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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, Vandavasi, Tindivanam, Nellikuppam, Panruti, Virudhachalam, Perambalur, Sirkazhi, Thiruthuraipoondi, Kootthanallur 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

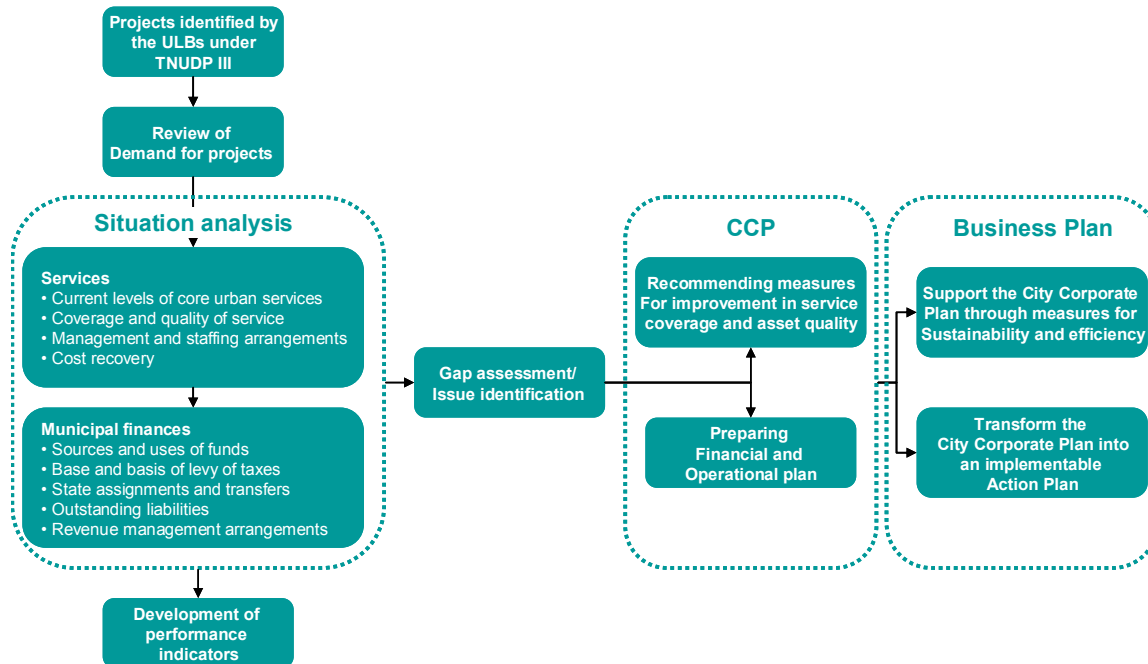
As specified in our proposal, our approach to the assignment has been consultative in nature. This involved a review of the CCPs prepared and the project initiatives. The CCP will be the base and guiding document for preparation of the Business Plan.

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

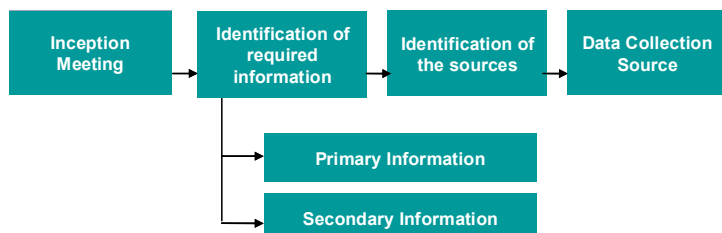
The entire methodology was divided into two parallel functions, namely project management functions and project execution functions. Project management shall include activities for supporting the main activities of project execution, while project execution will include activities to achieve the defined 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 2007.

2.3.1 Inception Reports

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 Vandavasi 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 Vandavasi 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.

2.3.2 Interim Meetings

The second rounds of town visits were carried out in February 2008. 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.

2.3.3 Meetings with RDMA, TWAD Board

The Consultants also engaged in discussions with the officials at RDMA and TWAD board to gain deeper insights into the development plans which have been suggested in the recent past or are underway for the Municipality

2.3.4 Presentation to the Municipal Council

As part of the preparation of City Corporate cum Business Plan for your town, a presentation on the Draft Final report of the CCPBP to respective town municipal council is scheduled at this stage as per the terms of reference of the study. The objective of this workshop is to appraise the Council regarding the outcome of the study, essentially the 'Capital Investment Plan' (CIP) and Financial Operating Plan (FOP) formulated for the town.

The proceedings of the workshop covered the following areas:

1. A brief overview on
 - Analysis of the existing status of 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,
 - Adopted funding pattern and the investment sustenance capacity of the town in both base case and improved case scenario
 - Reform measures recommended to be taken by the town
2. Selection of first few priority projects
3. Sensitising the council about next set of activities to be carried out including signing of MoA with TNUFSL / GoTN

Prior to this workshop, a summery note of Draft Final report in Tamil had been sent to the ULBs for circulation among Councillors for a more fruitful out come of meeting.

3 CITY PROFILE

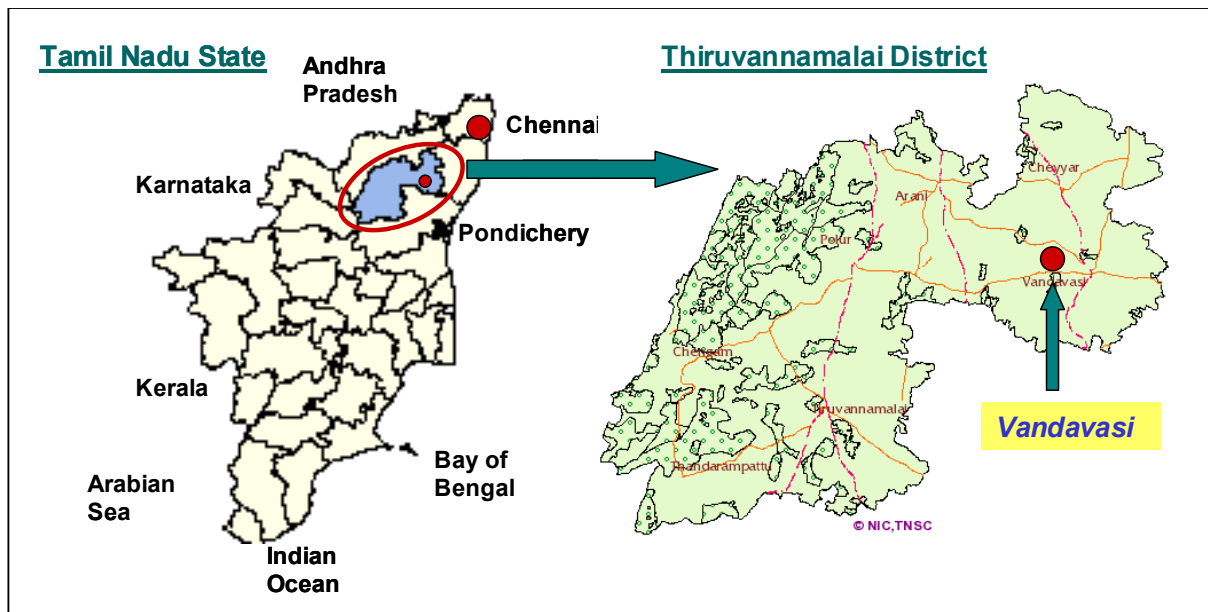
Vandavasi is a second grade municipality in Tamil Nadu, and is located in Thiruvannamalai District at a distance of 120 km from south west of Chennai. Region-wise, it comes under Vellore region. Spread over an area of 9.72 Sq.km, the town has a population of 29610 according to 2001 census.

3.1 Regional Setting

Vandavasi is located south of the famous temple and silk city of Kanchipuram. It is located at 12.39" North Latitude and 79"49" East. Vandavasi town is one of the important trade centres for the nearby villages in Thiruvannamalai District. The town is located at a distance of 80 Km from the famous temple of Arunachaleswarar temple at Thiruvannamalai.

The nearest railway station is at Melmaruvathur, which is at a distance of about 28 Km and the other railway station is at Tindivanam which is approximately 35 Km away from Vandavasi. The town is well connected by road with the adjoining urban centres of Vellore, Thiruvannamalai, Arcot, Cheyyar, Kanchipuram, and Tindivanam.

Figure 1: Regional setting of Vandavasi town



3.2 Town History and Growth

Vandavasi was once under the rule of the British. The town still stood as a witness to the war between Sir Ayar Goot and the French Admiral Sir Lali. The Anglo Admiral Sir Ayar Goot won the war in the year 1760. This war had been named as the “Wandiwash War” and the battle sealed the fate of the French aspirations in India.

Vandavasi Municipality was constituted as a second grade Municipality by a Government order in 1998. It was upgraded to a third grade municipality in 1994. Prior to this the status was that of a selection Town Panchayat from 1942. At present the Municipal area constitutes of 24 wards spread over an area of 9.72 Sq.Km. Vandavasi is famous for its coir mats.

3.3 Physical Characteristics

3.3.1 Climate

The climatic condition of the town is subjected to extreme climatic condition which is very hot during the summers and gets very cold during the winters. The prevailing wind direction is south west to north east during the winters. Cyclonic storms are not uncommon and occur during the month of October on account of the on set of retreating monsoon. These storms however, do not have a history of having caused much damage. The average annual rainfall has been in the range of 1000mm to 1200 mm, the bulk of which is received during north east monsoons.

3.3.2 Soil

The type of soil predominant in the area is red and sandy clay, which are fertile. The town has a gentle slope from east to west.

4 FORMULATION OF VISION

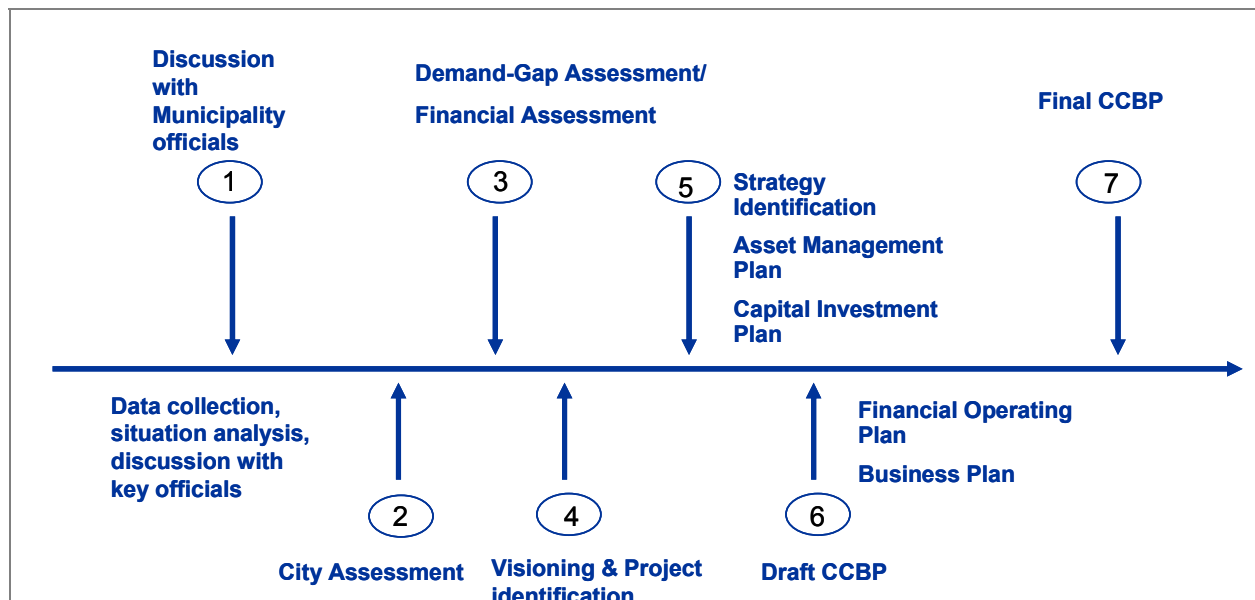
4.1 Approach

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, 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 the 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 consensus on strategies and actions for each of the identified priority sectors. The stakeholders comprised of Collector, Chairman, Councillors, NGOs, educationists, representatives from Electricity and 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 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	Councillors and other representatives from the Municipality.
3	Workshop with Stakeholders for visioning exercise and finalisation of strategy	<ul style="list-style-type: none"> 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 consultation with the key officials of the Municipality, the important developmental needs and concerns for the town were gauged. The detailed discussion on the same was 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 into the financial standing of the Municipality to the stakeholders. The details of the process of the stakeholder consultation can be found in Annexure 2. In the detailed discussion which followed, the following points concerning the development potential of the town and the existing issues ailing the town emerged as uppermost among the stakeholders:

