by the Municipality are termed as municipal assets and comprise roads, bridges, culvert, water supply system (distribution network, transmission main, pump sets, WTPs, etc), UGD distribution network, STPs, drains, and street lights. Social infrastructure assets such as schools, hospitals, parks and playgrounds, community halls, shopping complexes, stadium, and vacant land also belong to the municipality.

8.3 Planning of Sirkazhi municipal assets

In order to prepare the AMP, it is imperative to know the potential of these assets. The details of assets in the Sirkazhi Municipality are provided below.

8.3.1 Non-remunerative assets

The non-remunerative assets are in the form of vehicles, which are used by different departments of the municipality. In addition to these vehicles, the municipality also uses vehicles for SWM activity. The most important activity is to maintain the vehicles used by the Health Department, since they are utilised on a regular basis and have maximum wear and tear. The details of the vehicles are enumerated below.

Table 44: Motor vehicles owned by the municipality

Number of Motor Vehicles owned	Number	Original Value (Rs. In Lakhs)	Value After depreciation (Rs. In Lakhs)
General Administration	1	4	0.76
Water Supply	1	3	0.17
Public Health	2	-	-
Street Lighting	-	-	-
Sanitation (Cess Pool Cleaning)	-	-	-
Details of Conservancy Vehicles	Number	Age	
Tractors	1	-	-
Mini Lorry	1	-	-
Trucks	-	-	-
Tippers	2	-	-
Push carts	10	-	-
Tricycles	20	-	-
Dumper Placer	-	-	-
Others Lorry	-	-	-

8.3.1.1 Plan for vehicles maintenance

Vehicles owned by the municipality are poorly maintained. As a result, the life span of the vehicles gets reduced considerably. Hence, a municipality should draw up a plan to enter into a contractual agreement with a maintenance workshop for regular maintenance of municipal vehicles. This should also include a spot pick-up facility for vehicles in case of a breakdown during their operations.

A register that provides the maintenance work details of the vehicles on a daily basis should be maintained. The register would also detail the type of problems and the time taken for rectifying the same. The municipality should also specify the time frame for minor repairs and major repairs. These kinds of contracts would improve the productivity and life of the municipal vehicles. The register could be designed in the following manner.

Table 45: Typical structure of the register for maintenance contract

Sr. No	Vehicle No	Type of Vehicle	Municipal department	Problem	Cost involved for repair parts	Time in	Time out
1							
2							
3							

8.3.2 Remunerative Assets

Most of the assets created by the municipality are under central or state government-supported schemes. Since the assets are remunerative in nature, it becomes more important for the municipality to maintain and utilise these optimally. The commercial complexes that form the most significant part of the asset base typically consist of shops, which are leased for a period of three years with a revision of 15%, which is less than the market rate. Hence it is imperative for the municipality to auction the shops in the open market to get the optimum returns from the investment.

Table 46: Details of remunerative assets owned by the municipality

Description	Number	Area (Sq.m)	Annual Income
Kalyana Mandapam	-		
Bus Stand	1	1,608	4.41
Rickshaw stand	1		
Office Buildings	1	110	0.16
Commercial Complexes	2	160	34.27
Daily Markets- Local Body			
Weekly Market	1		2.23
Pay and Use latrines	3	128	2.69
Slaughter House	1	84	0.12
Total			-

Social and service-related assets

Table 47: Social infrastructure owned by the municipality

Social infrastructure	Number	Area (Sq.m)
School Buildings	8	640
Office Buildings	-	-
Pumping Stations		
Service Oriented Assets		
Maternity Centres / Homes	-	-
Hospitals / Dispensaries	-	-
Noon Meal Centres	8	80
Parks & Play Grounds	3	6,211
Integrated Sanitary Complex	1	123

The Financial Operating Plan (FOP) considers the incremental increase in revenue potential from these sources. These are some of the elements that drive the business plan and ensure the timely availability of resources to sustain the assets in an acceptable condition for better service delivery. In addition to increasing the revenue potential, it is equally important to manage the assets in terms of their maintenance and rehabilitation. This would ensure reducing costs, improving reliability, and ensuring sustainability. Hence, it is imperative for the municipality to have a highly simplified approach with a long-term schedule of delivery of actions and a set of short-term measures.

9 PROJECT RISK, ENVIRONMENTAL AND SOCIAL ASSESSMENT

9.1 Project structuring and risk assessment

Infrastructure projects are typically capital intensive in nature. During the process of Rapid Urban Assessment and Stakeholder Workshop, the projects identified for ULBs to be incorporated in the City Corporate Cum Business Plan varies across all conventional urban infrastructure sectors coming under the purview of ULB such as water supply, sewerage and Under Ground Drainage, sanitation, roads, transportation network, street lighting, storm water drains, solid waste management, community facilities etc. While on one hand, all the identified and demand driven projects, need to be financed in a sustainable manner, the ULBs in general do not have the financial strength to take up these projects on their own. Historically, ULBs have been dependent on conventional sources i.e., state and central support for funding infrastructure projects. While these sources still account for a considerable portion of the total fund flow in urban infrastructure sector, not 100% of these come as unconditional grant and ULBs are gradually made liable for funding their own projects by means of loan, beneficiary contribution etc. At the same time, other unconventional options for raising infrastructure finance such as pooled finance, Private Sector Participation (PSP) are also emerging. In this context, need for structuring infrastructure projects based on suitable financing options available in the sector becomes imperative. However, each of these options might have some risks associated with it and assessment of the same is also important. Detailed in the section below are the options for project structuring available in the present framework for financing ULB infrastructure with risk assessment for the same.

1. ULB's revenue source

The revenue sources of ULB comprise of own revenue and State transfers (combination of assigned revenue and grants & contributions). State devolution to ULBs is a source of meeting the debt service requirements under various borrowings. An ULB is capable of financing its own projects if it has a revenue surplus position and capable of sustaining it consistently over future tenure of the project envisaged. However, the financial status analysis of Sirkazhi Municipality shows that the Revenue account of the Municipality has been in deficit for all the past five years from 2002-03 to 2006-07. Thus this is not a valid option for this ULB.

Risk assessment:

Even if the ULB has a revenue surplus position at present, there could be inconsistencies in future thus making the project subject to risk of running out of fund.

2. Ongoing sector development schemes/ programmes

Typically these are state and central sources of financing through which ULBs get fund in the form of loan and grants. Apart from traditional programmes, this option also includes multilateral sources of funding which is routed through state level nodal agency.

❖ State schemes

Projects taken up under regular state schemes are generally funded entirely by the state. The funds are allocated in the state budget and made available to the implementing agency through the state Urban

Development Department (UDD). The ULB can structure its identified projects best suited to any such ongoing state scheme applicable for a specific sector.

Risk assessment:

- Less risk but not likely to get fund for large capital intensive projects

❖ Central schemes

For central schemes, the total funding is generally shared between centre and state or centre, state and ULB itself. The funding pattern is different for different schemes and could be any combination of loan, grant and own contribution. Currently, for all small and medium towns, all central schemes are clubbed under UIDSSMT in which the cost is to be shared between centre, state and ULB in the ratio of 80:10:10. As UIDSSMT covers all urban infrastructure sectors coming under the purview of the ULB and the major portions of cost are shared by the centre and state, this could be a better option for the ULB for structuring large capital intensive projects.

Risk assessment:

- Low risk as Govt. supported programme. However, ULBs has to make arrangement for own contribution as well as repay loan over specified period. Thus has to assure a source for that.

❖ Multilateral financing

Urban infrastructure sector also receives fund from various multilateral agencies. The Tamil Nadu Urban Development Project (TNUDP) itself is an example of such Multilateral financed urban development programmes, which was financed by International Development Agency (IDA) of World Bank, of which one of the components was the Municipal Urban Development Fund (MUDF). The Tamil Nadu Urban Development Fund (TNUDF) is managed by Tamil Nadu Urban Infrastructure Financial Services Limited (TNUIFSL) and projects are currently being financed under TNUDP-III. One of the main objectives of TNUDF is to fund Urban Infrastructure projects, which improve the living standards of the urban population. The financing pattern of projects under TNUDP-III is generally a mix of loan, grant and own contribution from ULBs and the specific share is subject to vary depending on specific projects.

Risk assessment:

- Could be reform linked and disbursement could be subject to improvement in certain ULB performances, thus becomes conditional
- ULB has to make arrangement for own contribution as well as repay loan over specified period. Thus has to assure a source for that.

3. Borrowing**❖ Pooled finance**

Pooled finance is a form of market borrowing. It is a financial instrument for tapping capital market to finance small city infrastructure projects. Like an independent financial entity, the municipality can issue bond to raise money from market. The municipal bond has to be rated by a credit rating agency and then issued in the market. However, ULBs has to have a string financial position to raise money by this instrument.

Risk assessment:

- This instrument is prone to market risk

- ULB has to maintain consistently good financial position and credibility

❖ **Financial institution borrowing**

For ULBs, borrowing from financial institutions has been generally from Govt. supported financial institutions like HUDCO, LIC etc. For, Sirkazhi, the ULB can borrow money from these financial institutions including TNUDF.

Risk assessment:

- Low risk as supported by Govt
- The fund is focused towards urban development
- Disbursement could be conditional

4. Public Private Partnership

This instrument seeks to have contribution from a private party in developing a facility and/or operating a facility. There are various standard form of contract that could be entered into between the public body (ULB) and the private party depending on the conditions best suited for a particular project. Typically, the private party would operate the facility over a certain period of time after developing in with some user charges and then hand it over to the public body

Risk assessment:

- Risk of opposition to user charges for basic public amenities
- ULB has to have thorough monitoring over project development as well as operation period by private party

5. Other capital sources

These are some other Govt. capital sources, which are not dedicated to urban development but could be tapped for this purpose. For example funds from Member of Parliament Local Area Development (MPLAD), MLALAD, Central Finance Commission Grants etc. These cannot be considered as regular sources of funds but can be tapped for one time investment by ULBs depending on availability and local situation.

Risk assessment:

- Highly uncertain as long as not committed
- Most likely to be one time contribution, not a consistent source

9.2 Financing options for the identified projects:

9.2.1 Water Supply

Given the scale of the project and the extent of capital investment which would be required for commissioning of the Integrated Water Supply Scheme, the project financing options available to the Municipality are limited. The total capital investment for improving water supply in the town has been estimated at Rs 1,124 lakhs, of which Rs 982 lakhs would have to be planned for and invested by 2012-13. Of the varied funding options available to the Municipality, the probable sources which may be pursued are the following:

Funding from on-going sector development schemes or programmes: The Municipality can structure its project such that it can receive funding under state schemes aimed at urban development. Currently for small and medium town infrastructure development, the centrally funded Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) is under progress. This option appears to be the most viable especially in the light of the unstable financial situation of the ULB, it would be forced to rely heavily on grants.

Proposed Project Title	Integrated Water Supply Scheme for Sirkazhi
Sector	Water Supply
Location (Area, Town)	Sirkazhi Municipal area
Estimated Project Cost	Rs 987 lakhs
Project Financing Options	<ul style="list-style-type: none"> a) UIDSSMT Scheme b) Multilateral Financing c) ULB's own revenues d) Capital Sources (MPLAD funds, MLALAD funds, centre commission grants)
Funding under UIDSSMT	The Municipality can effectively plan and structure its water supply augmentation project such that, funding for the same may be received under UIDSSMT. The typical project financing for the UIDSSMT funded projects is 80:10:10, wherein 80% cost are to be borne by the Centre and the remaining 20% to be borne equally by the State government and the ULB.
Multilateral Financing/Capital Sources	The Municipality may also look at receiving funds from multilateral agencies eg. TNUDF for funding of this project. The mix of grant, loan and own sources would have to be worked out between the Municipality and the funding agency once the detailed project report is approved. The Municipality may also look at options of receiving funds under MPLAD or MLALAD funds.

9.2.2 Sewerage

Given the scale of the project and the extent of capital investment which would be required for commissioning of the Sewerage Scheme, the project financing options available to the Municipality are limited. The total capital investment for improving water supply in the town has been estimated at Rs 1,566 lakhs, of which Rs 1,361 lakhs would have to be planned for and invested by 2012-13. Of the varied funding options available to the Municipality, the probable sources which may be pursued are the following:

Funding from on-going sector development schemes or programmes: The Municipality can structure its project such that it can receive funding under state schemes aimed at urban development. Currently for small and medium town infrastructure development, the centrally funded Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) is under progress. This option appears to be the most viable especially in the light of the unstable financial situation of the ULB; it would be forced to rely heavily on grants.

Proposed Project Title	Underground Drainage Scheme for Sirkazhi
Sector	Sewerage
Location (Area, Town)	Sirkazhi Municipal area
Estimated Project Cost	Rs 3300 lakhs (As per DPR cost)
Project Financing Options	a) UIDSSMT Scheme b) Multilateral Financing c) ULB's own revenues d) Capital Sources (MPLAD funds, MLALAD funds, centre commission grants)
Funding under UIDSSMT	The Municipality can effectively plan and structure its water supply augmentation project such that, funding for the same may be received under UIDSSMT. The typical project financing for the UIDSSMT funded projects is 80:10:10, wherein 80% cost are to be borne by the Centre and the remaining 20% to be borne equally by the State government and the ULB.
Multilateral Financing/Capital Sources	The Municipality may also look at receiving funds from multilateral agencies eg. TNUDF has approved the sewerage scheme drawn by few other towns and has extended funding assistance for the same. The mix of grant, loan and own sources would have to be worked out between the Municipality and the funding agency once the detailed project report is approved. The Municipality may also look at options of receiving funds under MPLAD or MLALAD funds.

9.2.3 Roads and urban transport

Given the scale of the project and the extent of capital investment which would be required for commissioning of the projects to be undertaken in the road and urban transport sector, the total capital investment required has been identified at Rs 2,672 lakhs, of which Rs 2,411 lakhs would have to be planned and invested by 2012-13. Of the varied funding options available to the Municipality, the probable sources which may be pursued are the following:

Proposed Project Title	Integrated development scheme for roads & transport sector for Sirkazhi
Sector	Roads and Urban Transport
Location (Area, Town)	Sirkazhi Municipal area
Estimated Project Cost	Rs 2,411 lakhs
Project Financing Options	a) UIDSSMT Scheme b) Multilateral Financing c) ULB's own revenues d) Capital Sources (MPLAD funds, MLALAD funds, centre commission grants)

Proposed Project Title	Integrated development scheme for roads & transport sector for Sirkazhi
Funding under UIDSSMT	The Municipality can effectively plan and structure its water supply augmentation project such that, funding for the same may be received under UIDSSMT. The typical project financing for the UIDSSMT funded projects is 80:10:10, wherein 80% cost are to be borne by the Centre and the remaining 20% to be borne equally by the State government and the ULB.
Multilateral Financing/Capital Sources	The Municipality may also look at receiving funds from multilateral agencies. The mix of grant, loan and own sources would have to be worked out between the Municipality and the funding agency once the detailed project report is approved. The Municipality may also look at options of receiving funds under MPLAD or MLALAD funds.
ULB's Own Resources	The Municipality can look at its own revenue resources for upgradation of the bus shelters and also for construction of the cycle stand.

9.2.4 Storm Water Drainage

Given the scale of the project and the extent of capital investment which would be required for commissioning of the projects to be undertaken in the storm water drainage sector, the total capital investment required has been identified at Rs 2598 lakhs, of which Rs 1591 lakhs would have to be planned and invested by 2012-13. Of the varied funding options available to the Municipality, the probable sources which may be pursued are the following:

Proposed Project Title	Storm water drainage for Sirkazhi
Sector	Storm water drains
Location (Area, Town)	Sirkazhi Municipal area
Estimated Project Cost	Rs 1,591 lakhs
Project Financing Options	<ul style="list-style-type: none"> a) UIDSSMT Scheme b) Multilateral Financing c) ULB's own revenues d) Capital Sources (MPLAD funds, MLALAD funds, centre commission grants)
Funding under UIDSSMT	The Municipality can effectively plan and structure its water supply augmentation project such that, funding for the same may be received under UIDSSMT. The typical project financing for the UIDSSMT funded projects is 80:10:10, wherein 80% cost are to be borne by the Centre and the remaining 20% to be borne equally by the State government and the ULB.
Multilateral Financing/Capital Sources	The Municipality may also look at receiving funds from multilateral agencies. The mix of grant, loan and own sources would have to be worked out between the Municipality and the funding agency once the detailed project report is approved. The Municipality may also look at options of receiving funds under MPLAD or MLALAD funds.

9.2.5 Solid Waste Management

The scale of capital investment required in this sector has been estimated at Rs 342 lakhs which is relatively lesser than the investment required by the other sectors dealt with so far. Of the total investment amount of Rs 342 lakhs, Rs 192 lakhs should be appropriately planned and invested by 2012-13. The broad sources of finance which have been suggested for other sectors have been from Central/state/multilateral funding or from ULB's own resources. The most suitable options for SWM are as discussed below:

Proposed Project Title	Solid Waste Management for Sirkazhi
Sector	Solid Waste Management & Conservancy
Location (Area, Town)	Sirkazhi Municipal area
Estimated Project Cost	Rs 192 lakhs
Project Financing Options	e) Grants under 12 th Finance Commission f) UIDSSMT Scheme g) Multilateral Financing h) ULB's own revenues i) Capital Sources (MPLAD funds, MLALAD funds, centre commission grants)
Funding under 12 th State Finance Commission of Tamil Nadu	As per the 12 th SFC, the ULBs are eligible to avail funds for projects under SWM sector.
Funding under UIDSSMT	The Municipality can effectively plan and structure its water supply augmentation project such that, funding for the same may be received under UIDSSMT. The typical project financing for the UIDSSMT funded projects is 80:10:10, wherein 80% cost are to be borne by the Centre and the remaining 20% to be borne equally by the State government and the ULB.
Multilateral Financing/Capital Sources	The Municipality may also look at receiving funds from multilateral agencies. The mix of grant, loan and own sources would have to be worked out between the Municipality and the funding agency once the detailed project report is approved. The Municipality may also look at options of receiving funds under MPLAD or MLALAD funds.
ULB's Own Resources	The Municipality can look at its own revenue resources for purchase of the handcarts and also for land acquisition.

9.2.6 Slums and Basic Services for Urban Poor

The scale of capital investment required in this sector has been estimated at Rs 226 lakhs and the entire amount would have to be planned and invested for by the Municipality by 2012-13. The Municipality could avail of finance for the project under UIDSSMT or the other sources are recommended below:

Proposed Project Title	Slum Development Sirkazhi
Sector	Slums and Basic Services for Urban Poor
Location (Area, Town)	Sirkazhi Municipal area
Estimated Project Cost	Rs 226 lakhs

Proposed Project Title	Slum Development Sirkazhi
Project Financing Options	j) UIDSSMT Scheme k) Multilateral Financing l) ULB's own revenues m) Capital Sources (MPLAD funds, MLALAD funds, centre commission grants)
Funding under UIDSSMT	The Municipality can effectively plan and structure its water supply augmentation project such that, funding for the same may be received under UIDSSMT. The typical project financing for the UIDSSMT funded projects is 80:10:10, wherein 80% cost are to be borne by the Centre and the remaining 20% to be borne equally by the State government and the ULB.
Multilateral Financing/Capital Sources	The Municipality may also look at receiving funds from multilateral agencies. The mix of grant, loan and own sources would have to be worked out between the Municipality and the funding agency once the detailed project report is approved. States such as Andhra Pradesh, Kolkata in joint collaboration with international funding agencies have developed schemes such as APUSP, KUSP etc aimed specifically at development of projects meant for slum development. The Municipality may also look at options of receiving funds under MPLAD or MLALAD funds.
ULB's Own Resources	The Municipality can look at its own revenue resources for funding of slum development projects. Also approaches such as Slum Networking programme as followed in slums of Ahmedabad may be also be tried to facilitate slum improvement.

9.2.7 Commercial Amenities

There has been one commercial projects which has been identified viz. Market Development Project. For the development of the market, the Municipality could explore the option of either obtaining funds from a multilateral funding agency, or would have to make borrowings from a financial institution.

9.2.8 Non Commercial Amenities

For the non commercial projects which have been identified and listed, the Municipality could take either of the following options:

- Upgradation of the burial grounds: The costs associated with the upgradation of the burial grounds could be funded by the own revenue resources of the Municipality.
- Funding of construction of Gasifier Crematorium can be undertaken by obtaining a part of the funds from funding agency and can be partly funded from the own revenue sources of the Municipality

10 ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT OF PROJECTS

10.1.1 Environmental and Social Framework for TNUDP projects

In continuation with the objectives of TNUDP-I and II, TNUDP-III also aims to improve urban infrastructure services in Tamil Nadu in a sustainable manner. Along with strengthening the ULBs, mobilising resources on a sustainable basis for urban investments has been one of the main objectives of TNUDP-III. To facilitate achieving this objective, TNUIDFSL, the nodal agency for managing funds under the Tamil Nadu Urban Development Fund (TNUDF), is committed to channelise its increased financial resources including private financing, into high priority urban infrastructure projects. Apart from meeting all the financial and technical viability requirements, the projects financed by TNUDF have to ensure that no adverse environmental or social impact takes place and that the borrower takes measures to avoid or minimise such impacts in consonance with the Environment and Social Framework (ESF-Originally named as Environmental and Social Report - ESR) as prepared and updated by TNUFSL.

Recognising the environmental and social issues that can arise in urban infrastructure projects, the ESF provides an overall framework for identification, assessment and management of environmental and social concerns at the sub-project level. The ESF outlines the policies, assessments and procedures that will enable TNUIFSL to ensure that a sub-project it funds is developed in accordance with ESF and is adequately protected from associated risks. The ESF also aims to sensitise borrowers to the assessment and management of environmental and social issues arising in urban infrastructure projects. The Policy statement of TNUIFSL on ESF commits all projects to environmental soundness by conserving natural resources, preserving biodiversity and ecological equilibrium; minimising release of polluting wastes and integrating mechanisms within projects to maintain and enhance environmental quality of project locations. The Policy also commits all projects to ensure social reliability by avoiding or minimising resettlement, ensuring appropriate resettlement and rehabilitation of project-affected persons irrespective of their legal status; and addressing legitimate concerns of relevant stakeholders.

In cognizance with this concept, this section aims to provide an outline of environmental and social issues, and their impact assessment requirement and other compliance measures that would be necessary for the projects identified by the ULB.

10.1.2 Categorisation of projects

Based on the magnitude of their impact on environment and society, a broad guideline for categorising projects under different categories has been suggested in the ESF, which is indicative of the severity of their environmental and social implications and related regulatory requirement. The categories defined are as follows.

Table 48: Environmental Categorisation Criteria

Category	Definition	Management measure
Environmental		
E-1	E-1 projects are those wherein major environmental impacts are foreseen. A proposed project is classified as E1 if it is likely to affect sensitive environmental components (SEC). ⁴ Those projects/activities, which require environmental clearance as per the EIA notification published by the Ministry of Environmental and Forest ⁵ will also be categorized as E1.	Environmental Assessment Reports (EAR)
E-2	E-2 projects are expected to have only moderate environmental issues. A project is categorized as E2 if its potentially adverse environmental impacts are less adverse than those of E1 projects. These impacts are mostly generic impacts and in most cases mitigation can be designed more readily than for E1 projects.	Environmental Management Plan (EMP)
E-3	No environmental issues are expected in E-3 projects and can be termed 'environmentally benign'.	None
Social		
S-1	Projects that will involve 200 Project Affected Persons (PAPs) or 30– 40 households or more or if PAPs are physically displaced	Social Assessment Report (SAR) that would include a resettlement plan
S-2	Projects in which no PAP is physically displaced and less than 10% of their productive assets are lost (or) less than 200 PAPs are affected	Social Management Plan (SMP) that would include an abbreviated resettlement plan
S-3	Projects that will not involve any affected household, i.e., they can be classified as 'socially benign'.	Social Status Report (SSR)

⁴ Refer Annexure 5 for list of Sensitive Environmental Components

⁵ Refer Annexure 6 for notification

10.1.3 EIA and SIA requirement for CCP-BP of Sirkazhi Municipality

The lists of identified projects for various infrastructure sectors for the Sirkazhi Municipality, which are to be taken up on a priority basis, are mentioned in the table below.

Table 49: List of Identified projects

Sector	Identified Projects
Water supply	Improvement of water supply <ul style="list-style-type: none"> v. Source/ system capacity augmentation – 3.99 MLD vi. Treatment capacity augmentation – 5.99 MLD vii. Refurbishment of old Distribution Network – 9.1 km (Including Transmission main replacement – 20 km from kolidam River to Sirkazhi via Chittamalli) viii. Metering System – 6685 nos
Sewerage and sanitation	Development of Under Ground Drainage System <ul style="list-style-type: none"> iv. UGD network development – 53.02 km v. Treatment capacity development (STPs) – 4.79 MLD vi. Pumping machinery (Intermediate pumping stations/ transmission mains)– 10 nos
Transportation (road and street light)	Improvement of roads and transport and traffic management: <ul style="list-style-type: none"> v. Upgradation of road surface – 2 km of BT to CC and 1.8 km of WBM to BT vi. New Construction of road – 3.98 km of CC road & 1.08 of BT road vii. Installation of new lamp posts – 615 nos viii. Construction of By-pass road: By-pass road has been approved in the Master Plan. Municipality would need to acquire land from the private parties. Municipality at present does not have adequate funds to purchase the funds ix. Construction of Two over bridge x. Up-gradation of the existing bus stand: <ul style="list-style-type: none"> e. Current bus stand is B grade with 36 Bays. Proposal for up-gradation to A grade with 50 bays f. Vacant plots available surrounding the Bus Stand which can be developed for commercial purposes g. Lack of footpaths h. Lack of organised parking facilities
Storm Water Drainage	Development of Storm Water Drainage System <ul style="list-style-type: none"> iv. Drains New Formation – 98.82 km v. Drains upgradation – <ul style="list-style-type: none"> Kutchra to Pucca Open - 0.3 km Kutchra to Pucca closed – 0.3 km vi. Desilting & Strengthening of Primary Drains
Solid waste management	Improvement of Solid Waste Management: <ul style="list-style-type: none"> i. Purchase of primary and secondary collection vehicles and equipments (including Purchase of 14 bins and one dumper placer) ii. Acquiring new disposal site and development of land fill infrastructure (with provision of compound walls, composting facilities, Pulveriser Machine) iii. Construction of public toilets – 86 seats iv. Construction of a division office at 2 places v. Construction of 3 welfare offices

Sector	Identified Projects
Slum development*	Improvement of Slum Infrastructure: <ol style="list-style-type: none"> Housing Physical Infrastructure (Roads, drains etc) Social Infrastructure facilities
Commercial amenities	Construct an organized Daily Market – Acquisition of land and Construct of daily market.
Non-commercial/ community amenities	<ol style="list-style-type: none"> Up-gradation of Burial ground: 15 existing burial grounds need to be upgraded with compound walls, levelling. Work of 3 in already progress. Construction of a Gasifier Crematorium Development of Parks: Development of 26 parks in the Municipal area. 26 plots with area of 86 acres have been identified for developing parks. Construction of Educational Institutes: one degree college, one engineering college, one secondary School and new building for existing Thadalan Muslim School. <ol style="list-style-type: none"> Purchase of land Construction of School Building Up-gradation and renovation of Noon meal centers using the Education Fund Construction of houses for Conservancy workers(78 workers) Construction of 2 Arch gates each at the entrance and exit of the Municipality

Note - * EIA / SIA for slum improvement project has not been done separately as all types of components under slum improvement are essentially being covered under various sector projects.

10.1.4 Project wise EIA and SIA requirement

The description of projects and their environmental and social impact assessment framework, illustrated in this section, are based on preliminary discussions with stakeholders, already identified projects by the ULB as well as rapid urban assessment carried out in the inception stage based on available infrastructure service level data. However, the EIA and SIA requirements and probable impact for individual projects are subject to vary, depending on modifications of the project component; location and magnitude of the project; and any other change deemed necessary while preparing a Detailed Project Report.

Brief outlines of the EIA and SIA framework for each project, as listed in the previous section, are discussed below.

Project Title	Improvement of water supply		
Location (Area, Town)	Madurantagam Municipal area		
Project Description/Components / Capacity / Size	i. Source/ system capacity augmentation – 3.99 MLD ii. Treatment capacity augmentation – 5.99 MLD iii. Refurbishment of old Distribution Network – 9.1 km (Including Transmission main replacement – 20 km from kolidam River to Sirkazhi via Chittamalli) iv. Metering System – 6685 nos		
Environmental Impact	Environmental issues that may arise and need concern for these projects are: <ul style="list-style-type: none"> - Safe drinking water /water quality concerns - Over exploitation of water sources - Change in hydrology and drainage patterns due to the construction - Water logging due to leakage during operation and maintenance - Disturbance to other utility/service lines due to construction activity - Disruption to local traffic during construction - Impact on public/private properties and other sensitive receptors along the water supply lines during construction - Disposal of excavated soil - Pollution from construction equipments - Health and safety concerns of workers while laying the pipelines - Storage of hazardous chemicals such as Chlorine for water treatment 		
	Component type	Environmental category	Applicable legislation
	Existing water supply augmentation	E-2	None
	Water treatment plant	E-1	- Water Act, 1974 - Hazardous Chemicals Rules, 1989 - Hazardous Waste Management Rules, 1999
	Elevated Storage capacity augmentation	E-3	None
	Water supply distribution lines	E-2	None
	Upgradation of existing headworks	E-3	Groundwater Regulation Act 2002
	River intake works	E-1	None
	Generators	E-3	Air Act 1981 & Noise Rules as per EP Act 1986
Social Impact Category	Category: Social Impact Category for this project is subject to detailed survey regarding number of project affected families/ persons.		
	Issues: Social issues may arise in these projects if there is need for private land (or) government land that has been occupied or encroached upon.		

Following are the mitigation measures and enhancement opportunities that could be adopted to minimize / eliminate adverse impact of proposed development

Mitigation Measures

- Obtaining clearance / permission from all the relevant agencies
- Regulating extraction of water to reduce effect on downstream users.
- Study of all related features (geology, topography etc) in design consideration to minimise impact
- Undertaking afforestation programme to compensate loss of tree cover
- Ensuring proper alignment in project site
- Ensuring minimum loss of crop and minimum destruction and disturbance in case of encroached site
- Proper planning of construction activity and ensure immediate removal of accumulated waste during construction and water sprinkling in debris
- Provision of temporary drainage arrangements
- Selection of less noise generating equipment and enforcement of adequate equipment maintenance procedure
- Adequate safety precautions for workers and provision of essential facilities
- Provision of alternative safe access in and around project site and use of alternate traffic routes
- Ensuring proper technical design to minimise water seepage and chances of possible failure of structure
- Provision of sewerage system with sufficient treatment capacity to suffice to increased water supply levels
- Installation of chlorine leak detectors and emergency response equipment
- Use of only approved, appropriate disposal site

Enhancement opportunities

- Development of Parks / Play Grounds / Green Spaces at Storage Reservoir Complexes
- Develop suitable vegetative cover along the transmission lines

Project Title	Development of Under Ground Drainage System		
Location (Area, Town)	Madurantagam Municipal area		
Project Description/Components / Capacity / Size	i. UGD network development – 53.02 km ii. Treatment capacity development (STPs) – 4.79 MLD iii. Pumping machinery (Intermediate pumping stations/ transmission mains)– 10 nos		
Environmental Impact	Environmental issues that may arise and need concern for these projects are: <ul style="list-style-type: none"> - Changes in hydrology and drainage patterns due to the construction - Surface and groundwater contamination due to leakages - Environmental issues associated with disposal of sewage - Performance of existing and proposed treatment schemes - Water logging during operation and maintenance - Disruption to local traffic during construction - Disposal of excavated soil during construction - Disposal of STP sludge and sewer silt during operation and maintenance - Pollution from construction equipments - Health and safety concerns while working in closed drains/pipes - Impact on public/private properties and other sensitive receptors along the sewer lines during construction - Health and safety issues associated with storage and handling of chemicals for STP operation 		
	Component type	Environmental category	Applicable legislation
	Sewerage network with pumping station and treatment plant	E-1	- Water Act, 1974 - Hazardous Waste Management Rules, 1999 - Air Act 1981 and Noise Rules as per EP act 1986
	Public conveniences	E-2	None
	Septic Tanks	E-2	None
Social Impact Category	Category: Social Impact Category for this project is subject to detailed survey regarding number of project affected families/ persons.		
	Issues: Social issues may arise in these projects if there is need for private land (or) government land that has been occupied or encroached upon.		

Following are the mitigation measures and enhancement opportunities that could be adopted to minimize / eliminate adverse impact of proposed development

Mitigation Measures

- Obtaining clearance / permission from all the relevant agencies
- Undertaking afforestation in nearby areas
- Ensuring efficient and environmental friendly working conditions in terms of treatment process,

- construction technique
- Equipment and skilled operation maintain effluent quality compliance
- Maintaining treated water quality standard
- Ensuring proper design consideration to avoid water stagnation, bypass arrangements and to discharge untreated sewage
- Avoiding sensitive locations such as nearby schools, hospitals
- Provision of sufficient buffer areas
- Proper planning of construction activity and ensure immediate removal of accumulated waste during construction and water sprinkling in debris
- Provision of temporary drainage arrangements
- Selection of less noise generating equipment and enforcement of adequate equipment maintenance procedure
- Adequate safety precautions for workers and provision of essential facilities
- Provision of alternative safe access in and around project site and use of alternate traffic routes
- Provision of suitable arrangement for drainage control
- Study of all related features (geology, topography etc) in design consideration to minimise impact
- Ensuring proper alignment in project site

Enhancement opportunities

- Development of Parks and Recreational Facilities for Tourist Attraction and Environmental Improvement

Project Title	Improvement of roads and transport and traffic management
Location (Area, Town)	Madurantagam Municipal area
Project Description/Components / Capacity / Size	<ul style="list-style-type: none"> i. Upgradation of road surface – 2 km of BT to CC and 1.8 km of WBM to BT ii. New Construction of road – 3.98 km of CC road & 1.08 km BT road iii. Installation of new lamp posts – 615 nos iv. Construction of By-pass road: By-pass road has been approved in the Master Plan. Municipality would need to acquire land from the private parties. Municipality at present does not have adequate funds to purchase the funds v. Construction of two over bridge at railway line passes. vi. Up-gradation of the existing bus stand

Project Title	Improvement of roads and transport and traffic management		
Environmental Impact	Environmental issues that may arise and need concern for these projects are: <ul style="list-style-type: none"> - Need for road side drains for densely populated and market areas - Increase in air pollution and noise levels due to traffic - Disturbance to other utilities/services during construction - Impact on sensitive receptors - Destruction of roadside microhabitat/vegetation due to widening and construction - Community and cultural severance - Impact on cultural properties - Health and safety concerns of workers - Pollution from construction equipments - Construction related impacts - Traffic safety - Pedestrian safety - Safety of roadside dwelling units - Traffic management concerns in densely developed areas - Change in hydrology and drainage patterns 		
	Component type	Environmental category	Applicable legislation
	New roads	E-1	<ul style="list-style-type: none"> - EIA Notification 1994 - Tamil Nadu Timber Transit Rules, 1968 - Air Act, Forest Act, CRZ Notification and EPA
	Widening of roads	E-1	
	Surface improvement	E-2	
	Traffic and transport management measures including footpath, road divider, traffic island	E-3	
	Street furniture (traffic signals, street light, sign boards)	E-3	None
	Subways	E-2	None
	ROBs / RUBs	E-1	Air Act, Noise Rules
	Culverts / small bridges	E-2	None
	Bus / Truck terminal / shelter / parking complexes	E-2	Water Act, 1974, Noise Rules as per EP Act, 1986, Air Act 1981,
Social Impact Category	Category: Social Impact Category for this project is subject to detailed survey regarding number of project affected families/ persons.		
	Issues: Social issues may arise in these projects if there is need for private land (or) government land that has been occupied or encroached upon.		

Following are the mitigation measures and enhancement opportunities that could be adopted to minimize / eliminate adverse impact of proposed development

Mitigation Measures

- Obtaining clearance / permission from all the relevant agencies
- Minimising tree cutting and top earth to be refilled and compacted wherever tree cutting is done
- Ensuring proper equipment and skilled operation
- Ensuring proper design consideration

- Proper planning of construction activity and ensure immediate removal of accumulated waste during construction and water sprinkling in debris
- Provision of temporary drainage arrangements
- Selection of less noise generating equipment and enforcement of adequate equipment maintenance procedure
- Adequate safety precautions for workers and provision of essential facilities
- Provision of alternative safe access in and around project site and use of alternate traffic routes
- Provision of suitable arrangement for drainage control
- Study of all related features (geology, topography etc) in design consideration to minimise impact
- Ensuring proper alignment in project site
- Planting of trees and noise barriers at sensitive receptors
- Provision of pedestrian crossing wherever necessary

Enhancement opportunities

- Plantation and development of vegetation belt along the alignment
- Rehabilitation plan for quarries/ borrow areas

Project Title	Development of Storm Water Drainage System		
Location (Area, Town)	Madurantagam Municipal area		
Project Description/Components / Capacity / Size	i. Drains New Formation – 98.82 km ii. Drains upgradation – Kutcha to Pucca Open - 0.3 km Kutcha to Pucca closed – 0.3 km iii. Desilting & Strengthening of Primary Drains		
Environmental Impact	Environmental issues that may arise and need concern for these projects are: <ul style="list-style-type: none"> - Changes in land use, hydrology and drainage patterns due to the construction - Water logging, change in surface and groundwater quality due to leakages - Disturbance to other service lines due to digging and construction activity - Water logging and pollution of the final disposal area due to improper designs and misuse during operation phase. - Disruption to local traffic during construction - Disposal of excavated soil - Pollution from construction equipments - Health and safety concerns while working in closed drains - Impact on public/private properties and other sensitive receptors along the storm - Water drains during construction 		
	Component type	Environmental category	Applicable legislation
	Open drains	E-2	None
	Closed underground drains	E-2	None
Social Impact Category	Category: Social Impact Category for this project is subject to detailed survey regarding number of project affected families/ persons.		
	Issues: Social issues may arise in these projects if there is need for private land (or) government land that has been occupied or encroached upon.		

Following are the mitigation measures and enhancement opportunities that could be adopted to minimize / eliminate adverse impact of proposed development

Mitigation Measures

- Obtaining clearance / permission from all the relevant agencies
- Minimising tree cutting and top earth to be refilled and compacted wherever tree cutting is done
- Minimising disturbance to other utilities
- Ensuring proper equipment and skilled operation
- Ensuring proper design consideration
- Proper planning of construction activity and ensure immediate removal of accumulated waste during construction and water sprinkling in debris
- In case of nallas carrying sewerage, the silt shall be deposited carefully at an identified site selected in coordination with TNPCB
- Provision of temporary drainage arrangements
- Selection of less noise generating equipment and enforcement of adequate equipment maintenance procedure
- Adequate safety precautions for workers and provision of essential facilities
- Provision of alternative safe access in and around project site and use of alternate traffic routes
- Provision of suitable arrangement for drainage control
- Study of all related features (geology, topography etc) in design consideration to minimise impact
- Ensuring proper alignment in project site
- Planting of trees and noise barriers at sensitive receptors

Enhancement opportunities

- Development of foot paths over the drains to protect the drain and offer add on facilities

Project Title	Improvement of Solid Waste Management
Location (Area, Town)	Madurantagam Municipal area
Project Description/Components / Capacity / Size	<ul style="list-style-type: none"> i. Purchase of primary and secondary collection vehicles and equipments (including Purchase of 14 bins and one dumper placer) ii. Acquiring new disposal site and development of land fill infrastructure (with provision of compound walls, composting facilities, Pulveriser Machine) iii. Construction of public toilets – 86 seats
Environmental Impact	<p>Environmental issues that may arise and need concern for these projects are:</p> <ul style="list-style-type: none"> - Change in hydrology and drainage due to waste disposal and composting - Change in surface and ground water quality due to leachate - Air quality impacts due to the operation of waste disposal or processing facilities - Odour of decomposing solid waste - Public health nuisance during operation of SWM components ranging from collection to ultimate disposal - Change in urban aesthetics - Land use changes and associated impacts - Issues pertaining to siting of SWM facilities such as proximity to settlements, cultural properties and any other sensitive receptors - Pollution from construction equipments - Health and safety concerns of workers handling wastes

Project Title	Improvement of Solid Waste Management		
	Component type	Environmental category	Applicable legislation
	Land fill sites	E-1	MSW Rules 2000 Air Act, Water Act and EPA
	Compost yard	E-1	MSW Rules 2000 Air Act, Water Act and EPA
	Solid waste management including collection and transportation vehicles	E-2	None
Social Impact Category	Category: Social Impact Category for this project is subject to detailed survey regarding number of project affected families/ persons.		
	Issues: Social issues may arise in these projects if there is need for private land (or) government land that has been occupied or encroached upon.		

Following are the mitigation measures and enhancement opportunities that could be adopted to minimize / eliminate adverse impact of proposed development

Mitigation Measures

- Obtaining clearance / permission from all the relevant agencies
- Minimising tree cutting and top earth to be refilled and compacted wherever tree cutting is done
- Minimising disturbance to other utilities
- Ensuring proper equipment and skilled operation
- Making provision for green cover and pucca roads
- Proper maintenance and leachate collection facilities shall be done. Leachate shall be treated to the standards of TNPCB before disposal.
- Ensuring proper design and buffer zone to comply with MSW Rules 2000
- Proper planning of construction activity and ensure immediate removal of accumulated waste during construction and water sprinkling in debris
- Selection of less noise generating equipment and enforcement of adequate equipment maintenance procedure
- Adequate safety precautions for workers and provision of essential facilities
- Provision of alternative safe access in and around project site and use of alternate traffic routes
- Provision of temporary drainage and solid waste collection and disposal facilities at the construction site
- Study of all related features (geology, topography etc) in design consideration to minimise impact
- Ensuring proper alignment in project site
- Planting of trees and noise barriers at sensitive receptors

Enhancement opportunities

1. Development of Parks and Green Spaces for Tourist Attraction and Environmental Improvement

Project Title	Daily market development		
Location (Area, Town)	Sirkazhi Municipal area		
Project Description/Components/Capacity/Size	Construction of building with provision of services		
Environmental Impact	Environmental issues that may arise and need to be considered are: <ul style="list-style-type: none"> - Conflicting land use - Disturbance to other services/lines due to construction - Disposal of solid and liquid waste generated - Increase in urban congestion and associated traffic and transportation issues - Sanitation - Fire hazards - Construction-related impacts - Parking 		
	Component	Environmental category	Applicable legislation
	a) Construction of building with provision of services (for <1000 persons)	E-2	None
Social Impact Category	Category: Social Impact Category for this project is subject to detailed surveys on the number of project-affected families/ persons.		
	Issues: Social issues may arise in these projects if there is a need for private land (or) government land that has been occupied or encroached upon.		

Following are the mitigation measures and enhancement opportunities that could be adopted to minimize / eliminate adverse impact of proposed development

Mitigation Measures

- Obtaining clearance / permission from all the relevant agencies
- Minimising tree cutting and top earth to be refilled and compacted wherever tree cutting is done
- Minimising disturbance to other utilities
- Ensuring proper equipment and skilled operation
- Making provision for tree planting at the site
- Proper planning of construction activity and ensure immediate removal of accumulated waste during construction and water sprinkling in debris
- Selection of less noise generating equipment and enforcement of adequate equipment maintenance procedure
- Adequate safety precautions for workers and provision of essential facilities
- Study of all related features (geology, topography etc) in design consideration to minimise impact
- Ensuring proper alignment in project site
- Avoiding sensitive sites such as near to schools, hospitals

Enhancement opportunities

- Development and implementation of Rainwater Harvesting measures

Project Title	Upgradation of crematorium and construction of burial ground		
Location (Area, Town)	Sirkazhi Municipal area		
Project Description/Components/ capacity/ size	Conversion of existing crematorium to a gasifier and provision for all other facilities and upgradation of 15 burial ground in the town		
Environmental Impact	Environmental issues that may arise and need to be considered are: - Change in land use - Solid and liquid waste disposal - Public health and safety - Sanitation - Parking - Fire safety		
	Component	Environmental category	Applicable legislation
	a) Gasifier Crematorium	E-2	Air Act, 1981
Social Impact Category	Category: Social Impact Category for this project is subject to detailed surveys on the number of project-affected families/persons.		
	Issues: Social issues may arise in these projects if there is a need for private land (or) government land that has been occupied or encroached upon.		