Table 4: Discussion outcomes

S. No	Sector	Issues
1	Underground Drainage	<ul style="list-style-type: none"> Under Ground Drainage network is needed for the ULB. At present the town has no UGD system. However, proposal for the same has been prepared.
2	Water supply	<ul style="list-style-type: none"> Need source augmentation for improving water supply At present the town does not have adequate water as per norm to operate a UGD system Need for more public stand posts
3	Road/ Transportation	<ul style="list-style-type: none"> Upgradation of existing roads needed One ring road is necessary for the town but not under purview of ULB Improvement of existing bus stand
4	Storm water drain	<ul style="list-style-type: none"> Proper storm water drainage network to be developed

	Sum Development	<ul style="list-style-type: none"> About 36% of the town population are slum dwellers. Thus slum improvement is necessary
6	Commercial	<ul style="list-style-type: none"> Market development required Working men/ women hostel can be developed
7	Social	<ul style="list-style-type: none"> Health care facility not up to the mark Municipality has land to develop three parks Municipal community hall with other facilities like gymnasium etc. can be developed Need for new school
8	Institutional	<ul style="list-style-type: none"> ULB is understaffed Insufficient number of sweepers

Urban Infrastructure:

As may be noted from the above table, during the consultation process, the stakeholders have highlighted the need for improvement in the condition of slums of the town. The project list identified by them has laid focus on improving the physical infrastructure in the short term. The discussion led to identification of infrastructure improvements required ward wise. These projects have been prioritised in preparing vision and sector strategy for Vandavasi.

Regarding infrastructure improvement of the whole town, the need for an UGD system in the town was a major concern of the stakeholders. At the same time, enhanced water supply by augmenting water source as well as increase in storage capacity was suggested. A proposal for under ground drainage has been prepared by TWAD board and the Detailed Project Report for the same has been approved by the municipal council. However, the towns water supply need to be improved for efficient functioning of the UGD. The stakeholders also made suggestions about other core infrastructure improvements related to transportation, storm water drainage as well as urban social infrastructure. Both commercial and non-commercial facilities was stresses upon by suggesting for improvement of market development, health care and educational facilities

Development Potential:

- The stakeholders during the discussion highlighted that Vandavasi is an important trading centre for nearby villages in Thiruvannamalai District. The town also has the locational advantage of being situated near the temple and silk city of Kanchipuram. The connectivity of the town to other nearby places is also good. This potential could be exploited for development of the town.

4.3 Vision Statement

“To develop the town as a trading hub with an enhanced quality of life and increased economic activity, supported by adequate infrastructure and focused towards local economic development.”

5 RAPID URBAN ASSESSMENT

5.1 Demographic Profile of Vandavasi Municipality

5.1.1 Population Growth Trend and density

The town had witnessed a positive growth rate during the decades from 1981 to 2001. Census figures show that during last two decades, the population growth rate has been in the range of more than 20%. The population registered in 2001 is 29,610 against 24,578 in 1991 with a decadal growth rate of 20.47%.

In case of Vandavasi, after deriving results from various population projection methods, second order polynomial method has been adopted as it has been observed to give a population figure closest to the base year figure of 2001 census as well as gives realistic increased population for future years. Considering the overall increasing urbanisation trend in the state, projections from this method would be more appropriate. Table 3 shows various indicators of population growth trend.

Table 5: Population growth trend of Vandavasi Municipality

Census year	Population	Decadal growth rate
1981	20447	---
1991	24578	20.20
2001	29610	20.47
2008 (Estd)	33648	-----
2011 (Projected)	35543	20.04
2021 (projected)	42377	19.23
2031 (Projected)	50112	18.25

The population of the town is spread over an area 9.71 Sq.km. The number wards are 24. The population density of the city has increased from 2106 persons per sq.km in 1981 to 3049 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 15.67%. This is lower than both district figure of 24.72% and state figure of 20.04%.

5.1.3 Sex Ratio

2001 census shows a share of 1046 female per 1000 male in Vandavasi town, which is higher than both state sex ratio of 987 and district ratio of 995.

The SC and ST population shows an even higher female percentage having sex ratio of 1060 and 1108 respectively.

5.1.4 Literacy

The literacy rate of the town is 73.9%, which is higher than both the district figure of 67.39% and state figure of 73.45%.

Table 6 summarises the demographic profile of Vandavasi discussed above.

Table 6: Demographic indicators for Vandavasi Municipality

Area	% of SC/ST population	Sex ratio	Literacy rate
Vandavasi	15.67%	1046	73.9%
District figure (Thiruvannamalai)	24.72%	995	67.39%
State figure (Tamil Nadu)	20.04%	987	73.45%

Source: Administrative Department, Vandavasi Municipality and Census of India

5.1.5 Slums

There are 4 notified slums in the municipal area with a population of 4073 persons as per 2001 survey. The proportion of slum population to total population is 13.76%.

However, as per the 'Integrated housing and Slum Development Programme' (IHSDP) project report of 2006-07, there are 11 slums in the town with a population of 10859 persons which is estimated to be about 32% of present total population of the town.

The share of BPL population out of total population is nearly 26.8% as per 2004 survey.

5.2 Economic Profile

5.2.1 Economic Base (economic growth trends of the town)

The economic base of Vandavasi is mainly constituted by tertiary sector activities showing greater dependence on public sector and trading activities. The town houses a few number of administrative offices and served as a trading centre for surrounding villages. Agricultural activities are carried out to a moderate extent and livestock is one of the major economic activities. Thiruvannamalai district itself is an industrially backward area and thus naturally secondary sector activities like industrial and manufacturing activities in Vandavasi exist to a moderate extent including cottage industries. Coir mat weaving is one of the major economic activities of the town. However, initiatives are being taken for establishing agro based industries.

5.2.2 Occupational Pattern

An analysis of occupational pattern compared to the District and the state shows that the town has a work participation rate nearly 63% which is higher than both the district and the town. Male workers continue to dominate the workforce constituting a higher percentage in total workforce. Table 7 below shows a comparative of workforce between the town, the district and the state.

Table 7: Comparative workforce details of Vandavasi

Area	% of Total workers among total population	% of Main workers	% of Marginal workers	% of Non workers
Vandavasi	38.03%	29.60%	8.43%	61.98%
District (Thiruvannamalai)	48.71	37.96	10.75	51.29
Tamil Nadu	44.67	38.07	15	55.33

Source: Administrative Department, Vandavasi Municipality, Census of India.

Workforce distribution across different sectors shows that primary sector constitutes about 60% of the main workforce. Secondary and tertiary sector together constitute the rest. A major portion of the workforce is engaged as agricultural labourers. There are a large number of people employed under Self Employment Schemes.

5.2.3 Industries

Industries are mostly in the nature of household industries like coir mat weaving. Other than this, there are a few agro based industries like flour mills, sugar mill etc. As mentioned earlier, the town is famous for weaving of coir mats.

5.2.4 Tourism

The town is located near to a few tourist attractions in and around it. Two temples namely Asdhiranganathaswamy Temple and Jalakandaeswara Temple are local pilgrim attractions. Other than this, Srinivasa Perumal Temple at Navalpakkam and Panduranga Temple at Thennangur are located near to this town. Also, the famous Athiparasakthi Temple is located at a distance of 28 Km. south west of Vandavasi.

5.3 Land- use

5.3.1 Existing Land use analysis

The existing land use as well as proposed land use for Vandavasi town will be reviewed in detail from the Master Plan after obtaining the same from the ULB. However, as per the Land use analysis of the town as mentioned in the IHSDP document, 75% of the area constitutes an undeveloped area, comprising of lands under agriculture, unused vacant lands. In the northern parts of boundary there are thickly developed residential areas. There exists mixed use of land with commercial, educational and industrial land use on the Western side, near Arni Road.

To the south of the town, commercial development is found alongside Bazaar Street and Gandhi Road. The remaining portions are predominantly being used for agriculture purpose. The area lying on the southern and eastern portions are mostly agricultural in character.

5.3.2 Past Planning Efforts

As mentioned earlier, a Master Plan has been prepared for Vandavasi 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 percentage share of land allocated under various categories was done by increasing the population density to avoid conversion of wet land to the extent possible. The uses within these zones are subject to permissible uses mentioned under Zoning Regulations.

The Master Plan will be reviewed thoroughly after obtaining the same from Municipal sources and a more detailed analysis will be done. However, the ideal land use scenario for the town as per normative standards¹ should be as follows

Table 8: Normative Land-Use pattern for Vandavasi

Land use category	Area(sq.km)	% to Developed/un-developed area	% to Total extent of town
Residential	10.05	54.21	45
Commercial	0.45	2.40	2
Industrial	1.79	9.63	8
Recreational/ open spaces	2.68	14.45	12
Public & Semi- public	1.34	7.22	6
Circulation	2.23	12.04	10
Total Developed area	18.53	100.000	83
Undeveloped area (including agriculture and water bodies)	3.80	100.000	17

Source: UDPFI Guideline

¹ As per UDPFI Guideline

5.4 Physical Infrastructure Assessment

5.4.1 Water Supply

The source of water supply for the town is from Cheyyar River through ULB's own scheme. The quantity of water available daily from is 2.5 Million Litres. The source is located at a distance of 21.4 Km. from the town. Other than these, there are 123 public stand posts.

The daily per capita water supply approximately is 74.3 LPCD² which is below the normative standard of 90 LPCD. The town has 2 Elevated Storage Reservoirs (ESR) with a total storage capacity of 1.36 million litres. The total elevated storage capacity amounts to almost 54% of the total water supplied per day which is above the norm of 33%.

The total number of water supply connections is about 3000 among which, about 4% are industrial connections and others are domestic. All the connections are non-metered.

² Based on projected population of 2008

Table 9: Indicators for water supply

Vandavasi		Existing and Desired Level			Service Gap by Year 2016			Service Gap by Year 2031			Unit
		Existing Level	Unit	Desired Level	Existing (2008)	Demand	Gap	Estimate (2016)	Demand	Gap	
1	Daily Supply	83	Liters	135	2.8	6.77	3.97	6.77	6.77	-	MLD
2	Treatment capacity	0	%	100	0.00	6.77	6.77	6.77	6.77	-	ML
3	Roads Covered with Distribution Network	54	%	85	21.6	57.73	36.13	57.73	74.54	16.81	Km.
4	Elevated Storage capacity w.r.t Supply	45	%	33	1.14	2.26	1.12	2.26	2.26	-	ML
5	Refurbishment of Old Distribution Network						4.32			5.77	Km.
6	Metering System						4310			-	No.s

Source: Engineering department, Vandavasi 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 3.97 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

5.4.2 Sewerage and Sanitation

There is at present no sewerage or under ground drainage system in Vandavasi. The sullage water is discharged in to drains. There are 4963 number of septic tanks in the town and total 11 numbers of public conveniences.

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. The possibility of developing the UGD system combined with other surrounding towns could be explored.

Table 10 Assessment of Sewerage System in the Municipality, future demand and gaps

Vandavasi		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	2.24				5.41	
2	Population Coverage	0	%	100	0.00	38810 *	38810	38810	50112	11302
3	UGD Network/ Road Length Covered	0	%	80	0.00	54.33 **	54.33	54.33	70.16	15.82
4	Sewerage Treatment (Against generation)	0	%	100	0.00	4.19 ***	4.19	4.19	5.41	1.22
5	Intermediate pumping stations, Pumping machinery & Transmission mains						8			0

* Persons, ** Km, *** MI

Source: Engineering department, Vandavasi 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 5.41 MLD for 2031 population demand as well as to cover existing population
- ❖ The need for UGD network coverage is assessed at 54 km to cover 80% of road length in 2016

5.4.3 Solid Waste Management

The Municipality generates a total of 12.5 Metric Tonnes (MT) of waste per day. As it can be seen from the Table 11, this generation will increase to 16.7 MT by 2016 and 19.9 MT by 2031. As of current requirement Municipality does not have adequate vehicle carrying capacity to ensure efficient collection of the waste. Also, keeping in line with the future waste generation, the Municipality needs to plan for increasing the area for disposing off the waste and also augment the infrastructure at the Landfill/ composting site.

Table 11: Assessment of Solid Waste Management in the Municipality, future demand and gaps

Vandavasi	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	394	Grams	350	12.5*	16.7*		16.70*	19.9*	
Collection Performance	74.1	%	100						
No. of Trips per Vehicle/ day	3	Nos.	2.5						
Vehicle Carrying Capacity				4.75*	10.28*	5.53*	10.28*	12.23*	1.95*
Hand Carts	0	% HHs	100	60**	103**	43**	103**	133**	30**
Disposal Site	6.18	Acres		0.00	3.94	3.94	3.94	7.27	3.33
Land Fill Infrastructure (as per CPHEEO Standards)		%	67			11.19 [#]			2.12 [#]
Composting Plant		%	33			5.51 [#]			1.04 [#]
Secondary Collection (Area Coverage)	0	Sq. Km	0.2						
1.Container Bins - 2.5 MT (Addl 5 bins for servicing)				0	5**	5	5	5	0
2.Dual Loaded Dumper Placers		No. of Trips	3	0	4	4	4	0	0
Slum Population per Seat of Public Convenience	121	Persons	60	90 ^{##}	181 ^{##}	91 ^{##}			

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

Source: Public Health Department, Vandavasi and CRISIL estimate

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 20 tonnes per day by 2016
- ❖ Land fill infrastructure need to be augmented to meet 20 tonnes per day capacity by 2016

5.4.4 Roads and street lights

The local roads that are maintained by the ULB have a cumulative length of 26.604 km. Based on this, the per capita road length estimates to about 0.8 metres, which is less than half the norm of 1.75 mt/capita. The share of various categories of roads in the total road length is however up to the normative standard as shown below in table.

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

Vandavasi		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	1.18	Per-capita road length (m)	1.75						
2	Road width	7.00	Average road width (m)	7.00						
3	Roads – Surface type	22	Concrete (%)	22	8.82	15.05	6.23	15.05	19.43	4.38
		77	BT (%)	78	30.73	52.87	22.14	52.87	68.26	15.40
		1	WBM (%)	0	0.25	0.00	-0.25	0.00	0.00	0.00
		0	Earthen (%)	0	0.00	0.00	0.00	0.00	0.00	0.00
	Total municipal road length		Km		39.80	67.92	28.12	67.92	87.70	19.78
4	Up gradation									
	BT to CC		Km				2.08			1.46
	WBM to BT		Km				0.25			0.00
	Earthen to BT		Km				0.00			0.00
5	New Formation									
	CC		Km				4.15			2.92
	BT		Km				21.89			15.40
B	Street Lighting									
1	Spacing Between Lamp Posts	46	Meters	30	866	2264	1398	2264	2923	659
2	Distribution Type									
i	Tube Light	82	%	80	713	1811	1098	1811	2338	527
ii	High Power	18	%	15	153	340	187	340	438	98
iii	High Mast Lamps	0	%	5	0	113	113	113	146	33
3	New Installations									
i	Tube Light						1098			527
ii	High Power						187			98
iii	High Mast Lamps						113			33

Key findings

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

- ❖ Total municipal road length to be increased to 68 km by 2016
- ❖ New concrete road to be constructed for a length of 4 km
- ❖ 1398 additional street lights required by 2016

5.4.5 Storm Water Drainage:

Vandavasi has a storm water drainage system which covers almost 100% of the present total road length however; this is below the norm of 150%. The town has predominantly open storm water drainage system with mainly pucca drains. The total length of drainage system is 29.16 Km. Closed drains are non-existent.

Table 13: Assessment of Storm Water Drains in the Municipality, future demand and gaps

Vandavasi	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	73	%	150	29.16	101.88	72.72	101.88	131.54	29.67
Distribution by Type									
i Kutcha Open	0	%	0	0.00	0.00	0.00	0.00	0.00	0.00
ii Pucca Open	73	%	60	29.16	40.75	11.59	40.75	52.62	11.87
iii Pucca Closed	0	%	90	0.00	61.13	61.13	61.13	78.93	17.80
Desilting & Strengthening of Primary Drains			150	0.00	0.00	0.00	0.00	0.00	0.00
Upgradation									
i Kutcha to Pucca Open						0.00			0.00
ii Kutcha to Pucca Closed						0.00			0.00
iii Pucca open to Pucca Closed						29.16			17.80
New Pucca Open Drains						40.75			29.67
New Pucca Closed Drains						31.97			0.00

Source: Public Health Department, Vandavasi and CRISIL estimates

Key findings

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

- ❖ A length of 101.8 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 61 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 no developed park and play ground other than those attached to schools.

5.4.7 Assessment of physical infrastructure in slums

As mentioned in earlier section, there are 11 slums in the town identified for development under IHSDP project. The slums were identified for extending various facilities like water supply, street light, roads, sanitation etc. 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.

Most of the slum dwellers have already received patta for their land. However at present, access to basic infrastructure facilities to slum dwellers is limited. Most of the slum dwellers work as labourers in and around the town.

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 Vandavasi.

5.5.1 Primary Health

There are 6 Hospitals within the Municipal limits. Of these, one is a Government hospital. Together these hospitals cater to the local people.

5.5.2 Education

The town has a total of 18 schools across all categories under both Govt and private ownership. Among these, 10 are elementary schools, 1 high school, and 6 higher secondary schools. The town also has 1 college and one technical training institute.

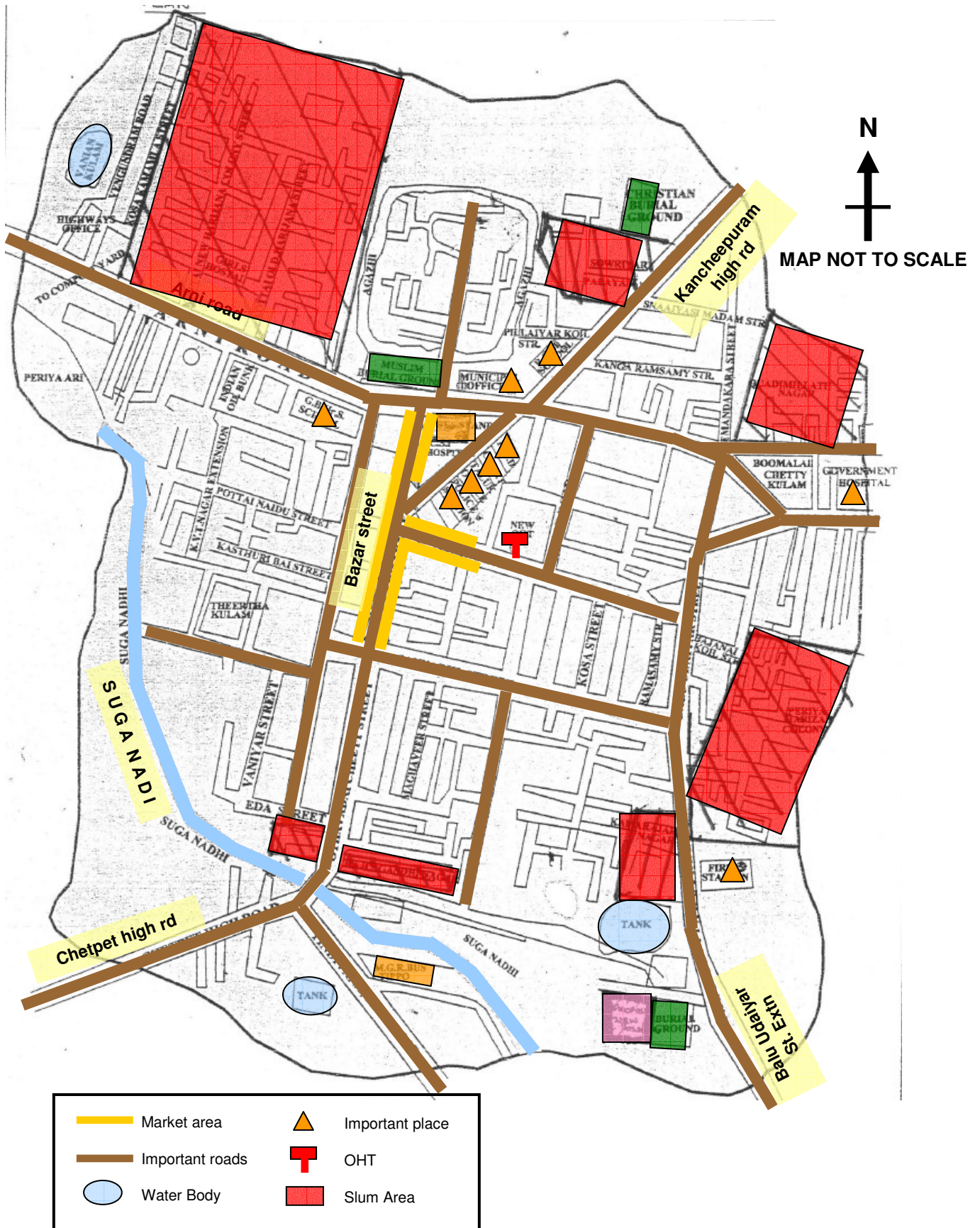
5.5.3 Markets

There are no daily markets in this town. The commercial activities are concentrated at Bazaar Street, Gandhi Road and Arni Road.

5.5.4 Recreation

In recreational facilities, the town has regular facilities like cinema hall, marriage halls, hotels etc. The town has 3 cinema halls, and a few restaurants. However, there are no boarding or lodging facilities available in the town.