Following are the mitigation measures and enhancement opportunities that could be adopted to minimize / eliminate adverse impact of proposed development

Mitigation Measures

- Obtaining clearance / permission from all the relevant agencies
- Minimising tree cutting and top earth to be refilled and compacted wherever tree cutting is done
- Minimising disturbance to other utilities
- Ensuring proper equipment and skilled operation
- Making provision for tree planting at the site
- Proper planning of construction activity and ensure immediate removal of accumulated waste during construction and water sprinkling in debris
- Selection of less noise generating equipment and enforcement of adequate equipment maintenance procedure
- Adequate safety precautions for workers and provision of essential facilities
- Study of all related features (geology, topography etc) in design consideration to minimise impact
- Ensuring proper alignment in project site
- Avoiding sensitive sites such as near to schools, hospitals

Enhancement opportunities

- Landscaping and Aesthetic Improvements at the proposed locations

Project Title	Park development project		
Location (Area, Town)	Madurantagam Municipal area		
Project Description/Components / Capacity/Size	Development of Madurantagam lake (about 10.62 sq.km area) and Vannam lake and development of Murugan temple lake for rain water harvesting <ol style="list-style-type: none"> Renovation of water body Development of boating facilities Development of related public amenities like toilet, sitting arrangements, side walks etc. Facilities for rain water harvesting 		
Environmental Impact	Environmental issues that may arise and need concern for these projects are: <ul style="list-style-type: none"> Change in land use, hydrology and drainage patterns Increase in air pollution and noise levels during construction Soil and ground water contamination due unscientific disposal of desilted sludge and aquatic weeds Impacts on water quality and aquatic life Destruction of vegetation due to construction 		
	Component	Environmental category	Applicable legislation
	a) improvement of lakes/ water bodies	E-1	Water Act, 1974 and EP Act, 1986
Social Impact Category	Category: Social Impact Category for this project is subject to detailed survey regarding number of project affected families/ persons.		
	Issues: Social issues may arise in these projects if banks of the waterways are occupied by squatters		

Following are the mitigation measures and enhancement opportunities that could be adopted to minimize / eliminate adverse impact of proposed development

Mitigation Measures

- Obtaining clearance / permission from all the relevant agencies
- Minimising tree cutting and top earth to be refilled and compacted wherever tree cutting is done
- Minimising disturbance to other utilities
- Minimising disrupting aquatic life
- Ensuring proper equipment and skilled operation
- Making provision for tree planting
- Proper planning of construction activity and ensure immediate removal of accumulated waste during construction and water sprinkling in debris
- Selection of less noise generating equipment and enforcement of adequate equipment maintenance procedure
- Adequate safety precautions for workers and provision of essential facilities
- Study of all related features (geology, topography, aquatic ecology etc) in design consideration to minimise impact

Enhancement opportunities

- Development of parks and recreational facilities for tourist attraction and environmental improvement

Project Title	Improvement of educational facility		
Location (Area, Town)	Sirkazhi Municipal area		
Project Description/Components/ Capacity/Size	i. Construction of educational institute buildings ii. Upgradation of noon-meal centres		
Environmental Impact	Environmental issues that may arise and need to be considered are: <ul style="list-style-type: none"> - Conflicting land use - Disturbance to other services/lines due to construction - Disposal of solid and liquid waste generated - Increase in urban congestion and associated traffic and transportation issues - Sanitation - Fire hazards - Construction-related impacts - Parking 		
	Component	Environmental category	Applicable legislation
	a) Construction of building with provision of services (for <1000 persons)	E-2	None
Social Impact Category	Category: Social Impact Category for this project is subject to detailed surveys on the number of project-affected families/ persons.		
	Issues: Social issues may arise in these projects if there is a need for private land (or) government land that has been occupied or encroached upon.		

Following are the mitigation measures and enhancement opportunities that could be adopted to minimize / eliminate adverse impact of proposed development

Mitigation Measures

- Obtaining clearance / permission from all the relevant agencies
- Minimising tree cutting and top earth to be refilled and compacted wherever tree cutting is done
- Minimising disturbance to other utilities
- Ensuring proper equipment and skilled operation
- Making provision for tree planting at the site
- Proper planning of construction activity and ensure immediate removal of accumulated waste during construction and water sprinkling in debris
- Selection of less noise generating equipment and enforcement of adequate equipment maintenance procedure
- Adequate safety precautions for workers and provision of essential facilities
- Study of all related features (geology, topography etc) in design consideration to minimise impact
- Ensuring proper alignment in project site
- Avoiding sensitive sites such as near to schools, hospitals

Enhancement opportunities

- Development and implementation of Rainwater Harvesting measures

Project Title	Development of Park and play fields		
Location (Area, Town)	Sirkazhi Municipal area		
Suggested Capacity/Size	Aim to develop green zones- about 83.6 Acres		
Project Description/Components	Development of park and play fields		
Environmental Impact	Environmental issues that may arise and need concern for these projects are: <ul style="list-style-type: none"> - Change in land use - Solid waste disposal - Sanitation - Parking - Fire safety 		
	Component	Environmental category	Applicable legislation
	a) parks and play grounds	E-3	None
Social Impact Category	Category: Social Impact Category for this project is subject to detailed survey regarding number of project affected families/ persons.		
	Issues: Social issues may arise in these projects if there is need for private land (or) government land that has been occupied or encroached upon.		
Enhancement opportunities	<ul style="list-style-type: none"> - Landscaping and Aesthetic Improvements at the proposed locations 		

11 FINANCIAL OPERATING PLAN

The Financial Operating Plan (FOP) assesses the financial strength of the town to implement the identified investments. The assessment is done under two scenarios of 'Base Case' and 'Improved Case'. In the former case, a 'Business As Usual' scenario is assumed, while in the latter case, several improvement measures across the revenue items is assumed. The analysis highlights that the town's investment capacity is sustainable only under the 'Improved Case'. If the town continues in the 'Business As Usual' scenario, then, it would not be able to invest any of the identified investment, which would affect the service delivery levels. Scenario has also been drawn in case the ULB attempts to access funding under TNUDF scheme of Government of Tamil Nadu.

The Financial Operating Plan (FOP) forecasts the municipal finances on the basis of certain assumptions on income and expenditure. The primary objective of the FOP is to ascertain the investment sustenance capacity of the municipality under different scenarios of revenue enhancement and expenditure control. This would assist the decision-makers in structuring and implementing appropriate policy with the required management and operational interventions to maximise investment sustenance and achieve the goals set for provision and maintenance of basic services.

The investment identified is based on iterative process taking into account the loan, grant and ULB contribution. This further highlights the priority needs for future development and other immediate requirement contemplated by the municipality.

11.1 Need for a FOP

Under a 'Business As Usual' scenario, the municipality's existing revenue surplus is not being utilized effectively due to the various reasons viz. lack of an integrated approach to town development, inability to identify the priority sector for investment, inability to raise the required finances for funding and inability to tap into other sources of funds due to lack of a comprehensive FOP. Moreover, in the absence of a FOP, new projects would not be undertaken that would adversely impact the position of the town. In the event of the town not undertaking the project, the key problems would be poor infrastructure resulting in poor service delivery and loss of potential revenue from new revenue streams like UGD.

To counter these issues, the framework for FOP is developed that aids in harnessing the existing strengths of the town and also reducing the inefficiencies in the system, such that the town develops significant financial strength to undertake projects. In order to develop a FOP, there are several activities to be undertaken by the various stakeholders.

The project funding structure comprises grants under the TNUDF Grant framework; internal resources and loans accounting for the rest. The level of investment that Sirkazhi municipality can sustain is determined by studying the overall surpluses/ year-to-year opening balance and debt service coverage ratio. If the debt service coverage ratio - DSCR (amount of surplus available to pay interest and to repay principal that is due) falls below 1.25 (i.e. less than 25 percent cushion), then the investments are reduced gradually till the DSCR exceeds 1.25 in all the years in the forecast period.

The main items of income and expenditure, classified into the revenue account and the capital account, are projected in the FOP under the following categories.

- Categories of FOP Projections
 - Revenue Account Receipts:

- Taxes, Non Tax Sources, and
 - Grants and Contributions
- Revenue Account Expenditure:
 - Establishment
 - Operation and Maintenance
 - Debt Servicing- Existing and New Loans
 - Phasing of non debt liabilities, and
 - Additional O&M
- Capital Income and
- Capital Expenditure

11.2 Financing Strategies for the CIP

In determining a long-term financial strategy, Sirkazhi municipality plans to raise resources and fund the CIP through:

- Grants available under the TNUDF Grant Framework (as percent of investment proposed for funding by 2012-13 in urban governance and infrastructure sectors).
- Available internal resources and improving upon the same through
 - Improvement in property tax collection
 - Improvement in Water Charges and Introduction of sewerage charges
 - Maintenance of the collection performance of taxes and charges at certain minimum levels for current and for arrears
 - Implementing the revenue expenditure reduction measures
 - Borrowings

11.3 Finance Projections

Current revenue sources are projected under built-in growth assumptions for income and expenditure items, to assess the impact of each such revenue enhancement measure being suggested. The projections also aim at estimating the surplus that will be available for servicing new debt. Part of the surplus, after meeting the additional O&M expenses on newly created assets and infrastructure, is translated into debt size and project size (grant component plus debt component) based on certain assumptions regarding interest rate, repayment method and loan-grant mix.

A spreadsheet FOP model has been customised to depict the financial position of Sirkazhi municipality; the investment sustaining capacity of municipality is assessed based on the FOP assumptions. The model was used to calculate future surpluses under various scenarios involving combinations of internal revenue improvement, state support, financing terms, etc.

11.3.1 Municipal Account – Growth Projections and Assumptions

The standard assumptions under which the projections are carried out and certain expenditure control and revenue augmentation measures proposed in line with the reforms under the TNUDF Grant framework are presented below.

Table 50: Important assumptions made in the projections

Head	Assumptions
Guiding Factor for Assessing the Sustaining Capacity	
Surplus	Positive surplus - year on year basis
DSCR	Greater than 1.25
Project Financing	
Project Costing	Unit Cost, with 5 % price contingency and 10% Physical contingency
New/Additional O & M and from second year of investment 6% growth is considered for the additional O & M	<ul style="list-style-type: none"> ▪ Water supply : 5% of Capital cost ▪ Sewerage : 5% of Capital cost ▪ Roads : 4% of Capital cost ▪ Drains : 4% of Capital cost ▪ Street lighting : 8% of Capital cost ▪ Urban poor/ Slums : 4% of Capital cost ▪ Solid waste management : 12% of Capital cost ▪ Others : 4% of Capital cost
Grant from TNUDF	30% of project cost
Grant under IHSDP	90% for slum development
TNUDF/IBRD Loan interest rate	9% interest rate for all projects
TNUDF/IBRD Loan repayment period	For water supply / UGD projects - Repayment in 20 years including 5 year principal moratorium For Revenue generating projects- Repayment in 12 years including 3 year principal moratorium For all other sectors like SWD / SWM / Roads - Repayment in 7 years including 2 year principal moratorium
ULBs Share	10% of the proposed Project
Beneficiary Contribution	10% for slum housing projects under IHSDP
Old Outstanding loans	As per existing terms and conditions
Revenue Expenditure	
Growth in Expenditure	Actual average growth with a minimum 8% and maximum of 10% (based on last five years trend)
Pay Commission Revision	6 th Pay Commission revision- additional 10% from 2007-08 every five years
Assumption for assessment of sustainability	
Income Items	
Growth in revenue income	Actual average growth with a minimum 8% and maximum of 12% (based on last five years trend)
Property Tax: Propose to introduce from FY 2008-09	
Annual growth in Assessment	3 % per annum
Revision of Tax	Initial Revision: Passed a resolution to revise residential property tax rate by 20% and commercial by 50% Regular revision: 25% increase every 5 years
Collection Performance	85% or current average whichever is higher by 2011-12
Income Items- Water Supply	
Individual Water Connections	5.88% per annum but limiting to total properties
Next Revisions	by 25% every three years
Collection Performance	85% by 2012-13
Income Items- Sewerage	
Sewerage Connections	90% of Water supply connections by 2012-13
Sewerage Charge	50% of water charge (for full cost recovery)

Head	Assumptions
Collection Performance	85%
Collection Performance	85%

The FOP estimates the surplus that would be available for undertaking additional investments based on the current financial position. The investments are derived from the amount of surplus that is generated in the future. Not all the surplus can be used for capital works, as the municipality would also have to provide for additional O&M expenses for the upkeep of the assets.

The year-on-year surplus is translated into investment capacity i.e. project size (loan, grant and ULB component) based on certain preliminary assumptions regarding interest rate, repayment method and loan-grant mix. Additional O&M expenses have been estimated based on percentage of capital cost. A financial model has been created to depict the financial position of the Municipality. The model is used to calculate future surpluses under various scenarios involving combinations of internal revenue improvement, state support, financing terms, etc. please refer Annexure no. 7 for more details on forecast assumptions, funding pattern and debt liability.

11.3.2 Revenue Receipts Items

Taxes - Property and Utility-based taxes and Charges

The assumption adopted in forecasting property tax, water tax/charges, other tax items are essentially based on:

- Growth in assessments
- Tax demand
- Periodic revisions
- Collection performance

Other Taxes

Other tax items including fees, etc. are assumed to grow at the past growth trends, subject to a minimum of 8% and maximum of 12% per annum.

Own Income Sources

Non tax income from the municipality's operations and assets, like income from commercial activity, fees for permissions/ registrations, etc, rental income from properties, income from educational and health facilities, new connection charges, etc. are assumed to grow at the past trends, subject to a minimum of 8% and maximum of 12% per annum.

Revenue Grant

The recurring revenue grants like SFC grant are predetermined amounts based on the criteria specified by SSFC. Thus, these grants are assumed to grow at the current level of CAGR. The deduction from the SSFC grant would continue at the same level. The gross SFC grant (amount released by the state government) has been considered for projection in the FOP. The other revenue grants announced from time-to-time are assumed to grow at past trends, subject to a minimum of 8 per cent and maximum of 12 per cent per annum. These grants mainly include SFC developmental grant, Tenth Finance Commission/ Eleventh Finance Commission grant. The following table highlights the assumptions and scenarios for generating the municipal surplus

11.3.3 Revenue expenditure

The items of revenue expenditure under current heads of expenses and for current service levels are projected based on past trends subject to a minimum of 8% p.a. and maximum of 10% p.a. The additional O&M expenditure and debt servicing commitment of the municipality that would accrue due to new investments is also considered as incremental O&M expenditure.

11.3.4 Capital income and expenditure

The municipality receives capital grants from the government under various state and central government sponsored schemes for specific capital works. The income under such grants has not shown any specific trend during the last five years. In addition to the regular scheme-based capital grants, Government of Tamil Nadu (GoTN) also extends grants for capital works for various capital projects.

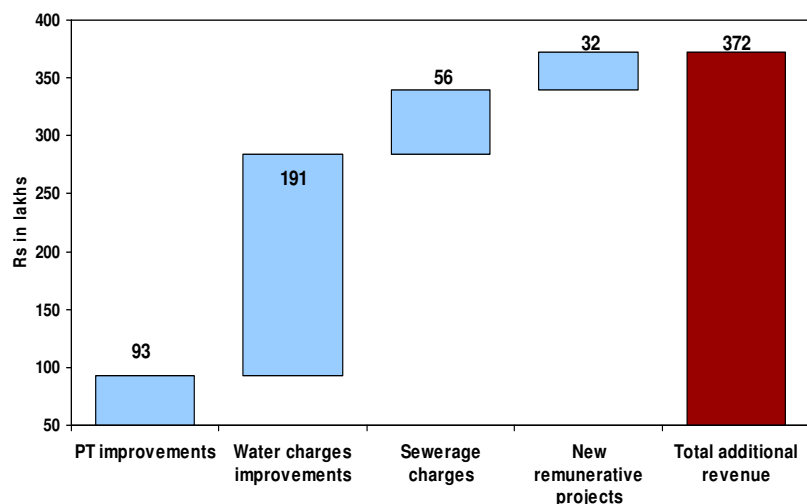
The grants under the capital projects would not have any impact on the financial health of the municipality. Hence, the items under capital head are not considered for forecasting in the FOP. At the same time the grant received under this head are scheme specific grants, which means that it should be utilised for the same purpose for which it has been earmarked.

11.4 Impact of Improvement Measures on ULB Financials

The main areas of intervention, where improvement potential exists are enlisted below. The objective is to enhance the revenue generating potential that would aid in meeting the investment obligations of the town. These include

- Property taxes
- Water charges
- Introduction of sewerage charges
- Remunerative projects

The estimates for improvement potential for the various revenue sources are based on the discussions with the municipal officials. The improvement potential has been classified into three group's viz. improvement in collection, increase in rates and addition of new rates. The internal improvements is possible through increase in efficiency levels, while the external improvements will include changes like higher rates/taxes, additional charges etc. Increase in rates and introduction in new charges.



All the reform measures and remunerative projects together would generate estimated additional revenue of Rs. 372 lakhs.

11.4.1 Property Tax

Sirkazhi has about 6233 no. of assessed properties. The total property tax collection accounts for Rs. 56.2 lakhs in year 2006-07, with an average collection of Rs. 50 per month per property. The collection efficiency of the property tax collection was around 60% in last three years. This highlights reasonable collection efficiency. The details of properties for the last five years are presented in table below.

Table 51: Property tax details – 2000-01 to 2006-07

Property Tax Details		2002-03	2003-04	2004-05	2005-06	2006-07
Properties Register						
Number of Assessments		5,580	5,582	5,665	6,165	6,233
Tax Demand						
Average Tax (Rs./ Assessment/ Month)		44	46	47	41	72
DCB Statement (Rs. Lakhs)						
i	Opening Balance (Arrears Demand)	12.5	13.8	15.7	20.3	25.6
ii	Demand Raised (current)	29.3	31.0	32.3	30.1	54.2
	Total Demand	41.7	44.9	48.0	50.4	79.8
iii	Arrears Collection	3.5	4.3	4.5	6.4	11.7
iv	Current Collection	24.4	24.9	23.2	23.1	44.5
	Total Collection	27.9	29.1	27.7	29.5	56.2
v	Collection Performance (Arrears) - %	28.1	31.0	28.6	31.6	40.5
vi	Collection Performance (Current) - %	83.4	80.1	71.8	76.8	78.2
vii	Collection Performance (Total) - %	66.9	64.9	57.7	58.6	70.4

11.4.2 Impact of Property tax improvement measures on financials of the ULB:

Inclusion of un-assessed properties: The existing number of person per property is 6, which is lower to the benchmark of 4 indicating that there are about 489 properties, which can be added to the no. of property register. Apart from these properties there will be growth in the number of properties proportional to the population growth. The expected gain from this improvement would be Rs. 18 lakhs (in current value terms).

Improvement in collection efficiency: The efficiency of property tax collection in 2006-07 was 70%, which is quite reasonable. If the efficiency will continue at the same level of 90 % and 60% (For Current and Arrears), property tax would generate revenue of about Rs. 319 lakhs in next 5-year period from 2008-09 to 2012-13, which gives Rs. 8 lakhs additional revenue over business as usual case.

Rate increases: Property tax in Sirkazhi municipality is assessed on the basis of Annual Rental Value of the property, which is based on the guidelines fixed by the council. The Annual Rental Value is estimated based on the basic value of the property, its age (depreciation), type of occupancy and the nature of building.

The TNULB Act provides powers for determination of Basic Property Tax, Additional Basic Property Tax, etc., by municipalities. The municipality shall determine the basic property tax, the additional basic property tax and the concession, subject to the minimum and maximum rates prescribed by the Government, with regard to the age, for every building or land. The basic property tax for every building shall relate to the carpet area of the building and its usage.

The ULB has already passes a council resolution to increase property tax rate at a rate of 15% for residential properties and 40% for commercial properties. This revision would yield additional Rs. 67 lakhs in current value terms.

Timeline for Property Tax reform measures

Reform measure		2008-09	2009-10	2010-11	2011-12	2012-13
Property tax						
I	Initial rate revision (%)*	Residential-15% Commercial-40%				
II	Regular revision (%)	25% every 5 years				
III	Collection performance (%)	72	76	80	85	85

* PT Revision with effect from 1st April 08

11.4.3 Summary

If all improvement measures are undertaken as per the assumptions, the total additional revenue would be Rs. 85 lakhs (in current value terms)

Table 52: Revenue potential through improvement in property tax

Improvement Measure	Additional Revenue (In Rs. Lakhs)
Inclusion of un-assessed properties in the tax net	18
Improvement in collection efficiency	8
Rate increase by 100% every 5 year	67
All of the above measures combined	93

11.4.4 Impact of Water & Sewerage Charges improvement measures on financials of ULB

11.4.4.1 Improvement measures in water charges

Increase in Coverage: Sirkazhi municipality has generated approximately Rs 2.11 lakhs from 401 HSCs in year 2006-07. Municipality's water supply system has coverage of about only 7% of the total properties, if it will increase up to 90% by 2012-13. Water Charges would generate about Rs. 135 lakhs in addition to the current collection in next five year.

Collection efficiency gains: Collection efficiency in the municipality is very good of about 90%, they have to maintain this collection efficiency at this level.

Rate increase: If the rates were increased by 25% in year 2008-09, and followed by 25% revision in every 3 years, instead of the existing 15%, it would generate additional revenue of Rs. 56 lakhs (in current value terms) over the next five years.

11.4.4.2 Introduction of sewerage charges

Currently, the municipality does not have UGD system in place, so there is no provision of revenue from sewerage charges, but after implementation of UGD project, ULB can levy the sewerage charges. The sewerage charges are proposed to be linked to the water bill, and sewerage charge will be levied as a 50% of the water tariff.

Introduction of Sewerage Charge: Sewerage charges will be applicable after year 2010, once the UGD network will start functioning, and if sewerage charge will be levied as 50% of the water charge, along with the collection efficiency of 85% and 60% for current demand and arrears respectively. The Sirkazhi municipality will generate about Rs. 56 lakhs in next three years upto 2012-13.

Timeline for Water and Sewerage charges reform measures

Reform measure		2008-09	2009-10	2010-11	2011-12	2012-13
Water charges						
I	Initial rate revision (%)**	25				
II	Regular revision (%)	25% every 3 years				
III	Collection performance (%)	85	85	85	85	85
Sewerage charges						
I	Introduction of sewerage charges				as 50% of water charge	
II	Regular revision (%)	25% every 3 years starting from sewerage charge introduction				
III	Collection performance (%)				85	85

Table 53: Improvement in Water charges & sewerage Charges

Improvement Measure	Additional Revenue (In Rs. Lakhs)
Improvements in water Charges	191
Introduction of Sewerage Charges	56
Both the above measures combined	247

11.4.5 Other revenue sources

The other heads of revenue include:

- Revenue from the new remunerative projects like:
 - Commercial Shops at Bus stand
 - Vegetable/Fish Market
 - Additional rooms at Kalyanmandapam
 - New Community Halls

Municipality can generate the revenue by developing the new remunerative projects as mentioned above, the above mentioned projects will generate about Rs. 32 lakhs till year 2012-13.

Table 54: Revenue potential of other sources

Category	Revenue (In Rs. Lakhs)
Commercial Shops at Bus stand	10.5
Vegetable/Fish Market	4.75
New Community Halls	4.3
Total	32

The details regarding the revenue income and expenses from the implementation of these projects is discussed in the Annexure 8. In addition to the revenue improvement measures, the town also needs to focus on the areas of expenditure reduction.