Map Showing Notified Slum Areas in Vandavasi Town



[illegible]

- Proposed new bus stand**

5.6 Financial Assessment of Vandavasi 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 Vandavasi 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

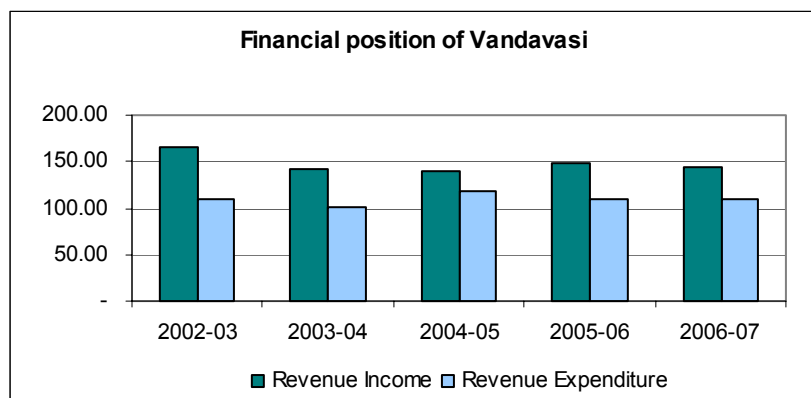
❖ Capital Account

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 Revenue income of the Municipality has shown a trend of inconsistent performance. The revenue income reflected a surplus for the initial two years of the analysis period.

Figure 3: Financial Position of Vandavasi



Revenue income of the Municipality for FY 2006-07 has been Rs 143.68 lacs, which is a decline of Rs 21.4 lacs from that in FY 2002-03. Analysis of the position of the revenue income with that of the revenue expenditure incurred by the Municipality reveals an unstable financial position of the revenue account of the Municipality. The revenue incomes have represented a trend of gradual decline over the period of analysis.

The revenue income of the Municipality has a negative growth rate for the period of analysis. The average growth rate has been a negative 3.14% against a growth rate of 0.24% registered by the revenue expenditure.

The Revenue account of the Municipality has however, been in surplus for the five years under study, despite significant fluctuations. While in 2002-03, the revenue account had a revenue surplus to the extent of Rs 55.09 lacs; it reduced to Rs 34.77 lacs by 2006-07 as can be seen from Table 14. The fluctuations in the revenue account have been on account of variations in the receipts from both own sources and assigned revenue sources of income to the Municipality. The operating ratio of the Municipality has been less than one during the period of analysis, and in FY 2006-07 the ratio has been at 0.61.

Table 14: Financial Status at a glance-Municipal Fund

(Figures in Rs lakhs)

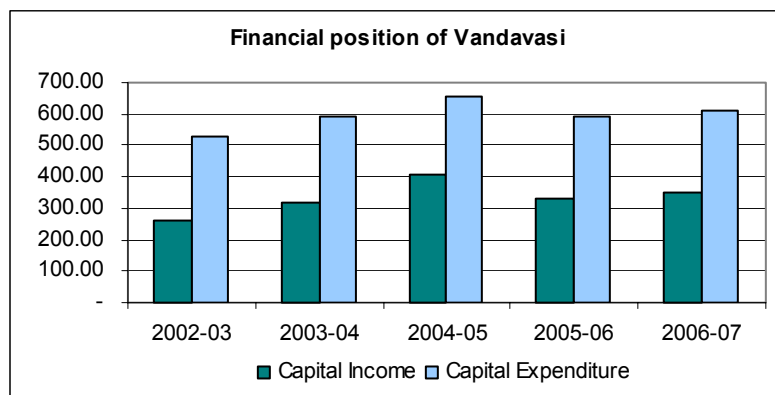
Items	2002-03	2003-04	2004-05	2005-06	2006-07
Revenue Account					
Income	165.06	142.95	139.56	149.02	143.68
Expenditure	109.97	100.03	117.50	109.17	108.90
Surplus Deficit	55.09	42.92	22.06	39.85	34.77
Capital Account					
Income	264.07	318.13	404.21	328.80	350.38
Expenditure	527.09	588.96	653.71	589.92	610.86
Surplus Deficit	(263.02)	(270.83)	(249.50)	(261.11)	(260.48)

Source: Revenue and Capital Fund Accounts, Vandavasi Municipality

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 Vandavasi municipality, grants have a major share in the capital income of the municipality.

The capital account has been for the years under study, been in deficit.

Figure 4: Capital Account Status



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.

Capital income on an average has registered a growth rate of 8.86% over the period of analysis at a CAGR of 7.33%. The increases in capital income have primarily been

on account of the grants received and contributions received by the Municipality. Capital expenditure incurred by the Municipality has for the period of analysis been much higher than the capital income and has maintained an average growth rate of 4.13% at a CAGR of 3.76%. There has been a substantial increase on the capital expenditure being incurred on storm water drains and public works of the Municipality.

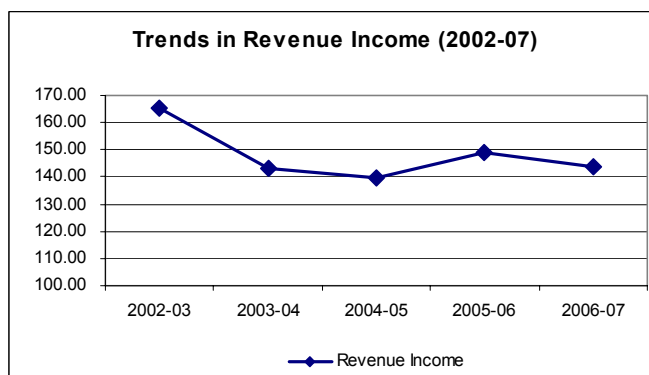
The following sections present detailed review of revenue and capital accounts, primarily aimed at assessing the municipal fiscal status and providing a base for determining the ability of Municipality to sustain the planned investments.

5.6.4 Revenue Receipts (own and assigned revenue)

The trend in the revenue income of the municipality as can be seen in Figure 5 reflects decreased rate of growth of income.

Figure 5 Trends in Revenue Income

The revenue incomes have exhibited a fluctuating trend over the period of analysis. There has been a significant decline in the incomes between FY 2002-03 to 2004-05. This decline has been on account of fewer receipts from surcharge on stamp duties and reduction in the grants and contribution received by the Municipality. Since these two components have a significant share in the total contribution made to the revenue incomes of Vandavasi Municipality, a decline in receipts from these two sources has resulted in significant declines in the total revenue incomes of the Municipality.



As can be seen from Figure 5, post 2004-05, there have been moderate increases in the incomes of the Municipality. The increases have been due to improvements in the collections made from both tax and non tax incomes of the Municipality, as well the assigned revenue sources of income. The Municipality has also received increased grants during this period. However, this again decreased in 2006-07.

The trend in the revenue incomes of the Municipality reflects an unstable financial position of the Municipality.

A detailed analysis of the revenue income of the municipality also entails understanding its composition of Vandavasi municipality can be seen in Table 15.

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 15: Source Wise Revenue Income (Figures in lakhs)

Items	2002-03	2003-04	2004-05	2005-06	2006-07
Own Source	72.34	78.12	85.58	78.68	80.79
Assigned Revenue	25.05	7.99	14.09	15.71	12.60
Grants & Contribution	67.67	56.34	39.90	54.63	50.29
Total	165.06	142.44	139.56	149.02	143.68

Source: Revenue and Capital Fund Accounts, Vandavasi Municipality

The share of own sources of income to the total revenue income of the municipality has on an average been 53.76% during the period of analysis. This share of own source of revenue to the total revenue income has during the period of analysis has on a whole shown an increasing trend. While in 2002-03, the share of own revenue sources to the total was at 43.83%, it has increased to 56.23% in 2006-07. Table 16 shows the revenue income for the municipality from its own sources of revenue.

Table 16: Revenue Income from Own Sources (Tax and Non Tax) (Figures in lakhs)

Items	2002-03	2003-04	2004-05	2005-06	2006-07
Taxes					
Property Tax	22.36	33.16	35.26	30.26	32.89
Professional Tax	5.09	5.51	6.94	5.85	6.10
Other Taxes & Charges	4.42	4.23	4.06	4.24	4.17
Non Tax Income					
Income from Properties	11.72	13.00	14.43	13.05	13.50
Income from Investments(Excl. Interest)	-	-	-	-	-
Interest from Investments	6.66	6.72	7.12	6.83	6.89

Income from Fees	5.68	7.98	8.10	7.25	7.78
Miscellaneous Income	16.41	7.53	9.66	11.20	9.46
Total	72.34	78.12	85.58	78.68	80.79

Source: Revenue and Capital Fund Accounts, Vandavasi Municipality

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 Vandavasi municipality, Property tax is one of the major sources of revenue for the municipality and it has an average share of 21.04% of the revenue receipts of the municipality. The rate of taxation has been 9% with the following composition. However, unlike the other municipalities in the case of Vandavasi, Property tax comprises of only General purpose tax and water tax.

Table 17: Rate of Taxation of Property Tax for Vandavasi

Rate of Taxation (% per annum)	
General Purpose Tax	6.50
Water Tax	2.50
Total	9.00

Source: State Finance Commission Report, 2005, Vandavasi 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, and Zone C with varying rates for residential and commercial properties under each zone.

Table 18: Demand, Collection, Balance Statement of Vandavasi Municipality

Items	2003-04	2004-05	2005-06	2006-07
Demand				
Current	54.80	52.45	54.04	55.04
Arrears	30.60	29.72	35.06	70.34
Total	85.40	82.17	89.10	125.38
Collection				
Current	38.52	39.10	33.00	36.93
Arrears	17.56	17.68	21.82	23.38
Total	56.08	56.78	54.82	60.31
Total No. of Assessments	6,021	6,202	6,388	6,580
Total of Collection Performance (%)	65.67	69.10	61.53	48.10

Source: Demand Collection Balance Sheet Statement, Vandavasi Municipality

Property tax being an important source of revenue income to the Municipality, the recoveries made from it are very critical in the overall revenue income growth. For the period of analysis, property tax has registered an average growth rate of 12.29%. Though the number of assessments has over the period of

analysis increased, it has not as much reflected in the collection performance of the Municipality. Infact, there has been a decline in the same as can be seen from Table 18.

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 Vandavasi municipality, professional tax contributes on an average 4.02% to the total revenues of the municipality. There have been marginal increases in the receipts from professional tax levied by 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 25.85% of the total revenue income of the municipality. The share of non tax income in the total revenue income of the municipality has seen a decline for the entire period under analysis. It has seen an average growth rate of a negative 1.43% at a CAGR of a negative 1.81%. The Municipality earns on an average 4.64% of the total revenue income as interest on the investments made by it. Miscellaneous incomes to the Municipality have been on an average contributing 7.25% to the revenue incomes of the Municipality. Incomes from fees 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 at an average of 10.03% of the total revenues. Entertainment Tax has an average share of 2.38%, however its overall share has seen a marginal decline over the period of analysis. Surcharge on stamp duty transfer has had a significant share of 7.65% in the total revenues of the Municipality. The income from stamp duty surcharges during the period of analysis has been fluctuating and has seen an overall decline.

Table 19: Income from Assigned Revenue

(Figure in Rs. Lakhs)

Items	2002-03	2003-04	2004-05	2005-06	2006-07
Entertainment Tax	5.15	2.34	3.47	3.65	3.15
Surcharge on Stamp Duty	19.87	5.65	10.62	12.05	9.44
Other Transfers	0.03	-	-	0.01	0.00
Total	25.05	7.99	14.09	15.71	12.60

Source: Revenue and Capital Fund Accounts, Vandavasi Municipality

5.6.4.5 Revenue Grants and Contributions

The Municipality also receives revenue grants and contribution from the government under various heads. Revenues Grants form a very important component of the income sources to the Municipality with an average share of 36.13% for the five years of analysis. The most important of the grants received by

the Municipality has been the funds devolved under SFC grants. 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.

Table 20: Income from grants and contribution

(Figure in Rs. Lakhs)

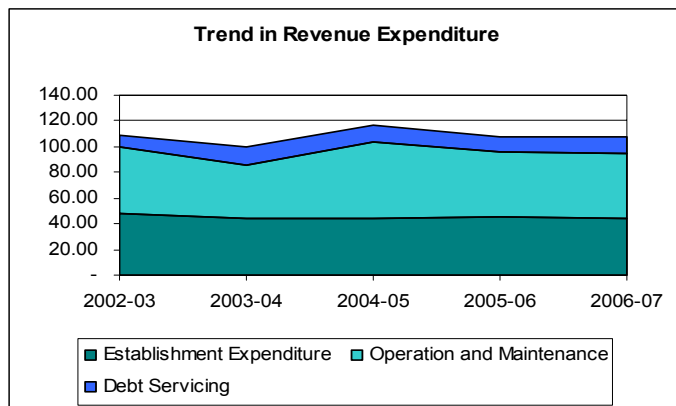
Items	2002-03	2003-04	2004-05	2005-06	2006-07
SFC Fund	67.67	56.34	39.90	54.63	50.29
Other Grants	-	-	-	-	-
Total Grants	67.67	56.34	39.90	54.63	50.29

Source: Revenue and Capital Fund Accounts, Vandavasi Municipality

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.

Figure 6: Trend in Revenue Expenditure



It may be noted from the adjacent Fig: 6 that the revenue expenditure incurred by the Municipality has exhibited little variation during the period of analysis; however the overall trend has been that of an increase after a reduction in 2003-04. For the period of the analysis, the revenue expenditure however, registered an average growth of 5.76% CAGR of 5.33%.

Table 21: Sector Wise Revenue Expenditure

(Figure in Rs. Lakhs)

Items	2002-03	2003-04	2004-05	2005-06	2006-07
Establishment Expenditure	48.04	44.35	44.17	45.52	44.68
Operation and Maintenance	51.28	41.33	59.53	50.71	50.52
Debt Servicing	9.73	13.71	12.58	12.00	12.76
Total Expenditure	109.04	99.39	116.28	108.24	107.97

Source: Revenue and Capital Fund Accounts, Vandavasi Municipality

The average growth of revenue expenditure has been in the negative and thereby leading to a revenue surplus situation for the Municipality.

5.6.5.1 Establishment Expenditure

Establishment expenditure accounts for 42.02% of the total revenue expenditure incurred by the Municipality. Though establishment expenditure is the major component of revenue expenditure being incurred by the Municipality, it has registered a negative year on year growth and has had an overall negative CAGR to the tune of 1.8%.

5.6.5.2 Operation and Maintenance Expenditure

Operation and Maintenance expenditure has had a significant share of 50.39% on an average of the total revenue 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 7: Composition of Operation and Maintenance Expenditure

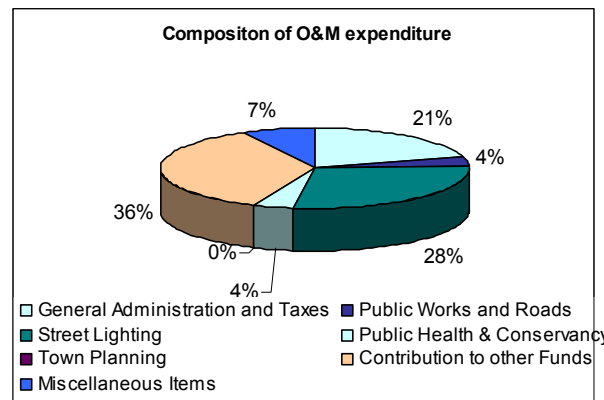


Figure 7 depicts the composition of Operation and Maintenance expenditure incurred by the Municipality and an average share of all the items of expenditure. The expenditure incurred by the Municipality towards meeting the power bills is very high amounting to about 28% total O&M expenses. General administration expenses contributes to about 21% of the total O&M expenditure of the Municipality.

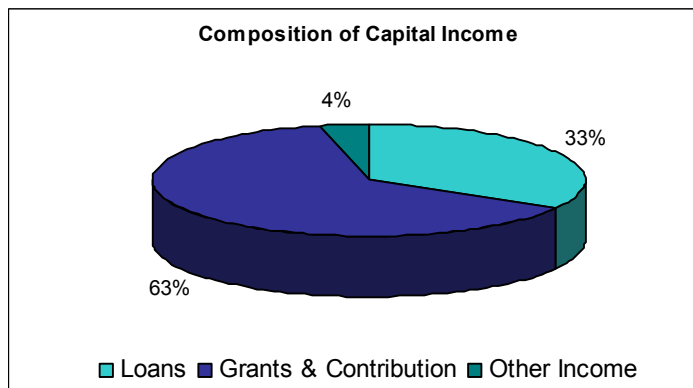
5.6.5.3 Debt Servicing

The Municipality on an average spends 11.29% of its expenditure towards debt servicing and DSR (as a % of revenue income) for 2006-07 has been at 5.94% which has increased from the 2002-03 ratio of 4.95% indicating that the Municipality has not been in a position to repay back its debt. The DSR of the municipality is significantly lower than the threshold of 25% considered ideal 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

Capital Receipts

Figure 8: Composition of Capital Income


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 33% of the capital income against 63 % contribution from grants and 4% from other sources of capital income. 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.

Table 22: Sources of Capital Income

(Figure in Rs. Lakhs)

Items	2002-03	2003-04	2004-05	2005-06	2006-07
Loans	115.53	111.93	107.31	111.59	110.28
Grants & Contribution	141.76	195.84	278.60	205.40	226.61
Other Income	6.79	10.36	18.30	11.81	13.49
Total	264.07	318.13	404.21	328.80	350.38

Source: Revenue and Capital Fund Accounts, Vandavasi Municipality

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 has registered a continuous increase for the period of analysis. The majority expenditure is incurred towards roads, subways, causeways and buildings which have an average share of 74% in the total capital expenditure incurred by the Municipality. The average year on year growth in the expenses incurred by the Municipality has been 4.13% with a CAGR of 3.76%. There have been significant increases in capital expenditure being incurred on storm water drains as well.

Table 23: Capital Expenditure incurred by the municipality (Figure in Rs. Lakhs)

Items	2002-03	2003-04	2004-05	2005-06	2006-07
Roads, Subways, Causeways and Buildings	384.35	433.23	491.19	436.26	453.56
Street Lighting	6.37	6.37	6.75	6.50	6.54
Solid Waste Management	8.53	8.53	8.53	8.53	8.53
Storm Water Drains	124.74	137.69	142.10	134.84	138.21
Bridges & Flyovers	-	-	-	-	-
General	3.10	3.14	5.14	3.79	4.03
Elementary Education	-	-	-	-	-
Others	-	-	-	-	-
Total	527.09	588.96	653.71	589.92	610.86

Source: Revenue and Capital Fund Accounts, Vandavasi Municipality

5.6.7 Debt Liability status of the Municipality

Analysis of the loan liability status of Vandavasi municipality reveals that the current total outstanding debt liability is to an extent of Rs 50 lacs. This liability arises against the loan borrowing of the Municipality for which it has been making repayments over the period of analysis. Although the municipality had made a loan borrowing of Rs 96.14 lacs from the State government at 18% rate of interest and it has an outstanding amount of Rs.88 Lacs towards this, the Govt loan has been waived off from FY 2007-08. The other loan has been for an amount of Rs 50 lacs from TNUDF in the year 2000 at a rate of interest of 15.50% with a repayment time of 13 years. Against this loan, the Municipality has been in a position to repay off only Rs 5.75 lacs of interest and the Rs 50 lacs of principal amount is the repayment due.

Table 24 Debt Liability Status of Vandavasi Municipality

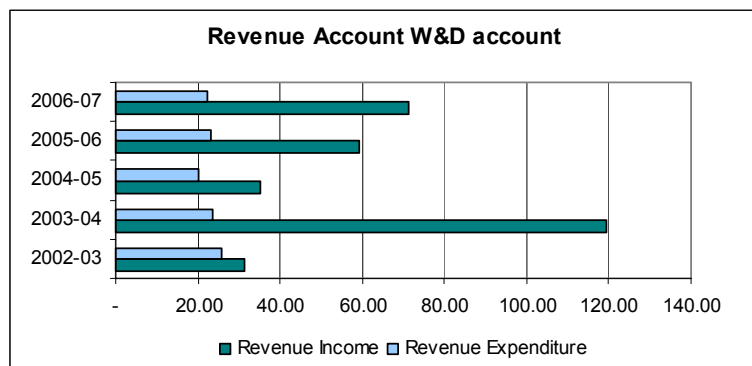
S.No.	Details of Loan	Loan Amount	Year of drawl	Rate of interest	Re-payment years	Loan repaid as on 31.03.05			Overdue amount as on 31.03.05			Out standing
						Principal	Interest	Total	Principal	penal interest	Total	
1	Government Loan	96.14	1998	18.00%	20	8.23	19.27	27.51				0
2	TNUDF(MUDF) loan for storm water draining	50.00	2000	15.50%	13			5.75	-	-	-	50
	Total	146.14				8.23	19.27	33.25	-	-	-	50

Source: Revenue and Capital Fund Accounts, Vandavasi Municipality

5.7 Water Supply and Drainage Account

The water and drainage accounts of Vandavasi 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.

Figure 9: Trends in Revenue Account



The revenue income of the Water Supply and Drainage Account (W&D) account of Vandavasi Municipality has grown to a level of Rs 71.24 lacs in FY 2006-07 from Rs 31.54 lacs in FY 2002-03, registering an average growth of 74% at a CAGR of 23.6% for the period of analysis, while revenue expenditure exhibited a negative growth of 4.62% 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 25: 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	31.54	119.29	35.21	59.21	71.24
Expenditure	25.88	23.44	19.99	23.10	22.18
Surplus/ Deficit	5.67	95.85	15.22	36.11	49.06
Capital Account					
Receipts	11.62	28.44	34.84	24.97	29.42
Payments	84.05	93.66	102.22	93.31	96.39
Surplus/ Deficit	(72.43)	(65.21)	(67.37)	(68.34)	(66.98)

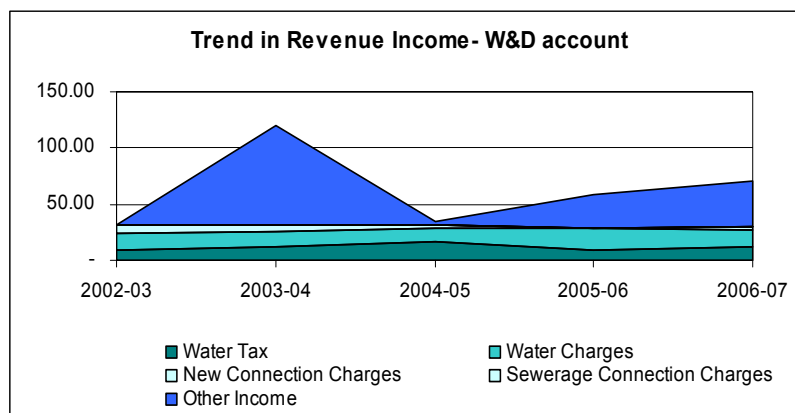
Source: Revenue and Capital Fund Accounts, Vandavasi Municipality

On the capital account front, capital expenditure of Vandavasi was Rs. 96.39 lacs in the F.Y 2006-07 against a capital income of Rs 29.42 lacs in the same year. The expenses incurred by the Municipality are much higher than the capital income of the Municipality. The capital account under W&D has been in a deficit for the entire period of analysis, as can be seen from Table 25.