11.5 Areas of Expenditure reduction

There are several areas of expenditure reduction across individual department that would aid in increasing the revenue surplus of Sirkazhi. Most of the highlighted area would involve engineering issues to determine the actual savings, which is outside the scope of this report. The following section highlights the key areas of expenditure reduction, which, if implemented would enhance the revenue surplus position of the municipality

Table 55: Key areas for expenditure control

Department	Sector	Area
Engg. Department	Water	<ol style="list-style-type: none"> The possible activities for reducing water losses include water leakage audit, installation of leak detection equipment and replacement of pipes The possible activities for reducing operating costs include energy efficiency studies, employee training and appointment of competent private contractors through better scientific methods of bid process management
	Roads and drains	<ol style="list-style-type: none"> Private Sector Participation (PSP) could be envisaged in project management at two levels viz. contract management and contract execution <ol style="list-style-type: none"> Contract management – This is an end to end service, wherein the private player would assist the municipality in selecting the bidders and then develop a project specific performance monitoring system to ensure optimal execution. Contract execution – This includes the selection of highly technical and experienced contractors with state-of-art technology and on time execution capability. Municipal officials should be trained on the latest contract allocation and project monitoring techniques. Computerization of records of the projects, current infrastructure, material details, contractor details, project evaluation systems, etc should be done. This would facilitate the process of project allocation and monitoring
	Sanitation	<ol style="list-style-type: none"> Savings in usage of materials for sanitation works
	Street lighting	<ol style="list-style-type: none"> Introducing telemetry system
Health department		<ol style="list-style-type: none"> Energy conservation measures through higher usage of solar/wind energy, public awareness program on fuel efficiency, purchase of latest infrastructure Study tour of several similar municipalities to identify potential reforms by adopting the specific best practices Training sweepers on hygiene standards; medical professionals and other specialists in the department on the latest technology and

Department	Sector	Area
		equipment 4. Public awareness program on town cleanliness and citizens' responsibilities
Revenue department		1. Centralisation of the tax collection system to avoid over-lapping and duplication. For example, for one commercial property, the property tax collection responsibility lies with the revenue department, while water charges, the responsibility lies with the engineering department; again, trade license is with the health department. By amalgamating these departments on the basis of functionality, costs could be substantially reduced as well as pilferage in collection could be tracked. 2. PSP involvement in computerization, billing, collections and survey of properties. 3. Study to assess systems such as effective enforcement, out of court settlements, effective auctions. 4. Study to formulate an encroachment reduction and rehabilitation plan. 5. Training of employees 6. Computerisation of records of encroached properties, action taken, list of encroachers that would enable the linking to a comprehensive MIS/GIS system.
Town Planning		A cost benefit study should be conducted to evaluate the possibility of the introduction of remote sensing/GIS. Mirzapur Municipal Corporation successfully introduced the GIS system by integrating property tax mapping with the infrastructure and services database through the unique location codes system.

For the purpose of revenue projection, only admin reforms, which are related to the general establishment of the ULB and privatization of SWM service is considered and it is assumed that privatization of SWM will result in decrease in the operation and maintenance cost by 25%.

11.6 Alternative payment structures and incentive structure

In order to undertake water investment, the municipality may consider alternative payment structures for services like water. It could offer one-time payment options, where the connection fee is bundled with usage fees for a number of years. The packages could be made attractive by offering suitable levels of discounts. The advantages of such a structure include reduction in collection risk and reduced cost of billing and collections. The same could be used for other services, where the collection requires the effort of the municipal staff. A substantial portion of this staff would then be used to carry out other activities, which would result in better service delivery.

To improve the collection levels, the municipality could look at providing an incentive and penalty structure for payment of the taxes and charges. The system in Karnataka could be a good example to emulate. The citizens are provided with a rebate of 5% of the total property tax, if it is paid within 30 days of the start of the financial year and then the normal charges are applied till 90 days. Subsequently, a penalty of 2% per month (24% p.a.) of the outstanding amount is applied. If this is communicated effectively to the citizens, there is a high possibility of increasing the collection levels.

11.7 Investment Capacity/ Sustenance

Given the existing financial position of Sirkazhi municipality, the revenue and capital accounts of municipality are projected against the growth scenario and assumptions presented above. The FOP is generated from the sustainable investment point of view in line with current growth trends against the identified investment for project implementation of **Rs. 105.93 crores at constant prices till 2012-13**

(Rs. 138.81 crores at current price). The results of the FOP are presented in Annexure 9 and the same is summarised below.

As mentioned above FOP is prepared for two scenarios one at base case and other at improved case. At base case or business as usual case, it is assumed that the ULB would not take up any reform and thus would not be eligible for any grant from TNUDF / GoTN. The ULB is neither in a position to contribute its share of 10%. In such base case, Sirkazhi municipality can sustain only 1% of the total identified investment (Rs. 0.65 crores). Within this, ULB can sustain 7% capital investment for water and sewerage also.

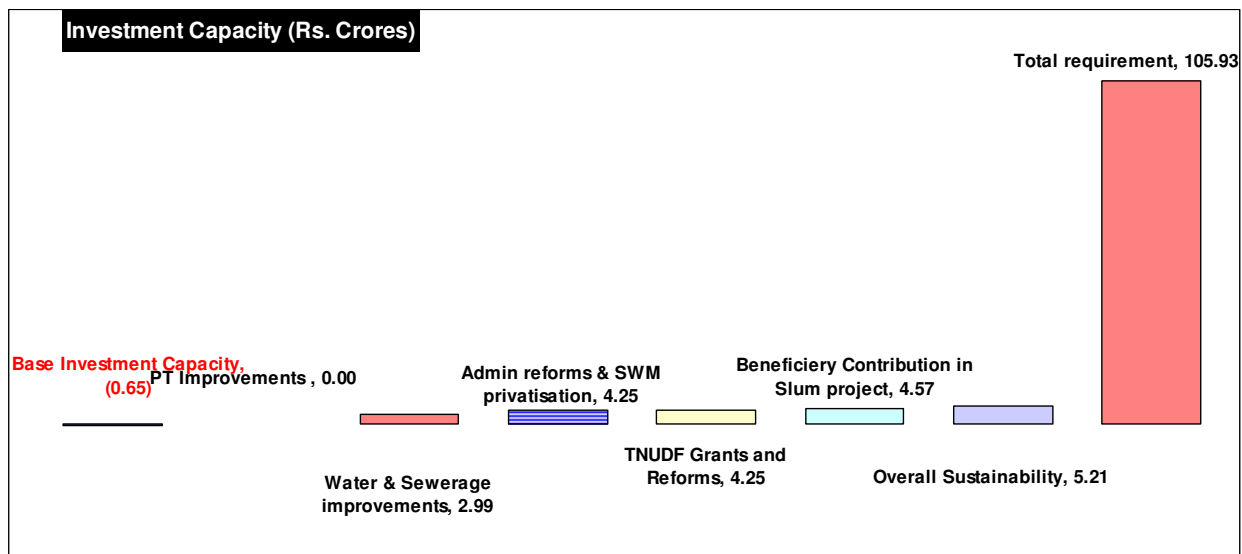
11.7.1 Impact of TNUDF Grant & Reforms on Investment Capacity

It is observed that at the current growth trends (in the absence suggested measure), municipality can not sustain any investment till 2012-13. The impact of various revenue improvement and expenditure control measures are assessed in terms of contribution/ addition to this base investment capacity. However, given the poor status of ULB finances, even some of the reforms are not able to increase the sustainability of the ULB by any extent.

Introducing the suggested reforms will impact the sustainability of Sirkazhi municipality as follows:

- After additional revenue from property tax reform, the ULB would be able to sustain 3.73% of the total identified investment
- Water and sewerage reforms like revision of charges would increase overall sustainable capacity to 5.36% of the total investment.
- Admin reforms & privatisation of SWM will increase the sustainability to 6.1%.
- GoTN grants and TNUDF/IBRD loan will increase the overall sustainability to 7% which is Rs. 5.21 crores.
- Beneficiary contribution in water & sewerage projects is not able to increase the sustainability of the ULB.

Introduction of all above mentioned reform will increase the total sustainability of the municipality to Rs. 5.21 crores at constant price.



11.7.2 Fund Requirement

For the investment identified by 2012-13 of Sirkazhi municipality of Rs. 105.93 crores at constant prices and Rs. 138.81 crores at current prices, the funding pattern as worked out in the FOP model is:

Table 56: CIP Funding Pattern

S. No	Mode of Funding	Fund Sources	Base Case	Improved Case
			Rs. Crores	
Identified Investment till 2012-13 - Constant			105.93	
Identified Investment till 2012-13 - Current			138.81	
Sustainable Investment till 2012-13 (%)			1%	4.92%
Sustainable Investment till 2012-13 (In Rs.crores)- constant			0.63	5.21
1	TNUDF Grant	TNUDF	0.25	2.05
2	Loan	TNUDF/ World Bank	0.49	4.09
3	Loan	FI		-
4	Own sources	Municipality	0.08	0.68
5	Beneficiary Contribution	User	0.00	0.01
	Total (Current prices in Rs. Crores)		0.83	6.83

Source: Crisil Analysis

11.8 Projects feasible under sustainable capacity

After a careful comparison of the CIP with the maximum sustainable investment capacity of Rs. 5.21 crores for Sirkazhi municipality, it is obvious that the ULB will not be able to take up all the projects. Shown in the table and figure below are the suggested projects that could be taken up on a priority basis within the sustainable capacity based on present service level and infrastructure availability of the town.

The service level analysis of the town shows that the present distribution coverage in water supply is upto the norm however the supply is below norm (58 LPCD only) and treatment capacity is nil. Also distribution network need augmentation.

Water supply: Entire water supply source augmentation, treatment capacity augmentation, distribution network augmentation and part of refurbishment of old distribution network (excluding elevated storage capacity augmentation and metering system) is suggested for investment with an investment of **Rs 5.21 crores**

The same was also strongly recommended during stakeholder meeting.

Selection of Projects to be recommended under sustainable investment

Total Sustainable investment					Rs. 5.21 Crores	
Total Identified investment till 2012-13					Rs. 105.93 Crores	
Project component		Capacity / size	Project Cost (In Rs. Crores)	Projects under Sustainable investment (Rs in Crores	Remark	
Water supply			Total Investment required: Rs 9.87 Crores			
1.Source/ system capacity augmentation		- 3.99 MLD	- Rs 2.00 crores	- Rs 2.00 crores	As the ULB has shortage in daily water supply as well as no treatment facility, these projects can be taken up. Also, distribution network can be augmented and part of refurbishment of old distribution network can be taken up within sustainable investment	
2.Treatment capacity augmentation		- 5.99 MLD	- Rs 1.80 crores	- Rs 1.80 crores		
3.Distribution network expansion		- 10.84 km	- Rs 1.08 crores	- Rs 1.08 crores		
4.Refurbishment of old Distribution Network		- 9.10 km	- Rs 0.73 crores	- Rs 0.33 crores		
5.Elevated storage		- 0.20 MLD	- Rs 0.02 crores			
6.Metering System		- for all connections				
Sewerage and sanitation			Total Investment required: Rs 33.00Crores			
1. UGD network development		-	-	-		
2. Treatment capacity development (STPs)						
3. Pumping machinery (Intermediate pumping						

stations/ mains)	transmission				
Transportation (road, street light, bus stand)		Total Investment required: Rs 23.61Crores			
1. Up gradation of roads	- 1.99 km BT to CC	- Rs 1.02 crores	-		
2. Construction of new roads	- 1.79 km WBM to BT	- Rs 1.55 crores			
	- 0.44 km Earthen to BT				
	- 1.41 km CC				
3. Installation of new lamp posts	- 5.64 km BT	- Rs 0.30 crores	-		
	- 616 nos				
4. Public transport improvments (Upgradation of new bus stand, traffic junction improvements etc)		- Rs 1.78 crores			
5. Road improvements (Construction of ROBs, widening etc)		- Rs 16 crores			
6. Land acquisition	- 29.65 acres	- Rs 2.97 crores			
Storm Water Drainage		Total Investment required: Rs 12.59 Crores			
1. Drains New Formation	- 85.66 km	- Rs12.50 cr	-		Drain upgradation can be taken up on priority basis under sustainable investment
2. Drain upgradation	- 0.60 km	- Rs 0.09 cr			
3. Desilting & Strengthening of Primary Drains					
Solid waste management		Total Investment required: Rs 1.92 Crores			
1.Acquiring new disposal site and development of land fill infrastructure	- 10.13 acres	- Rs 0.09 crores			State can explore disposal of solid waste on a cluster basis. This would reduce the burden on ULB.
2.New vehicles for primary and secondary disposal	- 20 nos	- Rs 0.20 crores			ULB should explore outsourcing option for collection and transportation of waste on PPP basis.
3.Construction of public toilets	- 86 seats	- Rs 0.43 crores			
		- Rs 1.21			

4.Other infrastructure		crores		
Slum developmentTotal Investment required: Rs 1.81 Crores				
1.Housing 2.Physical Infrastructure (Roads, drains etc) 3.Social Infrastructure facilities	As per IHSDP project report	- Rs. 1.81 crores	-	This project after clearance would be funded under IHSDP Scheme
Commercial / non-commercial / other amenitiesTotal Investment required: Rs 23.13 Crores				
1.Market development- shopping office complexes, vegetable/fish market, 2.Construction of houses for sanitary workers 3.Marriage halls 4.Gasifier crematorium 5.Park development 6.Educational institutions 7.Construction of arch gates 8.Landuse planning, other works	- 30 units - 78 units - 1 unit - 1 unit - 2	- Rs 0.65 crores - Rs 1.56 crores - Rs 0.10 crores - Rs 0.40 crores - Rs 16.71 crores - Rs 2.50 crores - Rs 0.20 crores - Rs 0.65 crores		PPP options can be explored by ULB for projects such as lake development, commercial complex, marriage hall, gasified crematorium etc. However, a separate feasibility study is required for the above projects. ULB can explore the option of funding of projects such as fish market/ processing unit from the fisheries board

11.9 Approach for implementing the projects beyond the sustainable capacity

The financial sustainability of the town as discussed in the financial operating plan for the town has not been of the order to implement the entire investment envisaged in the investment plan for the town. However, if ULB and TNUFSL intend to implement the entire envisaged investment, following are the suggestive measures to be explored.

- TNUIFSL can re-consider the 30% grant component for ULB, as 60% of the project in this case would be in the form of loan, which is affecting the sustenance capacity of ULB.
- Alternatively, TNUIFSL can explore other means of funding such as UIDSSMT, wherein, the ULB has to share only 10% of the project cost and the balance investment is funded by GoI with 80% grant and GoTN with 10%. Atleast water and sewerage project should be explored under this scheme based on availability of funds with the state
- Further, projects related with urban poor/ slum can be taken up under IHSDP scheme of GoI, wherein 90% is contributed by GoI and GoM and 10% is beneficiary contribution.
- Stakeholders have recommended for projects related to town economy viz., development of commercial complex, fish market/ processing unit etc. ULB can explore the option of funding of projects such as fish market/ processing unit from the fisheries board.
- Projects such as commercial complexes can be taken up on Public Private Partnership (PPP) basis. However, the feasibility of the same needs to be ensured. Projects with respect to beautification of city in terms of development of gardens water bodies can be mutually developed ULB and beneficiary. This will also bring the feeling of ownership of asset and would further result in better maintenance of the assets created thereby.
- Development of landfill site for disposal of MSW can be developed in the form of clusters. This would lead to lesser burden on one ULB. TNUIFSL can conduct a study for development of landfill site on cluster basis.
- ULB has to implement the reforms related to property tax, cost reduction measures, water and sewerage sector reforms (collection efficiency) to improve its sustainability.

12 ACTION AND IMPLEMENTATION PLAN

As in any project, the success of this City Corporate cum Business Plan is also contingent on the action taken by key stakeholders of the municipality. The immediate onus lies on the council, who would need to approve the plan and pass the council resolution. Subsequently, the municipality needs to initiate action in terms of mobilising the funds from the users. Simultaneously, it should make available its sources of finance. This would provide the needed impetus to the financial institutions to initiate their course of action. Also, during the implementation phase, the town should be flexible to undertake some changes across its departments that would aid in easier and faster service delivery in the subsequent years

The implementation of the project requires the involvement of several stakeholders throughout the implementation period, the most critical being the financial involvement of the lending agency, the state government and the ULB. The investment required would be released over a five-year period from various agencies. The lending agencies provide the loan, while the state government would provide the support through the budgetary grant. The budgetary grant has been assumed at 30% of the investment required for all infrastructure sector and 90% for slum development under IHSDP. The ULB's contribution is assumed at 10%. The amount and the timing of the financial involvement are highlighted in the table below.

12.1 Implementation schedule

12.1.1 Improved scenario

The sustenance capacity of the Sirkazhi is only 4.06%, at this stage municipality can sustain 15% of the investment water & sewerage sector, while for other sector projects municipality can not sustain any of the identified investment. Based on the total sustainable investment and the priority projects decided by the ULB, the selected projects can be implemented. Given in the chart below are the implementation schedule for each and every project discussed in the CIP. The ULB can follow the implementation phasing for the any particular project selected as priority.

Figure 18: Project phasing

Sector/ Component	2008-09	2009-10	2010-11	2011-12	2012-13
(Rs. crores)					
Water Supply	274.14	298.88	333.81	71.91	
Sewerage		119.30	322.50	441.80	477.21
Roads & Urban Transport			200.28	1,139.84	990.92
Drains	1.80	3.61	253.67	500.12	500.12
Street Lights	8.70	8.70	8.13	4.68	
Conservancy (SWM) & Sanitation	29.94	63.03	48.48	50.58	
Urban Poor/ Slums	54.20	54.20	72.26		
Land use/ Dev. Planning	15.00				
Commercial projects	42.50	32.50			
Non Commercial Projects	404.45	469.65	464.65	334.25	334.25
Other Projects	108.00	93.00	5.00	5.00	5.00
Total	938.7	1,142.9	1,708.8	2,548.2	2,307.5

12.2 Actions required during implementation of the business plan

The ultimate aim of city corporate cum business plan is to achieve an improved level of service delivery in the town along with a stronger financial status. However, for an effective implementation of the CIP itself, increasingly effective governance, efficient human resource and financial management become essential. To achieve this, some policy interventions in the form of institutional and policy reforms become critical. Also, one of the stated objectives underlying TNUDP-III is to strengthen urban reforms and consolidate the achievements under TNUDP-II in institutional strengthening and capacity building. In this context, this section aims to highlight the major policy intervention areas, which require reform for an effective governance and financial management. Also, given the inadequate human resource strength across ULBs at present, a brief outline of the technical assistance requirements of the ULB for an effective implementation of the CCP cum BP is discussed in this chapter.

12.2.1 Policy interventions:

The explicit list of reform agendas to be carried out and their respective timelines are specified in the Draft Memorandum of Understanding (MoA) furnished as an Annexure 10 with this report. The following are the major institutional and financial reform measures recommended to be taken by the ULB over a certain period of time.

From the analysis done in the previous sections as well as from the outcomes of stakeholder workshop, following are some of the short-comings of Sirkazhi Municipality in financial performance and institutional sector:

- ***Dependency on external sources is high at 54% : Need for revenue generating activities by ULB***
- ***Property tax collection efficiency is at 64% : Need for revenue improvement measures- both financial and institutional***
- ***Current debt liability Rs. 191 lakhs with a debt servicing ratio of 8.19 : Need for better planned financial management***
- ***Establishment expenditure is 46% of total Revenue income especially high establishment cost in Solid Waste Management : Need for reducing establishment expenditure not affecting performance of ULB - Institutional Reform***
- ***Poor financial position of the ULB leading to very low investment sustenance capacity- Need for addressing financial and institutional aspects with overall reform approach***
- ***31% of developed land area and unauthorized development/encroachment leading to environmental degradation: Need for proper enforcement of regulatory measures as well as better land management through Master Plan recommendations***
- ***8 slum areas under temple trust land - : Need for proper enforcement of regulatory measures as well as better land management and other asset management with participatory approach in planning***

All these factors highlights the need for a set of performance improvement initiatives guided by a set of reform measures. The following section throws light of some of such crucial measures which would help the ULB in improving its performance on these sectors.

12.2.1.1 Financial reform measures:

Adoption of modern accrual-based double-entry system of accounting –

ULB has already adopted double entry accounting system. It should hence forth improve its financial management by means of outcome and performance budgeting. These two measures would improve the budget planning for succeeding years. Outcome budgeting refers to setting outcomes of a project (upgradation or new) and accordingly allocating the resources. Performance budgeting measure would help in checking the performance level and further assist in achieving the outcome desired thereby fruitful utilisation of its fiscal resources.

Reform of property tax – the broad objective of property tax reform is to establish a simple, transparent, non-discretionary and equitable property tax to encourage voluntary compliance and the same is to be brought under the GIS platform. With regard to reforms in property tax system, the first step is to introduce property tax; in this regard PMC needs to carryout following actions:

- Draft the byelaws and rules for implementation of property tax
- Council resolution for implementation of property tax
- Identify the system of property tax (capital, ARV or area based unit rate etc)

- System of Assessment (Self assessment or by ULB)
- Inventory of property tax assessments
- Map all the properties on the GIS platform.

Levy of reasonable user charges - Levy of reasonable user charges for SWM and increase in ser charges for water supply with the objective that a certain percentage cost of O&M or recurring cost is collected within certain period of time.

Internal earmarking in budgets for basic services to the urban poor and Provision of basic services to the urban poor including security of tenure at affordable prices –

The objective of this agenda is to provide security of tenure at affordable prices, improved housing, water supply and sanitation. In addition, delivery of other existing universal services of the government for education, health and social security will be ensured. In this regard, the Municipality need to earmark fixed percentage of funds (in proportion of urban poor as desired by the ULB). The ULB also need to provide access to basic minimum services to all urban poor citizens.

12.2.1.2 Institutional reform measures:

Introduction of e-governance -

Introduction of a system of e-governance using IT applications such as GIS and MIS for various services provided by the ULB. The objectives of the e-governance reforms are:

- Promote people centric administration - Common citizens should get the benefits of the system of accurate billing. Corruption should be avoided.
- Move from process accountability to productivity accountability and from transactional to transformative governance - The process is computerized to increase productivity. Each department of the municipality has reports giving exact statistics of how accountability is achieved through the system.
- Reduce delays and ensure promptness in delivery of services - Computerization would ensure timely delivery of accurate service.
- E-Administration - Improve administrative processes by cutting cost, managing performance, making strategic connections within the local bodies and creating empowerment
- E-Citizen and E-Services: Connect citizens to the local government by talking to citizens and supporting accountability, by listening to citizens and supporting democracy and by improving public services

Land management, urban economy and environment –

A strong coordinating mechanism between the municipality and the Local Planning Authority (LPA) of the area is needed. For successful implementation of the business plan, the following actions would be necessary:

The municipality to constitute a core planning team consisting of representatives of town administration, representatives of LPA, representatives of industry and commerce and representatives of civil society. The responsibilities for this team would be:

- Firming a medium term (ten years) strategy plan for the LPA, clearly bringing out the relationship between the core town and its hinterland (different from the conventional master plan)

- Establishing the role of stakeholders in the implementation of this medium-term plan
- Identifying investments in the public sector to trigger private sector investments, and
- Monitoring the implementation of the plan and carrying out course corrections as needed.
- LPA to delegate the powers of issue of planning permissions to the ULB, retaining the power of supervision.

The municipality to set up a permanent interdepartmental infrastructure planning and development cell for continuing action on the business plan with dedicated staff. For this purpose the ULB should associate with a professional consulting firm or specialists to bring in new innovations and cost effective practices.

The municipality should also constitute a town-level advisory committee (drawn from local chambers of commerce, NGO and responsible citizens) to provide inputs to the planning and development cell mentioned earlier.

Performance targets for revenue section –

A clearly defined geographical responsibility with a target for improving coverage across all revenue sources and individual revenue targets for monitoring the performance would increase the productivity per staff. Supervisory staff like Revenue Inspectors (RI) and higher-grade officials should handle the accounts of chronic defaulters and high value customers such as large commercial properties, and government buildings.

Supervisory requirement for Revenue section to handle issues –

Given the large scale and width (activities across several departments of the municipality) of the revenue improvement program, substantial focus on system related activities would also be required. Under this circumstance, the supervision needs to be at a senior administrative level within the municipality. A senior level officer at a rank below that of the Commissioner could carry out this task. The key activities would be:

On a day to day level

- Supervise revenue functions
- Interpret revenue MIS
- Initiate required corrective actions

For the medium term

- Understand the trends of revenue collections
- Initiate long-term corrections such as inclusion of previously unassessed properties.
- Enforce and collect revenues that are slipping like advertisement fees
- Manage the system and technology changes

In the short term

- Oversee implementation of the revenue generation plan
- Undertake survey of the entire town to assess the revenue generation potential
- Create and update the revenue database linking it to various departments such as water, health, etc for automatic actions and enforcements
- Identify unauthorized buildings (commercial & residential) within the municipal jurisdiction.

All the above functions can be housed within the revenue section, if the proposed integration of commercial functions occurs.

An integrated commercial approach –

Currently, the facility centre of the municipality carries out the billing functions for various departments. Additionally, the follow up action and enforcement measures are carried out independently without actual coordination between the departments. This leads to duplication and also weakens the enforcement efforts. Additionally, it is difficult to generate effective MIS, as it is difficult to integrate the data from the respective sections.⁶

It may therefore be useful to integrate the commercial functions of the various sections. This would both rationalise the requirement for staff as well as lead to greater co-ordination between the commercial activities of the various sections. It would greatly assist in the identification of unauthorised properties, disconnection of water to such properties and those properties not paying municipal taxes. The revenue section could take up this responsibility, as the revenue section would have a larger database of properties than the engineering or health sections; the daily operating load of the section has come down due to the computerised bill generation process that has relieved resources, which may be deployed for integrated commercial activity. The integrated activities, which could be handled by the revenue section, could include the following:

Table 57: Integrated activities of the revenue section

	Water supply related	Revenue section related	Health section related
Billing activities	Generation of water bills, delivery of water bills, collection, MIS generation	Shop rent bills, MIS of property tax, Building permissions	Trade License, SWM charge
Field activities	Detection of unauthorized connections, disconnection of water supply	Identification of unauthorised development	Detection of new trades, proceedings against trade owners
Co-ordination	Co-ordination within the municipal department for regular updation of the database (in co-ordination with building permissions issue) and for enforcement functions (disconnection of water supply, proceedings against property etc)		

The integration would yield several benefits. On the operational front, this would ensure an integrated database for all revenue-related functions and provide an impetus for the financial management function, as it would allow development of long-term financial plans. This would also provide an integrated approach to fund mobilisation for the municipality through a better portfolio of rate increases. On the management front, it would provide the ability to integrate the commercial data with the accounts information and thereby provide relevant MIS

On the service delivery front, it would provide integrated billing to customers and a single point customer grievance handling; it would also be easier to out source certain functions like bill delivery and collections in the integrated structure. On the human resources front, it would develop a common enforcement strategy and the staff required for billing and collections would also be rationalised. The revenue section could also draw on the existing staff of the engineering and health sections that would be freed up due to the transfer of commercial functions.

Given the nature of operations of the section, it is necessary that someone who is also fulfilling the financial management function head it. The current skills heading the revenue section may not be sufficient for the function. If an officer with the necessary skills cannot be dedicated from within the

⁶ To some extent property tax and water connection data can be integrated. But the utilisation is presently very limited.

municipality, external recruitment may be required for the same, failing which the role may have to be carried out by the commissioner.

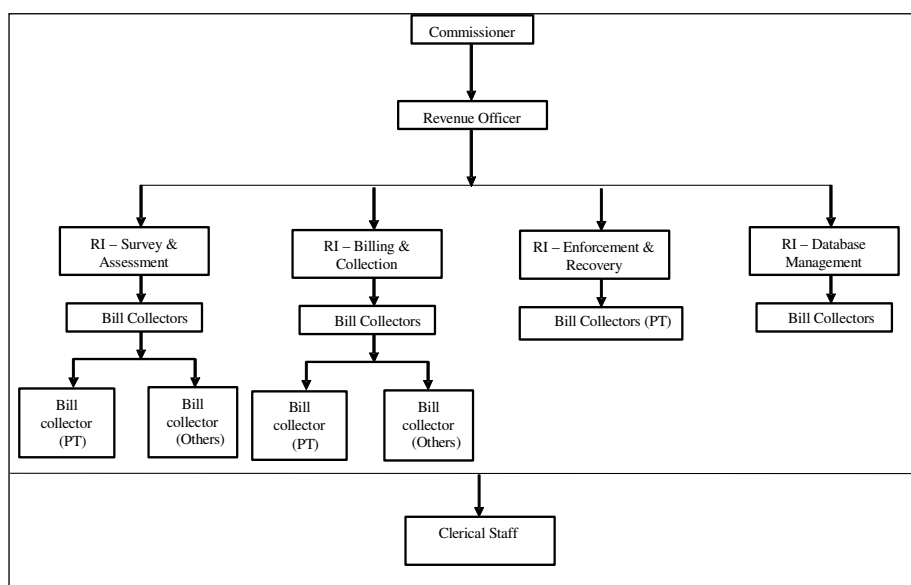
POSSIBLE KEY ACTIONS FOR INCREASING COLLECTION LEVELS

There are certain action points highlighted below for establishing a strong tax administration process in the municipality to cover the entire value chain of property tax right from coverage, assessment, billing and collection to enforcement and are detailed in the following sub-sections. This section provides some key points on improving the property tax collection, as it is the primary source of any ULB's own revenue source. Even a marginal improvement in this area would improve the revenues significantly. The action points provides for reorganising the revenue department as the first activity, followed by recommendations on the measures to be followed for improving all areas of tax administration.

Reorganising the revenue department

There are several inefficiencies in the existing structure of the revenue department. The thrust area identified is that the structure should be reorganised based on the functions of the department, which are:

- Assessment
- Billing and collection
- Database management and MIS
- Dispute resolution
- Enforcement



Although the activities of the revenue department extends beyond property tax collection (to include water charges, other fees and levies), it would be appropriate to suggest a reorganised structure keeping in view the large contributions of property tax to the total revenue of the municipality. The revenue department could be restructured as given below.

It can be seen from the above figure that the hierarchy remains the same while the assigned functions for the Revenue Inspectors have been modified. In addition, the role of the Revenue Inspector has been enhanced. The overall number of people and posts remain the same, while the functions of the bill collectors are delineated from the existing roles.

The important functions are grouped into the following: a) Survey and assessment, b) Billing, collection and receivables, c) Enforcement and recovery and d) Database management. Each of the Revenue Inspectors would be responsible for a particular function who would report to the Revenue Officer. The Revenue Officer would oversee all the functions and would report to the Commissioner.

A separate division for enforcement is warranted in order to tackle the arrears. While the collections division would be involved in collecting property tax for the current year, the enforcement and recovery

division would concentrate on arrears. For the purpose of role clarity, it can be assumed that non-payment for over two years (consecutive or otherwise) would be deemed as defaulters and the enforcement and recovery division would be responsible for collections from this category.

The above structure takes into account the tax calendar. Upon completion of the survey, each function would become robust as a result of increase in number of properties and since each revenue officer would handle multiple wards, the workload for each function would almost be equal throughout the year.

As the proposed structure is based on the functions of the department and there are no modifications to the hierarchy/ number of posts, government approvals for effecting the same are not envisaged. It may however be necessary to obtain a council resolution.

In addition to the above, the municipality could undertake the following measures.

Area	Recommendation	Activities
Employment status	Introduce incentive system of payment. Incentives are to be linked directly to collections as a percentage of collections. Refer note below.	Ascertain the amount of incentive based on discussions with the revenue department staff
Allowances	Increase reimbursement limits for conveyance	Prepare monthly budget for conveyance Decide limits in consultation with survey engineers and bill collectors
Job rotation	Shift to systematic rotation. Undertake job rotation on a yearly basis for bill collectors based on the proposed department structure	Initiate discussions with bill collectors Effect rotation at the start of every financial year

Note: The ULB could look at the option of creating an incentive fund that would be a surplus pool created from a part of the own revenues. This could be shared amongst the revenue department personnel such that it provides an incentive to all the employees to contribute to increase in revenues. However, this needs to be backed by a proper control system that measures the revenue with proper monthly and yearly targets. Incentives could be paid upon reaching the targets. A 0.25% of the own revenues (of the last financial year) could be looked at.

The **Municipal Corporation of Hyderabad** has adopted this type of incentive system for the revenue department. The monthly targets for all the bill collectors could be based on a carry-forward system, where the previous months balance gets carried forward in the event of not achieving the targets.

Assessment system

The following measures could be looked at for improving the assessment system.

Area	Actions	Tasks
Work flow	Define the work flow process for the department	<ul style="list-style-type: none"> Define objectives, functions and role of this department Draw the work flow for the division Allocate tasks amongst the people Prepare job description for each cadre and circulate the same amongst the revenue department staff
Vacant land assessment	Trace vacant land owners by devising a communication strategy	<ul style="list-style-type: none"> Advertise through national newspapers giving specification of area, ward number and neighbouring property details. Indicate time limit for payment as 90 days, failing which owner would be treated as defaulter. Extend the same methodology used for enforcement
Widening the assessment	Link property database to other departments like	<ul style="list-style-type: none"> Provide inputs while database is created such that automatic triggers are created to identify new properties

Area	Actions	Tasks
base	water supply	
	Initiate periodic survey (on a half-yearly or yearly basis) to check increase in number of properties	<ul style="list-style-type: none"> Assign the role to Bill collector, one each for survey and updation of database
	Link additions to number of properties to town planning	<ul style="list-style-type: none"> Ensure town planning department in the municipality collects a building plan from the property owner and provides information to the revenue department Until such time the computerised database is complete, a format for providing the details can be given to the town planning department To motivate the town-planning department to provide all information on all newly added properties, work out an incentive structure based on the number of additions every month. This can be done consultatively with the town planning department official.
	Tie up with utilities for database sharing on a regular basis	<ul style="list-style-type: none"> Prepare a format of information requirement / use utilities formats if found appropriate Initiate dialogue with TNEB, BSNL, Sub-registrar, Slum Clearance Board and TWAD for all properties Additionally initiate dialogue with Registrar of Companies (ROC) for industrial properties In case these utilities are reluctant to share information, arrange to procure data on a 'subscription' basis for a monthly / yearly fee

Billing, collection and receivables management

The tax collection activity needs to be carried out as a commercial function. Although other tools like database and MIS are lacking in the municipality, the lack of a commercial approach is not highlighted. With the proposed revenue department structure, the Revenue Inspector in charge of billing, collection and receivables management would now be able to closely follow up collections for every tax demand. It is expected that with this background and by drawing valuable inputs from entities that have successfully implemented collection mechanisms, a commercial orientation can be initiated in the municipality. The action plan for the billing, collection and receivables function could be on line as mentioned in the following table.

Area	Action	Tasks
Work flow	Define the work flow process for the department	<ul style="list-style-type: none"> Define objectives, functions and role of this department Draw the work flow for the division Allocate tasks amongst the people Prepare job description for each cadre and circulate the same amongst the revenue department staff
Despatch of demand notices	Outsource despatch activity (if already not in place)	<ul style="list-style-type: none"> Employ a courier agency for despatching notices to the properties Direct the courier agency to note the change of address (where applicable) and inform the same to the revenue department
Collection efficiency	Define specific targets for this division including the Revenue Officer for increasing collection efficiency	<ul style="list-style-type: none"> Discuss and debate allocation of targets taking the bill collectors, revenue inspector and revenue officers into confidence. Communicate the agreed mechanism to all the department staff (considering the opportunities for job rotation)
Collection	Target high potential tax payers and ensure regular follow-up	<ul style="list-style-type: none"> Prepare list of high potential clients like industries and major commercial establishments. Attach responsibility to the Revenue officer to personally involve in collection

	Identify additions at the time of registration / transfer itself	<ul style="list-style-type: none"> Create a separate property tax counter⁷ at the sub-registrar's office to ensure that all properties are verified for tax compliance at the time of registration/transfer. Hire one or two people on a contract basis for this purpose.
Payment mechanism	Simplify payment process by ensuring that payment at any of the collection counters is deemed as the final payment (if not practised now)	<ul style="list-style-type: none"> Intimate the collecting bank regarding change in process Put up a communication notice in banks informing citizens of the change Put up a communication notice in the premises of the municipality Reiterate the need for regular updation of information to the collecting banks
	Extend reach to citizens	<ul style="list-style-type: none"> Initiate dialogue with postal department to facilitate in collections. Share the existing processes and formats for banks with the postal department Put up notices in the postal department, banks and municipality premises regarding additional collection centres

Database management

As computerisation of property database is underway, the MIS generated using this database would be a good starting point in effecting tax administration measures. Leveraging on this, the following action points are recommended for utilising the database in an efficient manner.

Area	Action	Tasks
Work flow	Define the work flow process for the department	<ul style="list-style-type: none"> Define objectives, functions and role of this department Draw the work flow for the division Allocate tasks amongst the people Prepare job description for each cadre and circulate the same amongst the revenue department staff
Scoping	Define the contours of database management system	<ul style="list-style-type: none"> Include all the functions of the revenue department and certain key departments for establishing linkages (like engineering division, accounts, town planning department) Initiate dialogue with CMA to assess the modules of the computerised database and MIS that is being developed Identify gaps and agree on standardisation, inclusions / deletions
Interim measures for creating database	Initiate a MIS as an intermediary step until such time the computerised database is complete	<ul style="list-style-type: none"> Classify and categorise properties ward wise and potential wise Prepare formats for listing the top potential payers / largest defaulters that would act as a MIS tool (See note below)

Note: A sample format that could be used to maintain list of top 50 or 100 defaulters is given below.

Ward No	Type of property	PIN ⁸ /Name of the owner/property	Demand per year (Rs. Lakhs)	Arrears status

⁷ This method has been adopted by Indore Municipal Corporation and has yielded favourable results

⁸ Property Identification Number

Enforcement and recovery

The enforcement and recovery department as per the proposed structure would be responsible for implementing the following action plan relating to their department

Area	Action plan	Tasks
Work flow	Define the work flow process for the department	<ul style="list-style-type: none"> Define objectives, functions and role of this department Draw the work flow for the division Allocate tasks amongst the people Prepare job description for each cadre and circulate the same amongst the revenue department staff
Delay in payment and arrears	Initiate measures to follow the methodology for enforcement as prescribed at the time of SAS implementation	<ul style="list-style-type: none"> Initiate dialogue with the software vendor to include provision for creating automatic triggers in the form of notices of default and warrants for delayed payment Create a communication strategy for dissemination of information on the existing enforcement mechanism, its benefits and its implications <ul style="list-style-type: none"> Advertise in newspapers, local cable network, journals Put up notices in collection banks, sub registrar office, major utility offices, ROC and municipality
Arrears recovery	Introduce categorisation, based on value of property tax	<p>Prepare list of defaulters</p> <ul style="list-style-type: none"> Divide database of properties (when complete) into categories <ul style="list-style-type: none"> A – Very high value B- High value customers C – Medium value customers D- Low value customers Allocate recovery responsibility based on the value of property tax. Recovery from very high value defaulters may require the Commissioner's involvement

Others

There are some additional action points not specifically falling into any of the categories of tax administration specifically, but could aid in improving the collection levels.

Area	Action plan
Grievance redressal	Establish a separate grievance redressal cell outside the scope of revenue department such that the cell functions independently without the influence of any divisions
Internalise communication as an activity	Communication within the revenue department personnel needs to get internalised as if it is a regular activity of the department. This would enable information dissemination and clarification to the grievance cell to aid redressal of complaints
Capacity building	<ul style="list-style-type: none"> Impart training to the revenue department regularly such that the objective is well understood and the concept of commercial orientation gets ingrained as a system within the department Organise workshops every time a new system of tax is introduced or the state government carries out major changes to the processes. Conduct open house sessions to discuss best practices in tax revenue
Communication strategy	<ul style="list-style-type: none"> Outsource the activity of developing a communication strategy to an NGO or similar organisations. Define the objective of communication strategy to include dissemination of information on property tax related matters to

	<p>the citizens</p> <ul style="list-style-type: none"> • The scope should cover necessary tools for communication: <ul style="list-style-type: none"> ▪ Within the municipality ▪ Between the government and DCMC ▪ Between other departments / utilities ▪ With the citizens • Define the areas where there is a need to communicate to the citizens - like assessment, change in system, new procedures, enforcement measures and recovery methodology
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12.2.2 Technical assistance requirement:

To cope up with the implementation requirements of the CCP cum BP, the ULBs need to be provided with significant technical assistance. The technical assistance requirements shall span over the following areas as listed below and could also be customised based of ULB and Project specific need. These aspects are also covered under TNUDP-III, Institutional Development component and to be funded under the same programme.

12.2.3 HRD improvement

This area basically aim at capacity building of Municipal staff through continued training programs enhancing demand responsive managerial and technical capabilities at the ULB level. For undertaking the changes recommended in the CIP, significant training needs to be provided. Unless, the employees undertake the identified projects, their success is suspect. In order to ensure that the projects are implemented properly, proper capacity building measures are required. The training needs to be undertaken for the elected representatives and the ULB staff at various levels in various areas of urban governance. The training programme needs to be conducted at the local, district, and state levels; and out side the state for any specialised training. The CMA has to prepare a detailed curriculum for each training module; if external consultants are preparing the curriculum and training material, it is better to involve the same group of consultants in training. The training should be given to a fixed number of personnel selected from each department; these personnel, in turn would train the other employees. Thus, in effect, it would be training for the trainers. The key areas in which, training is required are

- Local governance and urban management for mayors, chairpersons, other elected officials and other senior ULB staff
- Financial management for managers, revenue officers and accountants and related officials
- Improvement of service delivery for Town Planning Officers (TPO)
- Office management and use of computers for ULB office management
- Social safeguards and environmental management for senior and middle level ULB staff

The key points to be covered in the training would be highlighting the best reform initiatives across the country viz. specific reform initiatives such as property tax, solid waste management, revenue improvement and accounting reforms, as well as showcasing the 200 plus reform initiatives from Indian cities that were a part of the 'CRISIL Awards for Excellence in Municipal Initiatives'. The following table highlights some of the training components required in the ULB.

Table 58: Basic Training

Position/Designation	Area
Commissioner, Manager, Revenue department	Improvements in commercial orientation and customer service
Commissioner, Manager, Municipal Engineer	Transfer and redeployment strategies and implementation of the same

Position/Designation	Area
Commissioner	Review of performance management systems
Respective department clerks and officials	Functional areas like Commercial, Regulatory, Finance & Accounts, Internal Audit, Corporate Planning, Technical Operations, and IT etc.
Commissioner	Communication strategy to address key stakeholder and reform related issues
Commissioner, Manager	Change enablement and communication mechanisms to create awareness amongst various stakeholders' viz. employees etc.
Municipal Engineer	Private Sector Participation
Manager	Property survey and mapping
Municipal Engineer, Manager	Systems and procedures of utilizing the property survey database to increase revenues from property tax which will include setting up improved systems in terms of: billing, collection and receivables, monitoring and follow-up, accountability and transparency, human resource management and availability, and capacity building of the staff.
Position/Designation	Area
Commissioner	Reorganizing the Revenue Department for achieving better tax administration and training of revenue staff, Advise on reorganisation of Revenue Department, Training and Study Tours
Chief Accounts Officer	Analyse the prevailing fiscal status of the ULB
Manager, Chief Accounts Officer	Penal provisions & dispute resolution
Chief Accounts Officer	Available funding options and Accessing donors

Table 59: Specialized training

Position/Designation	Area
Commissioner	Organisation structure - Its roles and responsibilities, Developing a proper residual and successor entity
Commissioner	Identify the strengths, weaknesses and constraints of private sector participation in urban infrastructure, healthcare and education
Commissioner, Chief Accounts Officer	Credit enhancement options for the ULB, which would enable them to raise debt in the capital markets
Chief Accounts Officer	Asset inventory and valuation
Programming Officer	Software development and training
Commissioner	Prepare a vision document.
Municipal Engineer, Town Planning Officer	Project Preparation, Procurement Process, Sectoral and tariff issues, Contracts & risk issues, Managing consultants,
Commissioner, Manager	Formulation and implementation of communication strategy
Commissioner, Manager	Development of Role definition at each hierarchy

12.2.4 System and Process improvement

This area would cover Information and communication technology, expanding e-governance and networking of municipal functions to achieve the objective of e-governance as stated in institutional reform section. The Municipality, with assistance from TNUDF, need to plan for e-governance and extend this facility to all citizens through citizen facilitation centres (CFC) through which following services can be provided:

- Registration of births and deaths
- Public grievance redressal as part of an interactive web site and also at CFCs
- Property tax payments through CFC

- Works Management System and E-Procurement
- Fully computerized pay roll and pension system
- Fully automated building plan permission
- Document Management System
- GIS based property tax and overall GIS for engineering, water supply and other services

12.2.5 Project preparation and management

The projects identified for the town will need preparation of Detailed Project Reports (DPR) at the preparatory stage as well as project execution and management requirements at implementation stage. These activities certainly put forth demand for higher quality technical input as well as efficient project management. In this regard, the ULBs could seek technical assistance from external agencies for preparation of DPR as well as need to build project management capacity for themselves.

This aspect essentially addresses the need for technical assistance to ULBs for:

- Project preparation and supervision (Project Preparation Facility);
- Project Management, including Incremental Operating Costs strengthening the municipal monitoring framework, performance benchmarking and increasing transparency and accountability;

12.3 Activities and Responsibility

Apart from financial involvement, the stakeholders are also responsible for implementing the projects. In order to ensure effective implementation, the involvement of the citizens is required. It would be more effective, if the citizens form SHG to represent their problems and provide regular feedback to the ULB.