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 Vandavasi to sustain the extent of planned investments identified under the City Corporate Cum Business Plan.

5.7.1 Water and Drainage -- Revenue Account

Figure 10: W&D 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.

5.7.2 Revenue Income

The revenue income of the Municipality has increased over the period of analysis as mentioned before, however as can be seen from Figure 10, in 2003-04, there had been a steep rise followed by a sharp decline in the following year. This spurt in incomes in 2003-04, has been due to a significant amount being carried forward to the current year as prior year's income.

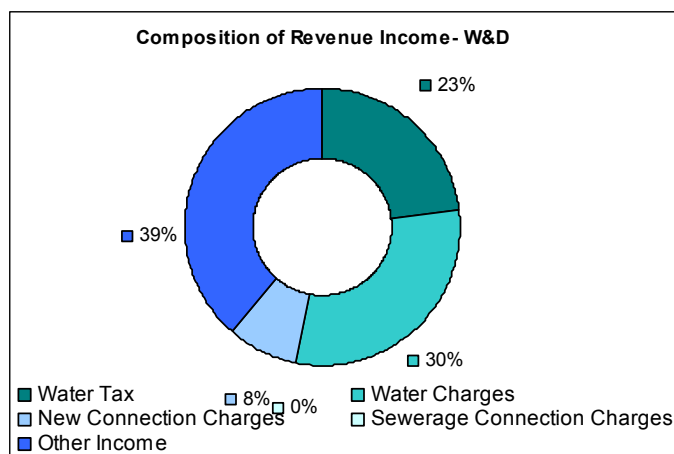
The main contributors of income are from water charges and water tax, which constitute 23.19% and 29.86% respectively. In the last five review years the income from water tax has increased from Rs 8.57 lacs in FY 2002-03 to Rs 12.28 lacs in 2006-07. The income from water charges have however been registering declines over the entire period of analysis as can be seen from Table 26.

Table 26: Source-wise revenue break up of W&D Account

(Figure in Rs. Lakhs)

Items	2002-03	2003-04	2004-05	2005-06	2006-07
Water Tax	8.57	11.28	16.45	9.10	12.28
Water Charges	15.70	14.72	11.52	19.57	15.27
New Connection Charges	6.84	5.46	3.86	-	3.11
Sewerage Connection Charges	-	-	-	-	-
Other Income	0.42	87.83	3.38	30.55	40.59
Total Revenue Income	31.54	119.29	35.21	59.21	71.24

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

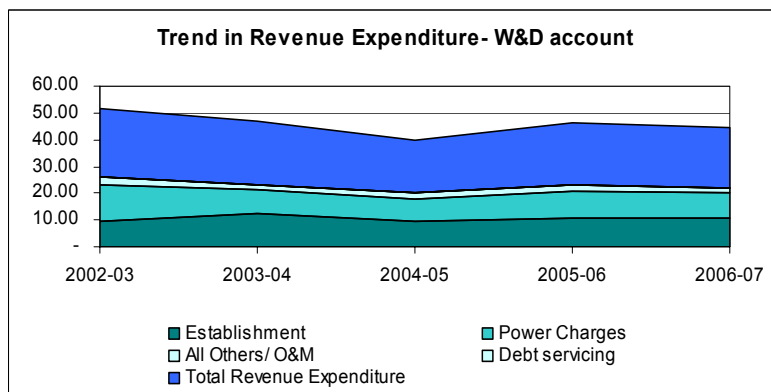
Figure 11: Composition and Trends in Revenue Income of W&D Account


5.7.3 Revenue Expenditure

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

Revenue expenditure of Vandavasi 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 27.

The revenue account indicates that the overall revenue expenditure registered a negative average annual growth of 3.14% against revenue income of 74 %. The analysis indicates that the quantum of revenue income has been higher than the revenue expenditure;

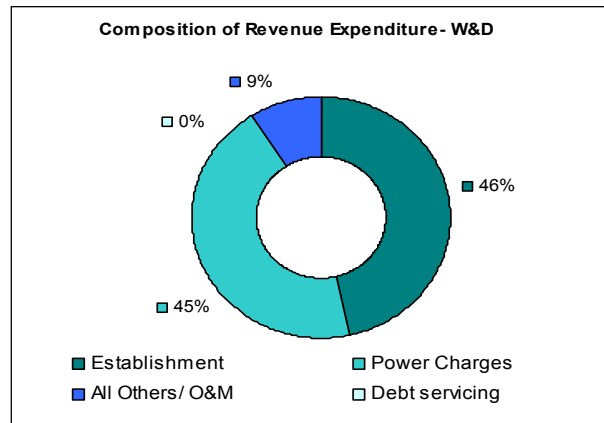

Table 27: Application of funds by heads of W&D Accounts

(Figure in Rs. Lakhs)

Items	2002-03	2003-04	2004-05	2005-06	2006-07
Establishment	9.73	12.61	9.28	10.54	10.81
Power Charges	13.68	9.06	8.78	10.51	9.45
All Others/ O&M	2.47	1.77	1.93	2.06	1.92
Debt servicing	-	-	-	-	-
Total Revenue Expenditure	25.88	23.44	19.99	23.10	22.18

Source: Recasted Accounts of Water Supply and Drainage Fund, Vandavasi 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 Municipality on establishment expenses constitutes 45% of the total revenue expenses. However, the maximum expenditure is made towards power charges at 46%.

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.

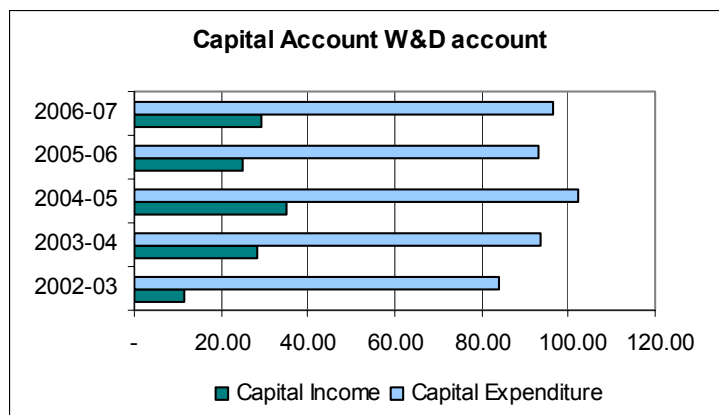
Figure 14: W&D Capital Account

Capital Income

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

Capital Expenditure

The capital expenditure of Vandavasi includes all expenditure incurred on asset creation. In case of Vandavasi, the Municipality has incurred cumulative of around Rs 469.6 lacs from its Water Supply and Drainage account, 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.

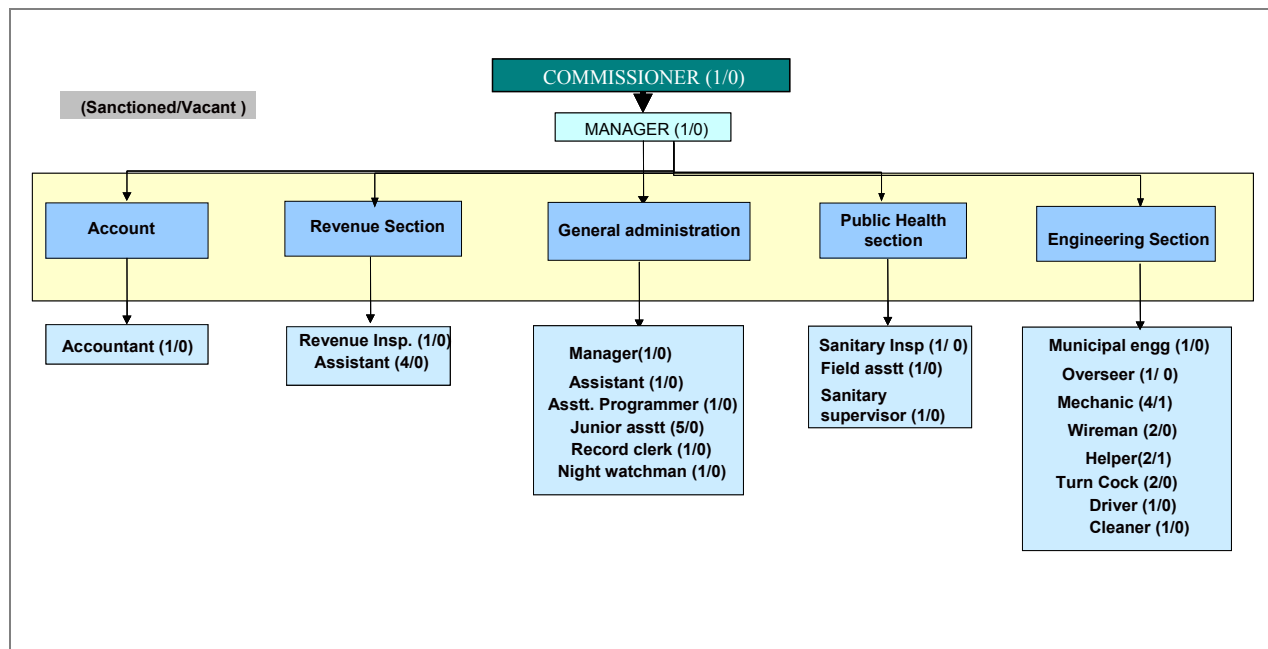


5.8 Institutional setup of Vandavasi Municipality

Vandavasi Municipality was upgraded to the status of a Second Grade Municipality in the year 1998. This up gradation was based on the G.O. 85 M.A. & W.S. Dept. Prior to this, since 1992, the Municipality had been a Third Grade Municipality.

5.8.1 Municipal Structure

Figure 15: Institutional structure of Vandavasi Municipality



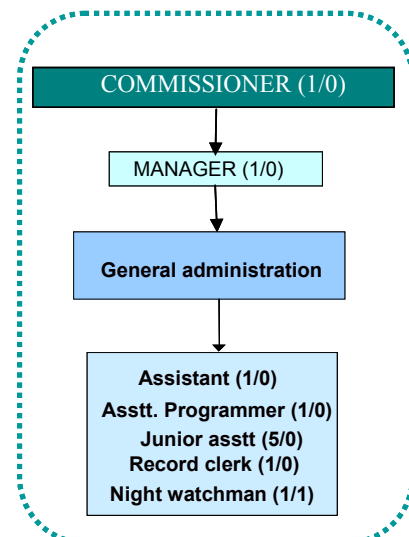
5.8.2 Departments

Vandavasi Municipality consists of five functional departments viz. general administration, engineering, public health, revenue and accounts.

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, and in the case of this Municipality. The Commissioner is assisted by a Manager under who are five junior assistants. In addition, there is 4support staff responsible for handling administrative work.

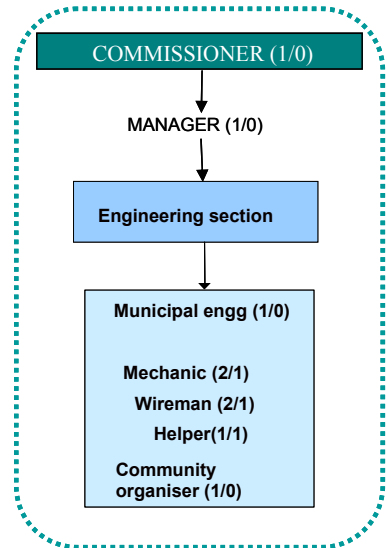


Engineering

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 Vandavasi 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. The department has 3 fitters, 1 Electrician, 1 driver 2 turn clock persons, 1 cleaner, 1 helper, 2 helper, 2 night watchmen, and 2 wiremen.