12.3.1 Involvement of elected representatives

All these efforts would be effective only if there is a sustained co-operation from the council members, who would have to lay the path by adopting the business plan and adhering to the implementation schedule identified. Several of the revenue improvement initiatives would also need support from the councillors, while in other areas, the council would need to support the enforcement measures that are taken by the administration. Some of the key areas where active support is required are:

Provide minimum number of public fountains –

The public fountains in the town may be a limiting factor in adding water supply connections. Public fountains would need to be minimized in a phased manner so that the households are encouraged to opt for regular connections. Alternatively households that benefit from public fountains may need to be charged at regular rates. Such a measure, due to its inherent unpopularity, would need to be approved by the council.

Coverage of unregistered properties –

The municipality is currently losing substantial revenues on this account. The revenue department has identified that some properties do not pay taxes. Council action can help in recovering revenues from these properties that are currently not registered in the property tax database. Including them in the property tax database can yield large one-time revenues in the form of penalties, building license fee and betterment charges. Also, these properties will be sources of regular property tax income.

Regularisation of unauthorized layouts –

The Sirkazhi municipality is currently losing substantial revenues on this account. Around 60 acres of unauthorized lands currently exist in the peripheral areas. The recently issued G.O. for the regularisation of unauthorized layouts needs to be incorporated by passing the council resolution. Discussions with the officials revealed that an indicative assessment of the cost involved in the development of these layouts is not possible. Hence, it was unable to determine the cost-benefit of regularising these layouts.

Institutional arrangements for the water & UGD functions –

The institutional issues in the water and UGD functions and the available options need to be debated within the council.

Auctioning clearance –

Auctioning of shops instead of the current allotment method based on pre-determined rent could be examined.

12.3.2 State government support

In addition to facilitating the above institutional measures, the state government's involvement would be necessary in the removal/reduction of exemptions, if any. The state government may also facilitate and provide the required support to enforce water rate hikes and impose SWM cess.

Table below shows actions required from various stakeholders for implementation of Business Plan.

Table 60: Action required for implementation of Business Plan

Action	Council	Administration	State Government
Increase coverage of properties, reduce exemptions	Support in covering 490 properties in unauthorized layouts in the town	1.Include the 490 properties unauthorized layouts in database	1.Support regularization of 490 properties in unauthorized layouts
		2.Ensure filing for vacant land	2.Exemptions to educational institutions
		3.Tax collection from State and Central Govt. properties	
		4.Ensure that exemption to self occupied properties is not misused	
		1.Ensure correct assessment	
Auction shops	Approve auctioning of shops		
Improve trade license collection		1.Ensure smooth handover of responsibility from health to revenue department	
		2.Ensure license fee is collected from properties declared as commercial in ptax register	
		3.Improve coverage	
Advertisement tax	1.Approve auctioning/ privatizing the activity	Identify illegal hoardings	1.Collection of advertisement tax by ULB
	2.Debate on whether number of		2.Assist in auctioning/

Action	Council	Administration	State Government
	hoardings should be increased		privatizing the activity
generate one time revenues	1.Approve long term lease/ sale of shops and municipal properties	1.Assets for long term lease/ sale	1.Approve issue of certificate to roughly 490 properties
	2.Finalize on UGD connection charges and deposits	2.Identify defaulters on building licenses and completion reports of buildings	2.Develop a retail financing scheme for households
		3.Explore upfront disposal of IDSMT shops	3.Assist in long term lease/ sale of properties
Reorganise revenue department		1.Revenue targets based on geographical responsibility	
		2.Responsibility to supervisory staff	
		3.Rotation policy based on objective performance evaluation	
		4.Induct managerial capacity	
		5.Create an integrated and independent revenue database	
Revamp Accounts, IT and MIS functions		1.Use accounting information and MIS for day to day decision making	Provide financial planning and management skills to the local body
		2.Integrate various revenue related information and approval process	

12.4 Some key measures that could aid in implementation of the business plan

There are some innovative and interesting methods adopted by various ULBs across the country that have aided in improving the operational and financial efficiency of the respective ULBs. Sirkazhi municipality can undertake a few of the highlighted initiatives that could aid in improving the efficiency levels.

12.4.1 BEST PRACTICES

This section lists the Best Practices undertaken by various Urban Local Bodies or as proposed by various nodal agencies. The Best Practices have been classified into the following categories:

- Planning Processes
- Governance
- Financial Management
- Service Delivery
- Support Systems
- Legal/Tax/Tariff reforms

A) Planning Processes

An Urban Local Body should ideally prepare the following plans:

- a) Development/Master Plan for each major urban service provided by the Corporation

These are long-term spatial plans (for a period of ten to twenty years) and include a projected land use plan for the city. These plans are based on detailed socio-economic surveys and population projections.

Case Studies

(i) Physical Development and Financial Planning - Baroda Municipal Corporation (BMC)⁹

BMC has taken a number of steps to create a formal long-term planning machinery. In 1991, the corporation carried out an exhaustive exercise of listing all the ongoing and proposed work to know the pending development work and the resource gap. On the basis of this information, the corporation prepared a long-term development plan for the period 1991-2001.

This plan was then broken down into annual plans. The corporation worked out the resource requirements for undertaking changes for each service. This planning exercise also developed a long-term financial plan wherein it assessed the funds available from external (loan, subsidy etc.) as well as internal (savings/surplus) financial sources; it also contained a resources augmentation plan, which included increase in tax rates and other measures to bridge the resource gap.

- In April 1994, the corporation created a formal 'Planning and Estimates Cell', headed by the executive engineer, and co-supported by the chief accountant, under the direct control and supervision of the Municipal commissioner, which was responsible for:
- Preparation of long-term development plans for all the services and their revision every year
- Preparation of estimates of each development work pertaining to basic urban services
- Scrutiny of budget, financial outlay required etc
- Creation of database on all the urban services
- Review of all the works in progress
- Preparation and submission of loan proposals to outside agencies etc

B) Governance

Good governance implies inclusion of all groups in urban society and accountability, integrity and transparency of local government actions, in defining and pursuing shared goals.

Case Studies

(i) Report Card on Urban Services¹⁰

Report Card on Public Services is a strategic tool developed by a Bangalore based not-for-profit institution, Public Affairs Centre (PAC), with an aim to help citizens provide direct feedback to improve public service delivery and governance.

Feedback is collected from users of each service about key issues such as availability and quality of service, problems or deficiencies encountered, effectiveness of grievance redressed mechanisms, behaviour of the staff with whom they interact etc.

⁹ Best Practices Catalogue, CMAG/September, 1999

¹⁰ Good Urban Government Campaign-September, 2001

This has led to increased public awareness, stakeholder responsiveness and public accountability. The Report Card system has now been introduced in Ahmedabad, Bangalore, Chennai, Delhi, Kolkata, Mumbai and Pune.

(ii) Participatory budgeting in Porto Alegre, Brazil¹¹

The history of the performance of public budgeting and accounting in Brazil shows severe problems related to waste of resources, political interference and corruption. For decades, due to the presence of high inflation rates municipal budget estimates proved unrealistic. The citizens were not in a position to exercise control. This trend changed in Porto Alegre due to the innovations carried out by the municipality.

The municipality created an innovative system to adopt and execute the municipal budget. The city was divided into 16 regions based on geographic, social and community organisation criteria. For each region, a popular council, consisting of representatives of community associations and other local groups, was set up. A citywide organisation of residents and the council of representatives with two representatives from each of the popular councils were formed.

The council of representatives sets the agenda for municipal spending after preparing a list of priorities for public works. This is done in close coordination with the popular council, which also compiles a list of demands for projects in their region.

Then the popular council and the council of representatives meet with the municipal officials and they assign a weight age to each project request and make the final decision on public spending. Community representatives who actively monitor the spending of the funds supervise the progress of each project.

In the 'participatory budget' system, the technicians and the leaders are responsible for making decisions about public revenues and expenditures. Also, the population decides on investment priorities, actions and public works that should be implemented by the government. This is done through a process of debates and consultations.

The participatory budget has proved that the democratic and transparent management is the best way to avoid corruption and mismanagement of public resources. Popular participation has favoured an efficient management of public expenditure resulting in important investments and action plans to the benefit of the population.

Since its implementation, projects approved by the Participatory Budget have represented investments of more than US\$ 700 million, which has been applied primarily in urban infrastructure and to the improvement of quality of life of the population.

C) Financial Management

Most Urban Local Bodies in India do not have up-to-date accounts or records of assets owned by the ULB. Further, the budgeting exercise is based on historical rather than futuristic projections. The cash management and resource mobilisation processes also require drastic improvements. In this section, the accounting and budgeting-related best practices have been listed.

¹¹ Good Urban Governance Campaign-September, 2001

a) Accounting Reforms

The traditional accounting system followed by ULBs is based on single-entry cash-based accounting, which poses the following three problems:

- a. It does not facilitate a clear understanding of the actual position of debits and credits and hence matching of accounts becomes difficult.
- b. It does not support the maintenance of ledgers and income and expenditure statements. Hence it is difficult to analyse the financial performance of a period.
- c. The traditional accounting system also does not support the assessment of assets and liabilities at any point of time.

These flaws are overcome by the fund-based accounting system adopted by certain municipal bodies in India such as Jaipur and Vadodara. The fund-based accounting system allows the municipalities to maintain funds in accordance with their specific characteristics including sources, purposes and statutory requirements and supports double-entry accounting system. This system improves the bank ability and fund-raising capabilities of the municipality.

Case Studies**(i) Fund Based Accounting System following Double-entry accrual method of accounting-Vadodara Municipal Corporation (VMC)¹²**

VMC reformed its accounting system from the single entry method of accounting to a fund based accounting system following the double entry accrual method of accounting.

The fund based accounting system also yielded various operational benefits to VMC as it facilitated the division of accounting work into homogenous, manageable and identifiable units, which could be handed over to a specific person or group of persons.

A matrix structure of budget and accounting heads was also evolved such that for every account code there was at least one budget code or more. At the same time, there was no more than one accounting code for a single budget code/item. This avoided duplication of work.

This reform has facilitated a proper understanding of the financial position of the corporation.

b) Budgeting Reforms

The current budgeting system of ULBs possesses a number of drawbacks:

- Absence of scientific budgeting methods like performance budgeting and zero based budgeting
- Reliance on incremental method for budgeting,
- Lapse of unutilised budget allocation,
- Expenditure independent of resource realisation

¹² Municipal Accounting Reforms-Dr. Ravikant Joshi

Case Studies

(i) **Budgetary cum financial reforms undertaken by Vadodara Municipal Corporation (VMC)**¹³

VMC undertook a number of budgetary cum financial reforms over a period from 1992-2002, which entailed the adoption of performance budgeting coupled with zero-based budgeting that brought about scientific approach to the budgeting exercise. Also, expenditure was made contingent to actual resource realisation. This implied that capital/development works was to be undertaken as per actual receipts.

- ◆ Centralised financial control was introduced which required all the payment bills to be routed through the accounts department to the audit department. Every payment was scrutinised from the point of view of budget availability, appropriateness of expenditure and financial availability. This measure ensured that actual expenditure remained within the limits of budgetary allocation. Advances were brought under centralized budgetary and financial control. Earlier, advances taken for purchase or payment of works were not booked against the respective budget items. As per the new system, each and every advance taken is debited against the respective budget item. Thus, budget availability reduces, whenever an advance is drawn. Advances are allowed only if sufficient budget allocation is available; if not, advances can be drawn only after the prior permission of the general board of the corporation.
- ◆ This reform ensured that all expenditure incurred by the corporation, whether by the regular budget mode or by the advances mode, had to be made within the budgetary allocation. The tendering procedure was improved with a switch to a system of item-rate tendering and consolidated annual works tendering. Earlier, each time any work had to be carried out, tenders were called for the same. Thus, the corporation was required to carry out the entire tender-sanctioning procedure every time.

Under the new system, tenders are called for a particular type of work, to be carried out throughout the city or in a particular area of the city during the year. Once a contract is finalised with a particular contractor, he is simply asked to carry out the works at various places in the city as and when the need arises and he is paid as per the itemised rates finalised in the original common tender. This not only reduced administrative work and time lag but also brought uniformity in prices and costs.

D) Service Delivery

The principal function of any ULB is provision of basic services to its citizens. Municipal services have a direct and immediate effect on the quality of the lives of the people in the city. Poor municipal service can also make it difficult to attract business or industry to an area and thus limit job opportunities for residents. Capability building, corporatization and partnerships in municipal services are some of the key reforms, recommended for improving municipal service delivery.

Capability building

It is possible for a municipality to improve and expand the delivery of services by improving its own ability to do so. By improving a number of skills, municipalities may be able to deliver services effectively and more efficiently. These skills are explained below:

1. Better **communication** between the municipality and citizens will help the municipality determine the needs of the community and decide whether these are being met.
2. Improved **financial planning** will help in finding the best possible way to use available funds.
3. Better **technical skills** will improve delivery of municipal services.

¹³ Municipal Budgetary and Financial Control Reforms-Dr. Ravikant Joshi

Case Studies

(i) Professionalization of workforce – Ahmedabad Municipal Corporation (AMC)¹⁴

AMC took an important step towards the professionalization of its workforce by recruiting certified Chartered Accountants and graduates with Masters' degree in Business Administration.

Corporatization of departments/utilities¹⁵

In some cases, a municipality can improve the delivery of a service through corporatization of some of its utilities, such as the water department can benefit from the creation of a municipal company that would provide the service. In this set up, the company belongs to the council and is accountable for its performance. The council usually appoints a board to oversee the work of the company management.

The company is able to function more independently than a municipal department whilst acting under the overall control and supervision of the council. As municipalities have to deliver different services, it is not always possible to focus on the best way to deliver certain specialised services. A company acting independently, would experiment with new techniques and technology and be able to provide better services at lower costs.

E) Support Systems

To enable municipal bodies to function effectively and efficiently, its support systems need to be improved and strengthened. The organisation structure should be streamlined for effective and efficient working. Computerisation, MIS and GIS that aid decision-making are some of the support systems that need to be developed within ULBs today.

Case Studies

(i) Computerisation of Property Tax records - Vishkapatnam Municipal Corporation (VMC)¹⁶

In 2000, the VMC computerised property assessment records and transferred them to the server in the corporation office. The server is linked to the local bank branches where assesses not only pay their dues but also get full updated information of demand as well as arrears (along with the interest). The system also enables the corporation to get demand and collection ward wise.

This resulted in the increase of VMC's tax collection by over 50 per cent in one year and enabled clear monitoring of pending cases.

(ii) Computerisation of Records – Indore Municipal Corporation (IMC)¹⁷

Since 1999, the IMC has computerized records of property tax, water charges, trade licenses, rental properties, and municipal accounts. IMC contracted a private computer agency to computerise its records

¹⁴ Urban Finance-NIUA

¹⁵ www.etu.org.za

¹⁶ Urban Finance-NIUA/June, 2002

¹⁷ *ibid*

on a build-operate-transfer basis. Using information from the newly computerized programme and special collection drives, IMC increased its own revenues by nearly 45% during 2000-2002.

(iii) Computerisation by Mirzapur municipality¹⁸

The Mirzapur municipality developed a new information system with the Indo-Dutch integrated community development project. It computerized all existing property assessment and demand registers, and set them up on the local area network. By the third year, tax revenue had more than doubled. The municipality created property tax maps for the first time in the city and this tool increased the number of registered properties by 44%.

F) Legal/Tax/Tariff Reforms

Taxes and tariffs are the main source of revenue for ULBs, apart from government grants. However, most of these taxes and tariffs are set without understanding their full implications or without any justification. Therefore, there is a need to analyse the present system and rationalise procedures, tariff rates and structures for improving revenues.

Case Studies

(i) Unit Area Method base for Property Tax Collection-Patna Municipal Corporation¹⁹

The Patna Municipal Corporation applied the Unit Area Method (UAM) to replace the Annual Rental Value (ARV) method. Under the ARV method, the concept of 'standard rent' froze the rateable value at historical value. As a result, gross variation in the tax burden was observed within the same premises for identical use and between old and new buildings on the same street. Collection costs were mostly higher than the revenue yields. Excessive use of discretionary powers by the tax officials for individual assessment was also observed under the ARV method.

The application of UAM as base for Property Tax computation brought about transparency in assessment and also increased tax compliance. Even with a reduction in tax rate from 43.75% to 9% of ARV, the tax demand went up from Rs. 4 crores to Rs. 17 crores. In appreciation of this method, MoUDPA issued detailed guidelines to all the state governments. Based on these guidelines, the governments of Madhya Pradesh and Tamilnadu have simplified the property tax following the area-based approach.

(ii) Self-Assessment System for Property Tax – Bangalore Mahanagar Palike²⁰

For the Bangalore Mahanagar Palike (BMP), after the abolition of octroi, the property tax became the single largest revenue source. An optional Self-Assessment System (SAS) was introduced in April 2000. Under this scheme, the citizens were allowed to determine their property tax on the basis of explicit guidelines. The purpose of this scheme was to provide user friendly, transparent tax assessment to citizens as well as to augment corporation's revenue.

Approximately 60% of the taxpayers took this option. Coupled with rate revision, it contributed to a quantum jump in tax collection from Rs. 113 crores in 1999-2000 to Rs. 157 crores in 2000-01.

¹⁸ *ibid*

¹⁹ Good Urban Governance Campaign-September, 2001

²⁰ Urban Finance-NIUA/June, 2002

(iii) Self-Assessment System for Property Tax – Municipal Corporation of Hyderabad (MCH)²¹

MCH introduced SAS for property tax in 1999-2000. The corporation published advertisements in newspapers about the new system and involved the public in determining the tax by consulting resident welfare associations.

Through this measure, the city increased its property tax collection from Rs. 57 lakhs in 1998-99 to Rs. 100 lakhs in 2000-01.

12.4.2 Other innovative approaches**Slum sanitation with community Participation - PMC**

Municipal corporations have 'conservancy' departments whose duty is to clean and maintain toilet blocks, drains, streets and the like. However, it has been widely recognised that this staff is usually remiss in their duties and hence the toilets soon fall into disrepair and disuse. Since the local community does not have any control over the sanitation staff, the latter do not respond to their concerns. Often, communities have to pay additional money to the same workers to persuade them to clean the toilets.

The city of Pune carried out a major experiment of building toilets in slums through community participation by giving contracts to non-governmental organisations. Advertisements were issued in the newspapers inviting NGOs to come forward and make bids for building toilets. They were expected to quote a lesser cost. A guarantee was also to be given that the NGO and the community would maintain the toilet block for thirty years by collecting contributions from the community.

Eight NGOs were selected to carry out the work. Weekly meetings, which were attended by the municipal commissioner, relevant staff, NGOs and community representatives, were held to monitor the progress of the work and deal with impediments. Slum dwellers, especially women, were actively involved by the NGOs in this project. Community members were trained in various aspects of maintenance like electrical issues, carpentry and so on.

Several innovative features were incorporated in the toilet design. For example, a caretaker's room was provided over the toilet to house a family. This room was an incentive for the family that would take charge of maintenance. In some cases, where space permitted, a community hall was built that could be used for social and ceremonial purposes in the slum.

More than 400 toilet blocks with over 10,000 seats were built at a cost of about Rs. 40 crores. Assuming that 50 persons use a toilet seat a day, more than five lakh people in the slums have benefited from the programme.

Park management committees - MCL

In Ludhiana, neighbourhood 'park management committees' undertakes the maintenance of around 70% of the parks. They hire gardeners and are reimbursed by MCL @ Re. 1 per sq. metre per month. This system has resulted in saving of around 80% for MCL and also avoids the hassles of absenteeism, unionism and continuous supervision.

²¹ *ibid*

12.5 Way forward

Several parallel initiatives need to be implemented by all the stakeholders (municipality, elected representatives and the state government) to fully realize the revenue improvement potential. It is proposed to discuss this report in a citywide discussion with the stakeholders and councillors to reach a consensus on the improvement measures that would be pursued. The supporting plan for these measures, including those identified in this report along with a time-bound plan with identified implementation responsibilities has been highlighted in the Memorandum of Association (MoA) for the town's discussion and approval. Please find the detailed MOA as attached in Annexure 10.

ANNEXURES

Annexure 1: Council Resolution

From	To
Thiru A.G.Devaraj, Commissioner, Sirkali Municipality, Sirkali.	Ruhi Lal CRISIL Risk & Infrastructure Solutions Limited 303, Paritosh, Usmanpura Ahmedabad- 380 013, Gujarat India

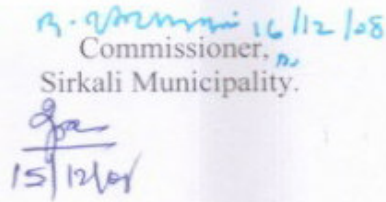
Roc. No.344/2008 /E1 Date : 15.12.2008

Sir,

Sub:Council Resolution for approval –Sirkali municipality Submitted
Regarding

Ref: Crisil Letter Dated 1.10.2008

With reference to the above letter cited. I Submit here with the approval of
Council Resolution copy to indicating priority of the project .


 15/12/08
 Commissioner,
 Sirkali Municipality.

சீர்காழி நகர்மன்றத்தின் 31.10.2008 ன் தேதிய அலுவலகக் கூட்டத்தின் 220 எண்ணுள்ள தீர்மானத்தின் நகல்:

தமிழக நகர்ப்புற கட்டமைப்பு நிதி சேவைகள் நிறுவனத்தினரால் கொடுக்கப்பட்ட சீர்காழி நகராட்சியின் நகர மற்றும் வர்த்தகத்திட்டம் குறித்த அறிக்கையில் குறிப்பிட்டுள்ள கருத்துரைகள்

1	நகராட்சிப்பகுதியில் மேற்கொள்ளப்படும் ஆக்கப்பணிகள் முன்னேற்றம்
2	நகர அபிவிருத்தி திட்டம்
3	சொத்துவரி, குடிநீர் கட்டணங்கள் மூலமாக நகராட்சிக்கு கிடைக்கும் நிதி ஆதாரம்
4	நிதி ஆதாரங்கள் பெருக்குவதற்கான விதிமுறைகள்
5	திட்ட செயலாக்கத்திற்கான நடைமுறைகள்
6	நகரவர்த்தக திட்டத்திற்கான அடுத்த கட்ட நடவடிக்கைகள்
7	முன்னுரிமை அடிப்படையில், நகர்மன்ற உறுப்பினர்களிடம் விவாதித்து திட்டங்கள் தெரிவு செய்தல்

இதனடிப்படையில் கீழ்க்குறிப்பிட்ட திட்டங்கள் செயல்படுத்திட நிதியுதவி பெறுவதற்கு கருத்துருக்கள் அனுப்பி CRISIL நிறுவன ஆலோசகர்களுடன் (Consultant) ஆலோசிக்கப்பட்டவாறு கட்ட செயலாக்கத்திற்கு நிதியுதவி வழங்கி கருத்துருக்கள் அனுப்பி மன்றத்தின் அனுமதி வேண்டப்படுகிறது.