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.

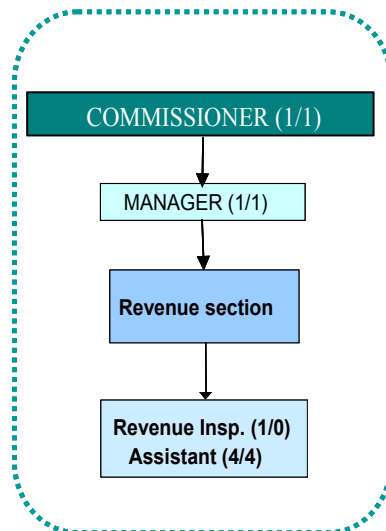
Revenue Section

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 of Vandavasi does not have a Revenue inspector; however there are 4 Revenue 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.



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.

Public Health

The Public health department is headed by a sanitary inspector. This inspector is in turn assisted by one Field Assistant, 3 sanitary supervisors and four drivers who mainly would be responsible for the transport of the solid waste collected and meant for disposal. However, in the case of Vandavasi the post of the sanitary inspector and that of the field assistant remain 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.

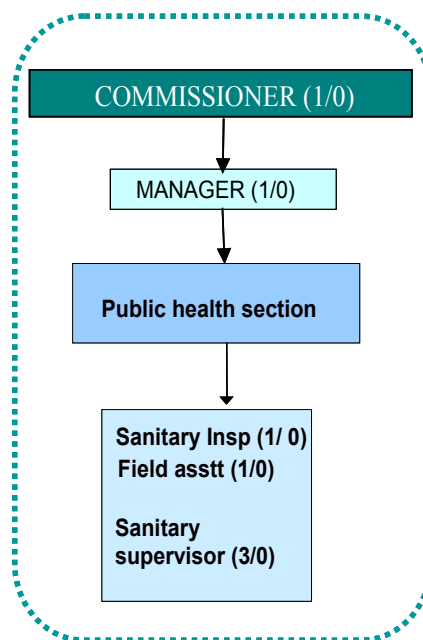
There is 1 sanitary supervisor who co-ordinates and assists the entire conservancy work. The sanitary workers sweep the roads and clean choked drains on a daily to weekly basis depending upon the prevailing activities. For the transportation of the garbage collected to the disposal point, the municipality employs own and hired trucks. The maintenance and upkeep of the trucks is also the responsibility of the public health department.

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 officer.

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 28 presents at a glance the department wise staffing pattern for Vandavasi municipality.

Table 28: Staffing Schedule in Vandavasi Municipality

	Department/ Section	Sanctioned posts	Occupied posts	Vacant posts
a	General Administration			
i	Commissioner/ Chief Officer	1	1	-
ii	Manager	1	1	-
iii	Assistant	2	2	-
iv	Asst. programmer	1	1	-
v	Jr. Assistant	9	5	2
vi	Record Clerk	2	1	1
vii	Typist	2	-	2
ix	Office assistant	1	-	1
x	Night watchman	1	-	1
	Total general administration	20	11	9
b	Engineering			
i	Municipal Engineer	1	1	-
ii	Overseer	1	1	-
iii	Mechanic			
iv	Fitter	1	1	-
v	Electrician	2	1	1
vi	Wireman			
vii	Helper	2	2	-
viii	Turn Cock			
ix	Community Organizer	2	2	-
x	Cleaner			
	Total engineering	9	8	1
c	Public Health			
i	Sanitary Inspector	1	1	-
ii	Sanitary Supervisor	4	3	1
iii	Field Assistant	1	-	1
iv	Driver	4	3	1
v	Sanitary Supervisor	4	3	1
vi	Maternity Assistant	2	1	1
	Maternity Ayah	2	-	2
	Total public health	17	9	8
d	Revenue section			
i	Revenue inspector	1	1	-
ii	Revenue Assistants	6	6	-
	Total rev	7	7	-
e	Accounts section			
i	Accountant			

	Department/ Section	Sanctioned posts	Occupied posts	Vacant posts
	Total a/c			
f	Others			
i	Town planning Section	10	6	4
ii				
	Total others			
	TOTAL STAFF	63	41	22

Source: General Administrative Department, Vandavasi Municipality

5.8.4 Capacity Assessment

Issues identified

The Municipality faces the issue of understaffing. This pertains to several posts which inspite of being sanctioned are lying vacant. The municipality is short of an Accountant to head the Accounts department. Also there is no Revenue Inspector and the Municipality does not have a sanitary inspector, also the public health department is quite understaffed.

5.8.5 Status of E Governance

E governance facility has been introduced at Vandavasi Municipality which offers online citizen services. Information related to Vandavasi Municipality is easily accessible to the Public. It obviates the need to visit Vandavasi Municipality in person to pay tax, or to get certificates such as Birth and Death, Building Plan, Trade License etc. The E-governance has ensured transparency and the residents can easily know about the dues they have to pay to the Vandavasi Municipality and information they want to know at any place at any time. The mode of payment being made in a collection of Taxes due to Vandavasi Municipality is expected to considerably increase.

Owing to the Advanced Technology in communication and Information, the database server of the Municipality is connected with the Facilitation Counter by means of Local Area Net Work. The Wide Area Net Work and Dynamic Website is in the Offing

A new Facilitation Counter at the Cost of Rs. 2 Lakhs has been installed in the premised of the Vandavasi Municipality to facilitate remittance of Tax. One Server and 6 Nodes and other Essential peripherals have been erected. The required Software Modules were installed on 05.01.2003 and the required data have been fed and brought up to date.

The Bill Collectors are trained to issue Computerised receipts for the taxes they receive in the Service Counters. The details of Birth and Death are updated in Vandavasi Municipality. Sanitary Inspectors are also able to issue Computerised Birth and Death Certificated because of the training imparted to them.

6 STRATEGY FOR GROWTH AND DEMAND ASSESSMENT OF PROJECTS IDENTIFIED

6.1 Strategic Development Plan

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 Vandavasi 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. • The town acts as a trading centre for surrounding villages. • Well connected to surrounding dig towns • Potential for agro produce market development 	<ul style="list-style-type: none"> • Majority of the workforce engaged in agricultural activities • The town is located in an economically backward area thus does not have 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 also 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 Vandavasi 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 83 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 3.97 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. 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 29: Demand assessment for projects for Water sector

ULB's Suggestion	Project's Proposed by Consultant
❖ Scheme to increase the per capita supply of water	Integrated Water supply Scheme for the town of Vandavasi
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"> ❖ Water Supply source augmentation by 3.97 MLD ❖ Development of water treatment facility ❖ Elevated Storage capacity augmentation ❖ Refurbishment of old Distribution Network ❖ Metering System – for all connections

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:

1. **Source Augmentation:** The Municipality needs to design water supply system whereby the total water supply in the town is increased to a total of 3.97 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
2. **Water treatment facility:** A water treatment plant with a total capacity of 3.97MLD 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.
3. **Installation of water meters:** At present there are 3,094 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 30: Project development initiatives to be taken by the Municipality

Immediate measures to be taken	Authorities/Agencies responsible
Finalising the sub projects to be undertaken	Vandavasi 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	Vandavasi 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 	Vandavasi Municipality

6.3 Sewerage

At present, the Vandavasi 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 70km to cover the entire population of the Municipality Construction of a sewerage system which can handle a capacity of 5.41MLD by 2031 Treatment plant should be provided to facilitate environmentally safe disposal
Expected Outcome	Synchronisation with water supply capacity, ability to meet service level targets and disposal norms

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 31: Demand assessment for projects 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 Vandavasi
Project Rationale	Sub- Projects
<p>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 2.8 MLD of water (surface water) and after usage the waste water is discharged into the drains. About 2.24 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.</p>	<ul style="list-style-type: none"> i. UGD network development – 54.3km ii. Treatment capacity development (STPs) – 5.41 MLD iii. Pumping machinery (Intermediate pumping stations/transmission mains)

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 5.41 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 32: Project development initiatives to be taken by the Municipality

Immediate measures to be taken	Authorities/Agencies responsible
Finalising the sub projects to be undertaken	Vandavasi 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	Vandavasi Municipality

6.4 Roads, Transport Management and Street lighting

Assessment of the quality and length of roads in Vandavasi 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 1.18 mt is lesser 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. 15 km of CC roads, New roads to cater to missing links and developing areas: total road length reaching 28 km in 2016 and 20 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 33: Demand assessment for projects 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 ❖ Up gradation of bus stand and related amenities 	Road and traffic improvement project
Project Rationale	Sub- Projects
<ul style="list-style-type: none"> ❖ 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 	<ul style="list-style-type: none"> ❖ Construction of 28 km of additional roads by 2016 and further 20 km by 2031 ❖ Upgradation of roads 15 km of CC road by 2016 ❖ 1398 streetlights

6.4.1 Details of Sub projects to be undertaken:

- 1. Road Construction:** To address the current gap of per capita road length, and the future demand, the Municipality would have to construct 28 km 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.
- 2. 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 15 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.
- 3. 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.
- 4. 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 1398 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 34: Project development initiatives to be taken by the Municipality

Immediate measures to be taken	Authorities/Agencies responsible
Finalising the sub projects to be undertaken	Vandavasi 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	Vandavasi Municipality

6.5 Storm Water Drainage

At present, the Vandavasi 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 101 km by 2016, of which 61 km should be pucca closed. Augmentation of network length by 72 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 35: Demand assessment for projects 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 Vandavasi
Project Rationale	Sub- Projects
<p>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. 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 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>	<ul style="list-style-type: none"> i. Drains New Formation – 72.7 km (40.75km pucca open and 31.97 km pucca closed) ii. Drains upgradation – 29.16 km pucca open to pucca closed iii. Desilting & Strengthening of Primary Drains

6.5.1 Details of Sub projects to be undertaken:

- 1. Construction of storm water drains:** The Municipality needs to undertake laying of 61 km of pucca closed drains by 2016. In addition to the construction of pucca closed drains, the municipality is required to construct 41 km of pucca open drains, such that by 2016, the total length of storm water drains in Vandavasi reaches the required level of 103 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 36: Project development initiatives to be taken by the Municipality

Immediate measures to be taken	Authorities/Agencies responsible
Finalising the sub projects to be undertaken	Vandavasi Municipality in consultation with Councillors and other stakeholders
Preparation of Detailed Project Report(s) for finalised projects	Vandavasi Municipality
Submission of DPR to funding agency for seeking approvals	Vandavasi 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 12.5 Metric Tonnes (MT) of waste per day and this would increase to 16.7 MT by 2016 and 20 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 37: Projects identified by ULB and Consultant for Solid Waste Management

ULB's Suggestion	Project's Proposed by Consultant
	Development of Vandavasi landfill site
Project Rationale	Sub- Projects
<p>The present compost yard lack improved facilities for proper composting of the waste.</p> <p>Thus enhancement of waste carrying capacity as well as improvement of compost yard is important.</p>	<ul style="list-style-type: none"> ❖ Development and augmentation of landfill site ❖ Increasing the number of equipments required for carrying about primary and secondary waste collection

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 20 MT of waste in the town by 2031 against the current generation of 12.5 MT. By 2016, the generation is estimated to be 11.36 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 20 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 38: Project development initiatives to be taken by the Municipality

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

6.7 Slums and Basic Services for the Urban Poor

The Municipality has 28 slums inhabited by 20.8% 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. 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 39: Projects for Slums & basic services for urban poor

ULB's Suggestion	Project's Proposed by Consultant
-	Slum Development in Vandavasi
Project Rationale	Sub- Projects
❖ 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:

- 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.
- 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 40: Project development initiatives to be taken by the Municipality

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

6.8 Commercial Amenities

In addition to the core town infrastructure, the rapid urban assessment and the stakeholder consultation has highlighted the need to develop certain commercial amenities in the town. During the stakeholders meeting held at the municipality, a few of commercial projects has been identified to improve the commercial facilities at the town. These projects are mostly related to market development as the town has mostly agriculture dependent population but no big market place for agricultural products is available in the town and people go to Panruti and Cuddalore for the same. Apart from providing facility to the local population, these projects also lead to increase in the revenue income of the Vandavasi municipality. List of identified projects is shown below:

1. Construction of shopping / office complex
2. Development of new market for fish and vegetable
3. Construction of multi purpose Community Hall at Cherpet Road
4. Construction of hostels / dormitories (for working men/ women)

6.9 Non Commercial Amenities

6.9.1 Park and Pond development Project

The Municipality has only one park and the water bodies such as ponds lie in a state of neglect. The stakeholders have recommended development of ponds of the Municipality. Since there are no water bodies which are of a scale that would make the development of boating facilities feasible, the Municipality would have to focus on ensuring regular upkeep of the ponds.