1	புதிய பேருந்து நிலையத்தில் வணிக வளாகம் கட்டுதல் மற்றும் மேம்பாடு செய்தல்
2	காய்கறி மார்க்கெட் கட்டுதல்
3	பொதுசுகாதார மேம்பாடு
4	சாலைகள் மேம்பாடு மற்றும் மழைநீர் வடிகால் கட்டுதல்
5	குடிசைப்பகுதிகள் மேம்பாடு
6	மயான மேம்பாடு மற்றும் நவீன ளிவாயு தகனமேடை அமைக்கும் பணி
7	சமுதாய சுகாதார வளாகம் கட்டும் பணி
8	குடிநீர் விநியோக மேம்பாடு
9	பூங்கா மேம்பாட்டு பணி
10	நகராட்சி பள்ளி கட்டிடங்கள் மேம்பாடு மற்றும் பள்ளி சத்துணவு மையம் மேம்பாடு
11	பாதாள சாக்கடை திட்டம்
12	நகர நுழைவு வாயில் கட்டுதல்

அலுவலக குறிப்பு: - அங்கீகரிக்கலாம்.

(நக.எண் 344/2008/இ1)

தீர்மானம்: அலுவலக குறிப்பு அங்கீகரிக்கப்பட்டது.

(ஓம்) பி.சாந்தினி,
நகர்மன்றத்தலைவர்,

/உண்மை நகல்/

க.திரு/

(Handwritten Signature)
மேலாளர்
சீர்காழி நகராட்சி
15/12/08

Annexure 2: Details Of Stakeholder Consultation

Date: February 2008

Venue: Municipal Council Hall, Sirkazhi

The objective of this workshop was to involve the citizens in the preparation of City Corporate cum Business Plan process and carry out a visioning exercise for the town in long term as well as take their feedback on the status of services and perceived needs for infrastructure projects, understand their concerns and also involve them in the prioritization of projects. As per the terms of reference given by TNUDF for the proposed assignment, a stakeholder workshop was proposed for each of the eleven towns in Tamil Nadu. The agenda for the discussion was mainly to define the vision statement for the town and Identification of projects required to be implemented in the town based on demand gap analysis and stakeholder need.

Minutes of the Workshop

The workshop started at 10:30 hours with the welcome and introduction of CRISIL Representatives to the hall by the Commissioner of Sirkazhi Municipality. The councillors, municipal officials, representative from local NGO, traders association, market committee, citizen welfare associations and few citizens were invited for the workshop. More than 20 stakeholders have participated in the proceedings. Mr. Abhilash Verma, Ms. Shrimoyee Bhattacharya and Ms. Ruhi Lal represented CRISIL Infrastructure Advisory at the workshop.



The Commissioner of the Municipality appraised the stakeholders about the objective of the workshop. Mr. Abhilash Verma initiated the workshop proceedings and apprised the stakeholders about the TNUDP-III Programme and the relevance and the importance of preparing City Corporate cum Business Plan for the town. The presentation started with describing the process adopted for preparation of CCP-BP, objective and expected outcome of this workshop. The presentation highlighted the gaps in the physical and social infrastructure of the town and also gave an insight into the financial standing of the Municipality to the stakeholders.

Later to the presentation, the workshop was opened for suggestions and discussion on the analysis done as well as to discuss and frame a vision for the town. The discussions covered the core municipal services like, water supply, sewerage, roads, drains, waste management, etc and also dwelled onto other aspects like rail connectivity, power supply, education, community facilities etc as well as economic scenario and development potential of the town (Summary of discussions attached). The priority projects to be taken up were also discussed.



All the discussions/ suggestions were recorded and the workshop was closed at around 2:00 pm hours.

Summary of discussions

a) Need Assessment

The discussions and suggestions are as summarised below:

Water Supply

Although not unhappy with the water supply situation of the town, the stakeholders suggested for water source augmentation for improved supply in future.

Sewerage and Sanitation

It was pointed out that the sewerage network is very necessary for the town. The proposal for UGD is under preparation.

Storm Water Drainage

The town faces problem from seasonal water logging in rainy says. The storm water drains should be well developed with a properly laid network to avoid flooding in rainy season. At present the town has only a small portion of roads covered by pucca storm water drains.

Solid Waste Management

Stakeholders suggested that an effective Solid Waste Management system, more number of sanitary workers are required. At present the number of scavengers in the ULB is Insufficient.

Roads & Transport

The stakeholder's places utmost importance and priority of road improvement. They pointed out the inadequacy of BT/CC road coverage in the municipal area.

At the same time, lack of Footpaths and lack of organised parking facilities were also expressed as major concern area.

Commercial Amenities

The stakeholders stressed on the need for developing more commercial complexes which can earn revenue for the municipality. The town also need a daily market.

The existing community hall needs to be extended for increased capacity.

The town has about half of its area occupied by a lake. This lake can be developed for commercial purposes like boating etc.

Non-commercial Amenities

The need for development of park and play ground emerged as the major concern in non-commercial facilities. The play ground can also be developed with facilities like gymnasium.

Need for improved healthcare and educational facilities also sought importance.

Need for one electric crematorium was also expressed in the discussion.

Slum development

The stakeholders stressed on over all slum development with all basic amenities as well as economic upliftment of slum dwellers. Most of the slum working population work as colliers or construction labourers.

Other Issues

These are the issues which were pointed out apart from the regular infrastructure facilities as discussed above:

1. 8 slums under the temple trust needs notification
2. 15 burial grounds need basic services

b) Visioning Exercise

Based on the gap assessment as discussed above, all the stakeholders present discussed the vision for the town and finally the vision statement was framed as stated below:

A town with enhanced quality of life with developed physical and social infrastructure, increased employment opportunities, and a sustainable healthy environment.

Annexure 3: Costing Assumptions

Project component		Unit cost
Water supply		
Source/ system capacity augmentation		Rs.50 lakhs/MLD
Treatment capacity augmentation		Rs.30 lakhs/ML
Distribution network augmentation		Rs.10 lakhs/ Km
Elevated Storage capacity augmentation		Rs.10 lakhs/ MI
Refurbishment of old Distribution Network		Rs.8 lakhs/ Km
Metering System		Rs.3000/ meter
UGD		
UGD Network		Rs.20 lakhs/ Km
UGD - STPs		Rs.35 lakhs/ MI
Roads & Urban Transport		
Roads Upgradation -	BT to CC	Rs.40 lakhs/ Km
	WBM to BT	Rs.9.5 lakhs/ Km
	Earthen to BT	Rs.13 lakhs/ Km
Roads New Formation	CC	Rs.50 lakhs/ Km
	BT	Rs.13 lakhs/ Km
	WBM	Rs.7 lakhs/ Km
Widening / stretching / beautification		Rs.10 lakhs/ Km
Construction of Bus stand / traffic management		Lump sum
Storm Water drains		
Drains Upgradation -	Kutcha to Pucca Open	Rs.8.75 lakhs/ Km
	Kutcha to Pucca Closed	Rs.9.25 lakhs/ Km
	Pucca Open to Pucca Closed	Rs.8.25 lakhs/ Km
Drains New Formation -	Pucca open	Rs 11.5 lakhs/ km
	Pucca closed	Rs 13.5 lakhs / km
Street lights		
Replacement - Tube Lights with high power		Rs.4000/fixture
New Installation -	Tube Lights	Rs.3700/fixture
	High power Lamps	Rs.7000/fixture
	High Mast Lamps	Rs.10500/fixture

Project component	Unit cost
SWM & Sanitation	
New Vehicles (Primary Collection)	Rs.3000/Handcart
Acquiring New Disposal Site	Rs.6 lakhs/acre
Infrastructure at Disposal Site	Rs.7 lakhs/tonne
Dual Loaded Dumper Placer	Rs.5 lakhs/ vehicle
Public Convenience Systems	Rs.0.15 lakhs/ seat
Slum improvement	Lump sum
Land use & development planning	Lump sum
Commercial / non-commercial / other projects	
Shopping / Commercial complex	Rs. 1 lakh/shop
Vegetable / fish market	Rs.0.5 lakh/shop
Slaughter house (1 unit with 6-10 bays)	Rs0.5 lakh/unit
Night shelter /community hall /marriage hall/ lodge / dormitory	Rs.10 lakhs / unit
Park development	Rs.20 lakhs / acre
Play ground development	Rs.2 lakhs / acre
Maternity / child / health care centre	Rs.14 lakhs / unit
Burial ground	Rs.12 lakhs / acre
Gasified crematorium	Rs.40 lakhs / unit
Lake/ pond development / temple dev / parking space	Lump sum
Urban Gov / GIS/ System improvement	Lump sum
Regular capital works	Past average

Annexure 4: Summary Of Capital Investment Plan (CIP) Phasing Till 2012-13

Annexure 4 - Capital Investment Plan (CIP) till 2011-12 : Summary

Sector/ Component	Investment till 2011-12 (Rs. Lakhs)	2008-09	2009-10	2010-11	2011-12	2012-13
Water Supply	987	277	302	337	72	(0)
1 Source/ system capacity augmentation	200	40	80	80	-	-
2 Treatment capacity augmentation	180	-	36	72	72	-
3 Distribution network augmentation	108	22	43	43	-	-
4 Elevated Storage capacity augmentation	2	1	1	-	-	-
5 Refurbishment of old Distribution Network	73	73	-	-	-	-
6 Metering System	224	75	75	75	-	-
7 Transmission Mains - Replacement	200	67	67	67	-	(0)
Sewerage	3,300	-	165	990	825	1,320
1 UGD - Network	-	-	-	-	-	-
2 UGD - STPs	-	-	-	-	-	-
Roads & Urban Transport	2,331	-	-	200	1,140	991
1 Roads Upgradation	102	-	-	21	41	40
2 Roads New Formation	155	-	-	31	62	62
3 Imp. Rds (Widening, ROBs, bridgesetc)	1,600	-	-	-	800	800
4 Land Acquisition for Road Improvements	297	-	-	148	148	-
5 Public Transport/ Improvements	158	-	-	-	79	79
6 Traffic Management/ Jn. Improvements	20	-	-	-	10	10
Drains	1,259	2	4	254	500	500
1 Drains Upgradation	9	2	4	4	-	-
2 Drains New Formation	1,250	-	-	250	500	500
3 Desilting & Strengthening of Primary Drains	-	-	-	-	-	-
Street Lights	30	9	9	8	5	0
1 Replacement - Tube Lights	-	-	-	-	-	-
2 New Installation - Tube Lights	19	5	5	5	5	-
3 New Installation - High power Lamps	-	-	-	-	-	-
4 New Installation - High Mast Lamps	11	4	4	3	-	0
Conservancy (SWM) & Sanitation	192	30	63	48	51	-
1 New Vehicles (Primary Collection)	2	2	-	-	-	-
2 New Vehicles (Secondary and Disposal)	18	1	16	-	-	-
3 Acquiring New Disposal Site	9	9	-	-	-	-
4 Infrastructure at Disposal Site	96	-	24	32	40	-
5 Welfare office & divisional Office	25	10	10	6	-	-
6 Public Convenience Systems	43	9	13	11	11	-
Urban Poor/ Slums	181	54	54	72	-	0
1 Slum Improvement - Rehabilitation/ Housing	65	20	20	26	-	-
2 Slum Improvement - Infrastructure	115	35	35	46	-	0
Land use/ Dev. Planning	15	15	-	-	-	-
1 Acquisition of Reserved lands	-	-	-	-	-	-
2 Existing Land use Survey (GIS based)	15	15	-	-	-	-

Commercial Complexes	75	43	33	-	-	-
1 Shopping/ Office Complexes	50	25	25	-	-	-
2 Vegetable/Fish Market	15	8	8	-	-	-
4 Marriage Halls	10	10	-	-	-	-
Non Commercial Community Amenities	2,007	404	470	465	334	334
1 Park development	1,671	334	334	334	334	334
5 Educational Institutions	250	50	100	100	-	-
6 Noon Meal Centers (Upgradation)	10	5	5	-	-	-
7 Upgradation of Burial Grounds	36	7	14	14	-	-
8 Gasifier Crematorium	40	8	16	16	-	-
Other Projects to be taken by ULB	216	108	93	5	5	5
1 Construction of houses for Conservancy workers(7)	156	78	78	-	-	-
2 Construction of 2 Arch gates each at the entrance/e	20	10	10	-	-	-
5 Others (System Stduies etc)	15	15	-	-	-	-
6 Regular Capital Works	25	5	5	5	5	5
Total	10,593	941	1,191	2,379	2,931	3,150

Annexure 5: List Of Sensitive Environmental Components

S. No	Sensitive Environmental Component
1	Religious, heritage historic sites and cultural properties
2	Archaeological monuments/sites
3	Scenic areas
4	Hill resorts/mountains/ hills
5	Beach resorts
6	Health resorts
7	Coastal areas rich in corals, mangroves, breeding grounds of specific species
8	Estuaries rich in mangroves, breeding ground of specific species
9	Gulf areas
10	Biosphere reserves
11	National park and wildlife sanctuaries and reserves
12	Natural lakes, swamps Seismic zones tribal Settlements
13	Areas of scientific and geological interests
14	Defense installations, specially those of security importance and sensitive to pollution
15	Border areas (international)
16	Airport (for solid waste management projects)
17	Tiger reserves/elephant reserve/turtle nestling grounds
18	Habitat for migratory birds
19	Lakes, reservoirs, dams
20	Streams/rivers/estuary/seas

Annexure 6: EIA Notification Published By Ministry Of Environmental and Forest

MINISTRY OF ENVIRONMENT AND FORESTS

NOTIFICATION

New Delhi, the 27th January, 1994

(As amended on 04/05/1994, 10/04/1997, 27/1/2000 and 13/12/2000, 01/08/2001 & 21/11/2001)

1. S.O. 60 (E) Whereas a notification under clause (a) of sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986 inviting objections from the public within sixty days from the date of publication of the said notification, against the intention of the Central Government to impose restrictions and prohibitions on the expansion and modernization of any activity or new projects being undertaken in any part of India unless environmental clearance has been accorded by the Central Government or the State Government in accordance with the procedure specified in that notification was published as SO No. 80(E) dated 28th January, 1993;

And whereas all objections received have been duly considered;

Now, therefore, in exercise of the powers conferred by sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) read with clause (d) of sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, the Central Government hereby directs that on and from the date of publication of this notification in the Official Gazette, expansion or modernization of any activity (if pollution load is to exceed the existing one, or new project listed in Schedule I to this notification, shall not be undertaken in any part of India unless it has been accorded environmental clearance by the Central Government in accordance with the procedure hereinafter specified in this notification;

2. Requirements and procedure for seeking environmental clearance of projects:

1(a) Any person who desires to undertake any new project in any part of India or the expansion or modernization of any existing industry or project listed in the Schedule-I shall submit an application to the Secretary, Ministry of Environment and Forests, New Delhi.

The application shall be made in the proforma specified in Schedule-II of this notification and shall be accompanied by a project report which shall, inter alia, include an Environmental Impact Assessment Report, an ** Environment Management Plan and details of public hearing as specified in Schedule-IV** prepared in accordance with the guidelines issued by the Central Government in the Ministry of Environment and Forests from time to time. However, public hearing is not required in respect of (i) Small scale industrial undertakings located in (a) Notified / Designated Industrial areas / Industrial Estates or (b) Areas earmarked for industries under the jurisdiction of Industrials development Authorities;

(ii) Widening and Strengthening of Highways;

(iii) Mining Projects (Major Minerals) with lease area upto 25 hectares

(iv) Units located in Export Processing Zone, Special Economic Zones and

(v) Modernisation of Existing Irrigation Projects.

(b) Cases rejected due to submission of insufficient or inadequate data and *Plans may be reviewed as and when submitted with complete data and *Plans. Submission of incomplete data or plans for the second time would itself be a sufficient reason for the Impact assessment Agency to reject the case summarily.

II In case of the following site specific projects:

(a) mining; (b) pit-head thermal power stations; (c) hydro-power, major irrigation projects and/or their combination including flood control; (d) ports and harbours (excluding minor ports); (e) *prospecting and exploration of major minerals in areas above 500 hectares; *

The project authorities will intimate the location of the project site to the Central Government in the Ministry of Environment and Forests while initiating any investigation and surveys. The Central Government in the Ministry of Environment and Forests will convey a decision regarding suitability or otherwise of the proposed site within a maximum period of thirty days. *The said site clearance shall be granted for a sanctioned capacity and shall be valid for a period of five years for commencing the construction, operation or mining. *

III a) The reports submitted with the application shall be evaluated and assessed by the Impact Assessment Agency, *and if deemed necessary it may consult* a committee of Experts, having a composition as specified in Schedule-III of this Notification. The Impact Assessment Agency (IAA) would be the Union Ministry of Environment and Forests. The Committee of Experts mentioned above shall be constituted by the Impact Assessment Agency or such other body under the Central Government authorised by the Impact Assessment Agency in this regard.

(b) The said Committee of Experts shall have full right of entry and inspection of the site or, as the case may be, factory premises at any time prior to, during or after the commencement of the operations relating to the project.

** (c) The Impact Assessment Agency shall prepare a set of recommendations based on technical assessment of documents and data, furnished by the project authorities, supplemented by data collected during visits to sites or factories if undertaken, and details of public hearing.

The assessment shall be completed within a period of ninety days from receipt of the requisite documents and data from the project authorities and completion of public hearing and decision conveyed within thirty days thereafter.

The clearance granted shall be valid for a period of five years for commencement of the construction or operation of the project. **

No construction work, preliminary or otherwise, relating to the setting up of the project may be undertaken till the environmental and site clearance is obtained.

IV. In order to enable the Impact Assessment Agency to monitor effectively the implementation of the recommendations and conditions subject to which the environmental clearance has been given, the project authorities concerned shall submit a half yearly report to the *Impact Assessment Agency. Subject to the public interest, * the Impact Assessment Agency shall make compliance reports publicly available.

V. If no comments from the Impact Assessment Agency are received within the time limit, the project would be deemed to have been approved as proposed by project authorities.

3. Nothing contained in this Notification shall apply to:

(a) any item falling under entry Nos. 3, 18 and 20 of the Schedule-I to be located or proposed to be located in the areas covered by the Notifications S.O. No.102 (E) dated 1st February, 1989, S.O. 114 (E) dated 20th February, 1991; *S.O. No. 416 (E) dated 20th June, 1991* and S.O. No.319 (E) dated 7th May, 1992.

(b) any item falling under entry Nos.1,2,3,4,5,9,10,13, 16,17,19,*21*,25 and 27 of Schedule-I if the investment is less than Rs.50 crores.

(c) any item reserved for Small Scale Industrial Sector with investment less than Rs. 1 crore.

(d) defence related road construction projects in border areas.

(e) any item falling under entry No. * of Schedule I covered by the notification G.S.R. 1037(E) dated 5th December 1989.

4. Concealing factual data or submission of false, misleading data/reports, decisions or recommendations would lead to the project being rejected. Approval, if granted earlier on

the basis of false data, would also be revoked. Misleading and wrong information will cover the following:

- False information
- False data
- Engineered reports
- Concealing of factual data
- False recommendations or decisions

[No.Z-12013/4/89-IA-I]

SCHEDULE-I

(See paras 1 and 2)

LIST OF PROJECTS REQUIRING ENVIRONMENTAL CLEARANCE FROM THE CENTRAL GOVERNMENT

1. Nuclear Power and related projects such as Heavy Water Plants, nuclear fuel complex, Rare Earths.
2. River Valley projects including hydel power, major Irrigation and their combination including flood control.
3. Ports, Harbours, Airports (except minor ports and harbours).
4. Petroleum Refineries including crude and product pipelines.
5. Chemical Fertilizers (Nitrogenous and Phosphatic other than single superphosphate).
6. Pesticides (Technical).
7. Petrochemical complexes (Both Olefinic and Aromatic) and Petro-chemical intermediates such as DMT, Caprolactam, LAB etc. and production of basic plastics such as LLDPE, HDPE, PP, PVC.
8. Bulk drugs and pharmaceuticals.
9. Exploration for oil and gas and their production, transportation and storage.
10. Synthetic Rubber.

11. Asbestos and Asbestos products.
12. Hydrocyanic acid and its derivatives.
- 13 (a) Primary metallurgical industries (such as production of Iron and Steel, Aluminium, Copper, Zinc, Lead and Ferro Alloys).
- (b) Electric arc furnaces (Mini Steel Plants).
14. Chlor alkali industry.
15. Integrated paint complex including manufacture of resins and basic raw materials required in the manufacture of paints.
16. Viscose Staple fibre and filament yarn.
17. Storage batteries integrated with manufacture of oxides of lead and lead antimony alloys.
18. All tourism projects between 200m—500 metres of High Water Line and at locations with an elevation of more than 1000 metres with investment of more than Rs.5 crores.
19. Thermal Power Plants.
20. Mining projects *(major minerals)* with leases more than 5 hectares.
21. Highway Projects **except projects relating to improvement work including widening and strengthening of roads with marginal land acquisition along the existing alignments provided it does not pass through ecologically sensitive areas such as National Parks, Sanctuaries, Tiger Reserves, Reserve Forests**
22. Tarred Roads in the Himalayas and or Forest areas.
23. Distilleries.
24. Raw Skins and Hides
25. Pulp, paper and newsprint.
26. Dyes.
27. Cement.
28. Foundries (individual)
29. Electroplating
30. Meta amino phenol

Annexure 8 : Details Of Council Level Presentation

Date: 13th August 2008

Venue: Municipal Council Hall, Sirkazhi

The objective of this workshop was to appraise the Municipal Council regarding the outcome of the study, essentially the 'Capital Investment Plan' (CIP) and Financial Operating Plan (FOP) formulated for the town. The agenda for the meeting includes the following:

- Summery of findings till previous stage of work including analysis of the existing infrastructure and financial status of ULB
- Projects identified to bridge the gap in infrastructure and civic amenities based on outcomes of demand gap assessment and stakeholder workshop,
- The total investment requirement for the town for short term and long term period,
- The investment sustenance capacity of the town
- Reform measures recommended to be adopted by the town
- Next set of activities for completion of CCP-BP
- Selection of priority projects after discussion with councillors
- Appraise the ULB regarding the MoA to be signed between the ULB and TNUFSL / GoTN

The presentation was aimed to assist the Council to reach at a consensus for finalising and approving the CCP-BP for Sirkazhi town and pass suitable resolution through a Council meeting thereafter.

Minutes of the Workshop

The workshop started at 11:30 am with the welcome and introduction of CRISIL Representatives to the hall. The Chairman, Commissioner, councillors and relevant municipal officials were invited for the workshop. Ms. Sowmya Haran and Ms. Ruhi Lal represented CRISIL Infrastructure Advisory at the workshop.

A power point prepared by the CRISIL team was presented in Tamil. The contents of the presentation included analysis of infrastructure shortfall as well as municipal financial status. Infrastructure projects identified and financial sustainability of the municipality were explained. Reform actions required to be undertaken and funding pattern were also explained. At the end of the presentation the floor was opened for discussion and the councillors were asked to prioritize the projects from the given list with consideration of sustainability levels.

The ex-chairman of the municipality had explained the process in great detail to his councillors on one of the earlier workshops organized by the CRISIL team and therefore in the final workshop there were no major points of discussion.

When asked to prioritize the list of projects considering the low level of sustainability the councillors agreed upon the following as most important for Sirkazhi:

1. UGD and sewage treatment plan
2. Water supply augmentation
3. Roads with storm water drain
4. Projects to improve tourism potential – development of parks, bus stand and lodging facilities, etc.
5. Burial ground with gasifier

If the level of services can be systematically augmented, the councillors pointed that they will be able to easily take up reforms as mandated by the state government and will be able to revise taxes and charges.

The chairman and other stakeholders of the municipality have agreed to pass a resolution approving the CCP & BP with project prioritization and consenting to the reforms as explained by us. They have also agreed to send a letter to the CMA and TNUDF to that effect.

Annexure 9 : Memorandum Of Agreement

The council has evaluated the proposed implementation of business plan for possible funding by World Bank. The council has held discussions with all local elected representatives & officials in the stakeholder consultation workshop and noted that all were in agreement with the proposal for implementing the Business Plan.

The council took note of the following facts placed before it during the discussions:

- The Government of Tamilnadu (GoTN) had nominated TNUIFSL, Chennai as the nodal agency for the proposed funding from the World Bank

After taking into account its present/potential financial status and capacity for O&M/repayment of loan, the following priority infrastructure works have been identified with the loan-grant-own contribution mix as indicated in the table below:

List of Priority Projects for Identified Components (In Rs. Lakhs)

S. No	Projects	Total	Funding sources (In Rs. Lakhs)			
			Loan	Grant	ULB Contribution	Beneficiary contribution
1.	Water Supply					
2.	Sewerage & Sanitation					
3.	Roads					
4.	Storm Water Drains					
5.	Street Lighting					
6.	Solid Waste Management					
7.	Urban poor / slums					
8.	Land use / Dev planning					
9.	Other developments					
	Total					

- All cost and time overrun burden is to be borne by this ULB and that the GoTN or TNUIFSL will not be responsible for the same
- Carrying out reforms and complying with pre project conditions/actions as suggested by the GoTN/TNUIFSL as mentioned in the **Service Level Agreement** that shall be the qualifying criteria for disbursement of the funds

- The terms of the loan will be
 - a. Interest rate - 8.5%
 - b. Term of loan
 - For water supply / UGD projects – 20 years including 5 years moratorium
 - For Revenue generating projects – 12 years including 2-3 years moratorium
 - For all other sectors such as SWD / SWM / Roads – 7 years including 2-3 years moratorium

The council agrees to the following points:

- a. Issues presented in the project report and to agree to follow all directions of GoTN/TNUIFSL towards execution of the project
- b. Assure and ensure utilization of assets created under the project
- c. Draw the loan part for the execution of the works and repay the loan with applicable interest as per schedule
- d. Open a joint account with Deputy Commissioner for the project and to agree to deposit the ULB's share every quarter (10 % of the cost of the tendered works) failing which to abide by action taken by GoTN/TNUIFSL
- e. Conform to the subsequent change, if any, in the loan-grant composition made by GoTN
- f. Undertake the following minimum reforms once the ULB enters in agreement with TNUFSL for the projects under this scheme and to set intermediate targets to achieve the same:
 - Asset management
 - I. Listing of assets of the ULB and maximizing efficient use of the same, revenue generation from municipal properties through collection of land rent/lease covering at least 85% municipal properties, improved collection of land rent to at least 85% demand
 - Trade licence
 - I. Listing of all trade activities and improving collection of trade license fee to at least 85% of demand.
 - Service delivery charges
 - I. Revising water tariff as per GO,
 - II. Identification/regularization of unauthorized water connections,
 - III. Improved collection of at least 85% of water tariff.
 - IV. Imposing solid waste management cess/fees.
 - Property tax
 - I. Increasing coverage with respect to property tax collection - bringing at least 85% percent properties into the tax net,
 - II. Increasing collection efficiency and ensuring arrears collection of at least 85% percent and collection of at least 85% percent of current demand for property tax.
- g. Undertake public awareness through ward-level consultation workshops, with NGO involvement, improving the image of the ULB and generating confidence among citizens regarding the ability of the ULB to deliver quality services
- h. Acquire land, free from all encumbrances / encroachments, required for all identified projects before project loan effectiveness
- i. Solve all problems (like agitation) during construction activity and to ensure timely completion of the work as per schedule
- j. Offer necessary co-operation/coordination with consultants, PMU/Divisional Offices/NGOs and various other agencies involved in implementation of the project
- k. 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;

- l. 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 TNUIFSL
- m. The ULB will abide by all the guidelines directed by GoTN/TNUIFSL.

The Council agrees to bind itself to these terms, which would form part of future agreement with GoTN/TNUIFSL, and further resolve to authorize the Commissioner 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 sub-loan agreement with TNUIFSL.

Sd/

Chairman of the council

Date

Commissioner

Sirkazhi municipality

Service Level Agreement

Category	Description	Unit	Norm	Existing	Year 1	Year 2	Year 3	Year 4	Year 5	Remark / Reforms and Action Required by the ULBs
Service levels										
Water Supply										
	Net Per Capita supply	Litres	135	58	-	-	135	-	-	
	Storage Capacity/Total Supply	%	33%	75%	-	-	-	-	-	The existing storage capacity is sufficient for next five years
	Treatment Capacity/Total Supply	%	100	0%				100%	-	
	Length of Distribution Network	% of roads	85%	77%	-	-	100%	-	-	The existing distribution network length is sufficient for next five years
	Population having access to water supply	%	100%	100%	-	-	-	-	-	Although at present 100% population has access to water supply, ULB has to increase coverage with increase in population
Sewerage & Sanitation										

Category	Description	Unit	Norm	Existing	Year 1	Year 2	Year 3	Year 4	Year 5	Remark / Reforms and Action Required by the ULBs
	Municipal area covered by sewerage system	%	100%	0%			50%	75%	100%	
	Treatment Capacity/Total Supply	%	100%	0%				100%		
	Roads Covered by sewerage system	%	80%	0%			50%	75%	100%	
	Population covered by sewerage system	%	100%	0%			50%	75%	100%	Although it will start operation from 5 th year only
	Sewerage connections/Total number of properties	%	100%	0%			50%	75%	100%	Although it will start operation from 5 th year only
	Number of Slum residents per seat of Public convenience	Number	60	188	150	120	90	60		
Solid Waste Management										
	Collection efficiency	MT	100%	100%	100%					*Have to maintain 100% over the years with increase in waste generation
	Door to Door collection coverage	%	100%	-		100%				

Category	Description	Unit	Norm	Existing	Year 1	Year 2	Year 3	Year 4	Year 5	Remark / Reforms and Action Required by the ULBs
	Vehicle capacity to total waste generated	%	33%	100%					33%*	*Have to maintain 33% over the years with increase in waste generation
	Availability of composting facility	Yes / no		No						Facility needs to be developed
	Road length covered by per conservancy staff	Meters	0.68						0.7*	*Have to maintain 7 mt/ staff over the years with increase in waste generation
Storm Water Drain										
	Road length covered with pucca closed SWD	%	60%	0%				50%	60%	
	Road length covered with pucca open SWD	%	70%	0%				60%	70%	
12.5.1.1 Roads										
	Concrete Road/Total Road	%	20%	12%					20%	to be increased and maintained at 20% over the years with increased total road length
	Black Top Road/Total Road	%	80%	84%					80%	Though the current requirement is met with, the norm would have to be maintained as the total road length

Category	Description	Unit	Norm	Existing	Year 1	Year 2	Year 3	Year 4	Year 5	Remark / Reforms and Action Required by the ULBs
										increases
Street Lighting										
	Spacing between Streetlights	Meters	30	32					30	The number of lamp posts need to be increased such that a spacing as required in the norm is maintained
	Tube lights/Total Lights	%	80%	69%				80%		to be increased over the years with increased road length
	High mast lights/Total Lights	%	3	0				3		To be increased as per the desired norm
	Other Lights/Total Lights (high mast lamps etc)	%	5%				5%			
Financial Efficiency Levels										
Property Tax										
	Coverage of properties in tax net (no of assessed properties/ by total no of properties)	%	85%	-	85%					to be maintained over the years with increase in no of properties
	Collection efficiency	%	85%	64%	85%					to be maintained over the years with increase in no of properties

Category	Description	Unit	Norm	Existing	Year 1	Year 2	Year 3	Year 4	Year 5	Remark / Reforms and Action Required by the ULBs
Water charges										
	Metered Connections	%	100%	0%					100%	
	Collection efficiency	%	85%	79%	85%					to be maintained over the years with increase in no of properties
	O&M Cost recovery	%	100%	%					100%	
Sewerage charges										
	Collection efficiency	%	85%	N.A.*					85%	* as there is no UGD system at present
	O&M Cost recovery	%	100%	N.A.*					100%	* as there is no UGD system at present

Annexure 9 - Financial Operating Plan

Financial Year ----->		2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Figures in Rs. Lakhs		Actuals					Estimate	Projection											
General Account																			
A	SUMMARY																		
i	Opening balance	0	240	623	1017	1317	0	389	408	458	518	573	619	679	762	850	864	884	900
ii	Revenue Receipts	239	283	243	295	291	255	269	304	337	360	384	412	459	492	526	557	595	667
iii	Revenue Expenditure	195	157	169	211	187	218	247	251	272	297	329	352	377	403	512	537	578	160
iv	Municipal receipts	484	639	663	839	863	657	292	332	380	446	465	412	459	492	526	557	595	667
v	Municipal expenditure	245	256	269	539	237	268	273	282	319	392	419	352	377	403	512	537	578	160
	New Debt Servicing Exp.						0	1	3	5	20	29	29	29	29	29	29	29	29
	New O&M Exp.						0	0	0	1	3	5	6	6	6	6	7	7	7
	ULB contribution/ Rev. Surplus Transfer for Asset creation						3	3	5	10	9	0	0	0	0	0	0	0	0
vi	Operating Surplus/ Deficit for the year	44	126	74	84	104	37	21	53	65	64	56	60	82	88	14	20	17	507
vii	Municipal Surplus/ Deficit for the year	240	383	394	300	627	389	19	50	61	54	47	60	82	88	14	20	17	507
viii	Closing balance	240	623	1017	1317	1944	389	408	458	518	573	619	679	762	850	864	884	900	1407
ix	Performance Indicators																		
	DSCR						2.89	2.04	3.40	3.64	2.63	2.15	2.25	2.71	2.83	1.29	1.57	1.47	15.42
	DSR						8%	8%	7%	7%	11%	13%	12%	10%	10%	9%	6%	6%	5%
	PT Collection Performance						78%	80%	81%	82%	84%	85%	89%	93%	96%	100%	100%	100%	100%
B REVENUE ACCOUNT																			
RECEIPTS																			
I Own Sources																			
Taxes																			
1	Property Tax	28	31	32	31	32	56.2	54.3	71.1	76.1	79.0	81.0	83.6	105.5	110.9	114.5	113.8	116.7	150.0
2	Professional Tax	7	5	7	6	6	6.8	7.4	8.0	8.6	9.3	10.0	10.8	11.7	12.6	13.7	14.7	15.9	17.2
3	Other Taxes & Charges	0	0	0	0	0	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.6
Non-Tax Income																			
1	Income from Properties	16	21	19	21	22	23.4	25.3	27.3	29.5	31.8	34.4	37.1	40.1	43.3	46.8	50.5	54.6	58.9
2	Income from Investments(Excl. Interest)	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	Interest from Investments	2	1	2	1	1	1.4	1.5	1.6	1.7	1.9	2.0	2.2	2.3	2.5	2.7	3.0	3.2	3.4
4	Income from Fees	19	19	14	14	14	15.3	16.5	17.8	19.3	20.8	22.5	24.3	26.2	28.3	30.6	33.0	35.6	38.5
5	Income from new remunerative projects							0.0	1.5	11.2	11.2	11.4	12.9	12.9	13.1	14.8	14.8	15.1	17.0
6	Miscellaneous Income	6	13	9	16	18	19.2	20.7	22.4	24.2	26.1	28.2	30.4	32.9	35.5	38.3	41.4	44.7	48.3
	Total Own Sources	79	90	84	90	93	122.5	125.9	149.9	170.8	180.5	189.9	201.8	232.1	246.8	261.9	271.7	286.5	334.0
Assigned Revenue																			
1	Entertainment Tax	12	17	15	2	6	6.7	7.2	7.8	8.4	9.1	9.8	10.6	11.4	12.4	13.4	14.4	15.6	16.8
2	Surcharge on Stamp Duty	33	25	16	19	17	17.9	19.3	20.8	22.5	24.3	26.3	28.4	30.6	33.1	35.7	38.6	41.7	45.0
	Total	46	43	32	21	23	24.5	26.5	28.6	30.9	33.4	36.1	39.0	42.1	45.4	49.1	53.0	57.2	61.8
II Transfers & Revenue Grants																			
1	SFC Fund	54	90	41	106	99	107.0	115.5	124.8	134.8	145.5	157.2	169.8	183.3	198.0	213.9	231.0	249.4	269.4
2	Other Grants	1	0	1	1	1	0.8	0.8	0.9	1.0	1.1	1.1	1.2	1.3	1.4	1.6	1.7	1.8	2.0
	Total	55	90	42	107	100	107.8	116.4	125.7	135.7	146.6	158.3	171.0	184.7	199.5	215.4	232.6	251.3	271.4
	Total Revenue Receipts	180	222	157	218	216	254.8	268.8	304.2	337.5	360.5	384.3	411.7	458.8	491.7	526.4	557.4	595.0	667.2

Annexure 9 - Financial Operating Plan

Financial Year ----->		2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Figures in Rs. Lakhs		Actuals					Estimate	Projection											
General Account																			
EXPENDITURE																			
III	Establishment	97	92	91	106	99	143.8	166.7	179.1	192.5	195.6	211.3	228.2	246.4	266.1	367.2	396.6	428.4	0.0
IV	O&M Expenses																		
	O&M on Current Assets	47	34	58	43	51	55.1	60.0	49.4	53.8	58.7	64.0	69.8	76.1	83.0	90.6	98.8	107.8	117.6
	1 General Administration and Taxes	9	10	15	13	14	15.8	17.3	14.3	15.7	17.3	19.0	20.9	23.0	25.3	27.9	30.7	33.7	37.1
	2 Public Works and Roads	1	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
	3 Street Lighting	21	17	34	19	22	24.3	26.2	19.8	21.4	23.1	25.0	27.0	29.1	31.5	34.0	36.7	39.7	42.8
	4 Public Health & Conservancy	2	4	6	9	10	11.5	12.6	11.1	12.2	13.4	14.8	16.3	17.9	19.7	21.7	23.8	26.2	28.8
	5 Town Planning	0	0	0	0	0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3
	6 Contribution to other Funds	13	0	2	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	7 Miscellaneous Items	1	4	1	2	3	3.4	3.7	4.0	4.3	4.6	5.0	5.4	5.8	6.3	6.8	7.3	7.9	8.5
	O&M on New Assets						0.0	0.0	0.4	1.1	3.2	5.3	5.5	5.8	6.1	6.4	6.7	7.1	7.4
	Phasing of Non-Debt Liabilities						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	Debt Servicing																		
	Old Outstanding Debt Liabilities	11	7	5	9	7	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	6.3	6.3	6.3
	New Outstanding Debt Liabilities - IBRD						0.0	1.3	2.8	5.4	19.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8
	New Outstanding Debt Liabilities - Commercial Banks						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Revenue Expenses		156	133	154	159	156	218.2	247.4	251.0	272.2	296.7	328.7	351.7	376.5	403.4	512.4	537.3	578.4	160.2
C CAPITAL ACCOUNT																			
RECEIPTS																			
I	Income from Sale Proceeds	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
II	Grants & Contributions																		
	1 Roads and Buildings	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2 Elementary Education	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	3 Others	156	215	315	445	461	402.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	4 X- Finance Commission Grants	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	5 TNUDF Grant						8.7	10.4	13.7	26.5	27.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	6 Beneficery Contribution						0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total	156	215	315	445	461	402.1	8.9	10.7	14.1	26.5	27.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
III	Capital Loan	89	141	105	98	112	0.0	14.2	17.2	28.3	59.2	54.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	IBRD Loan						14.2	17.2	28.3	59.2	54.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Commercial Banks						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total Capital Receipts	245	356	420	544	573	402.1	23.1	27.9	42.3	85.7	81.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EXPENDITURE																			
IV	CAPEX	50	99	100	328	50	50.0	25.6	31.0	47.1	95.2	90.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Annexure 9 - Financial Operating Plan

		1												2												3												4												5												6												7												8												9												10												11												12											
Financial Year ----->		2002-03		2003-04		2004-05		2005-06		2006-07		2007-08		2008-09		2009-10		2010-11		2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19		2019-20																																																																																																													
		Figures in Rs. Lakhs						Actuals						Estimate		Projection																																																																																																																																	
Water and Sanitation Account																																																																																																																																																	
A SUMMARY																																																																																																																																																	
i	Opening balance	0	60	165	267	333	0	27	87	203	370	670	844	917	1024	1136	1246	1403	1567																																																																																																																														
ii	Revenue Receipts	6	26	14	13	13	18	86	145	212	352	244	145	182	191	196	247	257	267																																																																																																																														
iii	Revenue Expenditure	8	10	7	12	10	20	23	25	34	43	56	73	76	78	86	90	94	69																																																																																																																														
iv	Municipal receipts	78	116	112	118	133	68	106	181	318	427	360	145	182	191	196	247	257	267																																																																																																																														
v	Municipal expenditure	18	11	10	52	32	41	45	64	152	127	186	73	76	78	86	90	94	69																																																																																																																														
New Debt Servicing Exp.							0	1	3	9	13	21	28	28	28	28	28	28	28																																																																																																																														
New O&M Exp.							0	0	1	2	7	11	18	19	20	21	22	23	25																																																																																																																														
ULB contribution/ Rev. Surplus Transfer for Asset creation							0	2	4	12	8	13	0	0	0	0	0	0																																																																																																																															
vi	Operating Surplus/ Deficit for the year	-2	17	8	1	3	-2	63	120	178	308	187	73	107	112	110	158	163	198																																																																																																																														
vii	Municipal Surplus/ Deficit for the year	60	105	101	67	101	27	61	116	166	300	174	73	107	112	110	158	163	198																																																																																																																														
viii	Closing balance	60	165	267	333	434	27	87	203	370	670	844	917	1024	1136	1246	1403	1567	1765																																																																																																																														
ix Performance Indicators																																																																																																																																																	
DSCR							0.68	9.87	15.20	13.00	17.21	8.10	3.14	4.13	4.28	4.26	5.66	5.83	6.86																																																																																																																														
DSR							33%	8%	6%	7%	5%	11%	23%	19%	18%	17%	14%	13%	13%																																																																																																																														
Water Charges Collection Performance							88%	91%	92%	92%	93%	93%	95%	96%	98%	100%	100%	100%	100%																																																																																																																														
B REVENUE ACCOUNT																																																																																																																																																	
RECEIPTS																																																																																																																																																	
I Own Sources																																																																																																																																																	
1	Water Tax	6	7	7	8	8	9.1	9.9	10.8	11.8	12.9	14.0	15.3	16.7	18.2	19.9	21.7	23.6	25.8																																																																																																																														
2	Water Charges	0	0	3	3	2	2.6	13.2	25.2	38.2	64.5	69.4	71.6	92.1	95.5	96.8	125.3	129.0	132.9																																																																																																																														
3	New Connection Charges - Water	0	1	2	2	3	1.6	57.2	64.5	68.8	91.1	10.2	10.8	13.9	14.4	14.8	19.0	19.6	20.2																																																																																																																														
4	Sewerage Charges						0.0	0.0	0.0	7.5	19.8	28.5	30.6	39.2	41.3	42.9	54.2	56.9	59.1																																																																																																																														
5	New Connection Charges - Sewerage	0	0	0	0	0	0.0	0.0	41.6	82.9	159.8	117.4	13.0	16.8	17.2	17.7	22.9	23.5	24.2																																																																																																																														
6	Other Income	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																																																																																																																														
7	Grants	0	18	3	0	0	4.6	5.6	2.8	2.8	3.4	4.1	4.1	3.7	3.9	4.2	4.3	4.4	4.4																																																																																																																														
Total		6	26	14	13	13	18	86	145	212	352	244	145	182	191	196	247	257	267																																																																																																																														
Total Revenue Receipts		6	26	14	13	13	18	86	145	212	352	244	145	182	191	196	247	257	267																																																																																																																														

Annexure 9 - Financial Operating Plan

		12																		
Financial Year ----->		2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	
		Figures in Rs. Lakhs					Actuals	Estimate	Projection											
Water and Sanitation Account																				
EXPENDITURE																				
II	Establishment	4	4	4	7	6	9.2	10.8	11.5	12.4	12.5	13.5	14.6	15.8	17.0	23.5	25.4	27.4	0.0	
III	O&M Expenses																			
	O&M on Current Assets	4	6	3	5	4	4.7	5.2	4.0	4.4	4.8	5.3	5.8	6.4	7.0	7.7	8.5	9.3	10.2	
	Power Charges	3	3	2	4	4	4.3	4.7	3.6	4.0	4.4	4.8	5.3	5.9	6.5	7.1	7.8	8.6	9.4	
	All Others/ O&M	1	3	1	0	0	0.4	0.5	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.8	
	O&M on New Assets - Water						0.0	0.0	0.7	1.5	2.4	2.8	2.9	3.1	3.2	3.4	3.5	3.7	3.9	
	O&M on New Assets - Sewerage						0.0	0.0	0.0	0.7	4.4	8.5	15.4	16.2	17.0	17.8	18.7	19.7	20.6	
	Phasing of Non-Debt Liabilities						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
IV	Debt Servicing																			
	Outstanding Debt Liabilities - Old	0	0	0	0	0	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.5	5.5	5.5	5.5	
	New Outstanding Debt Liabilities - IBRD						0.0	1.2	2.6	9.0	13.1	20.5	28.1	28.3	28.3	28.3	28.3	28.3	28.3	
	New Outstanding Debt Liabilities - Commercial Banks						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Total Revenue Expenses	8	10	7	12	10	20	23	25	34	43	56	73	76	78	86	90	94	69	
C CAPITAL ACCOUNT																				
RECEIPTS																				
I	Capital Grant	16	38	45	53	69	49.6	6.7	11.9	35.5	25.2	38.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
II	Beneficery Contribution							0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
III	Loans	56	51	52	52	50	0.0	13.4	23.8	70.9	50.4	77.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	IBRD Loan							13.4	23.8	70.9	50.4	77.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Commercial Banks							0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Total Capital Receipts	72	90	97	105	119	49.6	20.1	35.7	106.4	75.6	116.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
EXPENDITURE																				
IV	CAPEX	10	1	4	40	21	21.2	22.4	39.6	118.2	83.9	129.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	