Table 41: Projects identified by ULB and Consultant for Slums & basic services for urban poor

ULB's Suggestion	Project's Proposed by Consultant
<ul style="list-style-type: none"> ▪Development of ponds ▪Development of boating facilities at Bhooma Chetti Kullam 	Park and Pond development project
Project Rationale	Sub- Projects
Development and maintenance of the ponds in the Municipality is necessary in the light of their poor upkeep. Also there being only one park, development of additional recreational facilities is also important	<ol style="list-style-type: none"> i. Park development- 3 nos ii. Development of primary health centre and hospital iii. Construction of new school

The Municipality would have to increase the number of parks in the Municipal area. For doing so, it has to also identify and acquire plots which can be developed as parks. The possibility of development of parks around the ponds in the Municipality may be explored. The Municipality would have to engage in cleaning up the pond and ensure regular upkeep of the pond.

6.9.2 Construction of the following:

The stakeholders had recommended for construction of the following buildings:

1. Construction of hospital and health centre
2. Construction of New school in the town

7 CITY INVESTMENT PLAN

City Investment Plan in line with the identified vision for Vandavasi has been prepared through a comprehensive process of assessment of gaps in 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 by efficiency measures, improving service delivery by creating infrastructure assets and improving the governance aspects of Vandavasi Municipality and PWD-PH. 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 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 on 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 Vandavasi Municipality for the future 6-10 year period. As a part of Vandavasi CCCBP the CIP prepared for includes the following:

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

In Vandavasi, Vandavasi Municipality have the primary responsibility of delivering municipal service and hence the CCCBP proposals have to be implemented by 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 the short and long-term infrastructure needs. The project identification has been done through a demand-gap analysis of the services and review of the reports available with Vandavasi Municipality. Further project prioritisation and phasing of investments is based on the strategies listed out under each service sector primarily based on stakeholder's consultation. 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 Vandavasi to universalise the services for the current population as well as accommodate the expected increase in population. In sectors where long-term planning is required (for example, source development for water supply, development of landfill site etc), planning horizon till the year 2031 is considered. Assets created in such sectors consider the projected population in this horizon. Vandavasi 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 Vandavasi by the year 2031 is **Rs. 60.88 crores** at constant prices. Of the total identified investment need a total of **Rs. 46.35 crores** is proposed for investment for Vandavasi 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 Vandavasi by 2031	Rs. 60.88
	Investment need of Vandavasi by 2012-13	Rs. 46.35

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

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

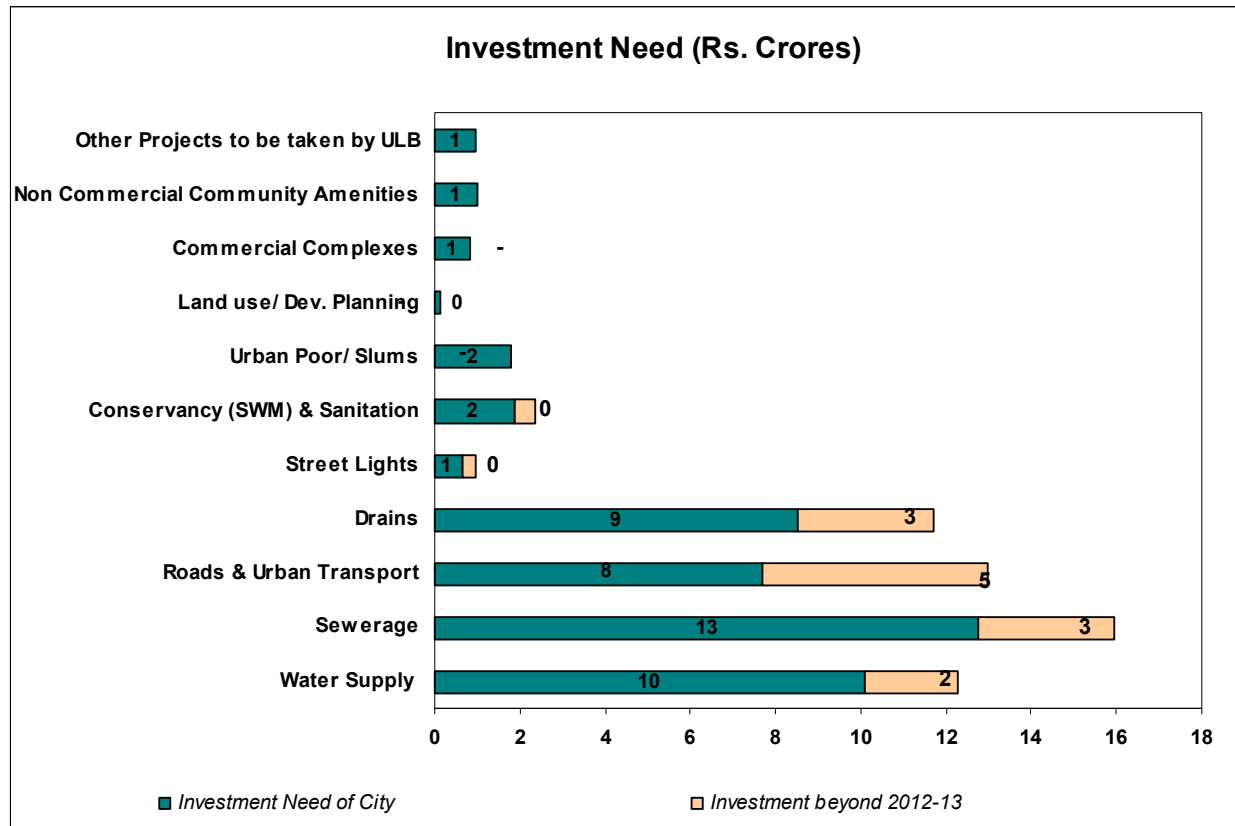
- *Priority needs, with developed areas receiving priority over future development area*
- *Inter and intra-service linkages, viz. water supply investments shall be complemented by corresponding sewerage/ sanitation improvements*
- *Size and duration of the requirements, including preparation and implementation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

The table below presents the summary of sector-wise total investment need 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	1,229	1,009	1,244	21.78	82%
2	Sewerage	1,593	1,276	1,681	27.53	80%
3	Roads & Urban Transport	1,296	769	1033	16.58	59%
4	Drains	1,170	853	1,135	18.41	73%
5	Street Lights	95	66	81	1.42	69%
6	Conservancy & Sanitation	234	190	238	4.09	81%
7	Urban Poor/ Slums	177	177	231	3.83	100%
8	Land use/ Dev. Planning	15	15	17	0.32	100%
9	Commercial Complexes	85	85	512	1.83	100%
10	Non-Commercial Community	100	100		2.16	100%
11	Others	95	95		2.05	100%
	Total	6,088	4,635	6,175	100	76%

* 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 Vandavasi Municipality


As can be observed from the table above, a total 76% of the identified investment need is proposed for funding by 2012-13. From the perspective of sector priorities, about 82% of the investment required for water supply will be proposed by year 2012-13. Sewerage and conservancy at 80% and 81% respectively follow Water Supply sector. Drains and roads sectors envisage around 73% and 59% respectively of the identified investment by 2012-13 while street lighting sector envisage about 69% of the identified investment by 2012-13.

Within the total investment proposed by 2012-13 for Vandavasi Municipality, maximum share taken by the sewerage sector at about 27.5 % followed by water sector at more than 21.8%. drainage sector accounts for 18.4% of the investment. The conservancy sector accounts for about 4 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 is 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

Long term needs (2031)

The demand-gap assessment presented in strategies indicates a water demand of 6.77 MLD supply by 2031 at 135 lpcd (CPHEEO Norms). It is considered that secondary treatment facility is required for the 6.77 MLD required 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 74.54 Km is required for the needs of 2031. In line with the augmentation of the system, storage capacity is required to augment and a minimum capacity of 33 percent of supply is envisaged to be in the form of elevated storage facility.

The total investment need for water sector by year 2031 is estimated at Rs. 1,229 lakhs. However the above-mentioned gaps in the system are to be filled in phases in line with the quantum of population addition. Accordingly, part of the identified investment proposed to be funded by 2012-13 to cater to the current gaps and meet the immediate requirements.

At present, the ULB has suggested to explore possibility of augmenting existing water source improve water supply. However, this has to be designed to serve long term purpose.

Priority needs (2012-13)

A sum of Rs. 1,009 lakhs (82 percent of 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. 198 Lakhs for source augmentation, Rs. 203 Lakhs for treatment plant with a capacity of 6.77 MLD; at present the water network is about 21.6 km, which is not sufficient for today's demand and to be increased to 57.73 by 2016. Elevated storage reservoirs capacity is satisfactory as of now but has to be increased marginally for 2016; Refurbishment of about 4.32 Km of old distribution network, which requires about Rs. 35 Lakhs; and converting the entire house service connections into metered connections will cost Rs. 206 Lakhs as Vandavasi does not have metered house connections at present.

Action Plan for Implementation (2008-09 to 2012-13)

Water Supply		2008-09	2009-10	2010-11	2011-12	2012-13
Investment upto 2012-13(Rs. lakhs)	Rs. 1,009 Lakhs	228	336	374	81	-
Capital Facilities	Water supply Augmentation	✓	✓	✓		
	Treatment Plant		✓	✓	✓	
	Distribution network augmentation	✓	✓	✓		
	Elevated storage reservoirs of 0.59 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, potential for increasing the water drawn from the available ground water source of the town. Identify the areas hitherto not covered by 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

Long term needs (2031)

As there is no sewerage network in the Vandavasi town, based on CPHEEO norms it is assumed that 80 percent of water supply will generate 5.41 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 and accordingly a total network length of 70.16 Km is required to be in place for 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 that is 5.41 MLD.

The total investment need for sewerage sector by 2031 is estimated at Rs. 1,593 lakhs. 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. Accordingly part of the identified investment is proposed to be funded by 2012-13 to cater to the current gaps and meet the immediate requirements.

Priority needs (2012-13)

A sum of Rs. 1,276 lakhs (95 percent of total investment need in the sewerage sector) is the capital cost estimation for the proposed interventions for augmentation of sewerage systems. The proposals include; Rs. 1,087 Lakhs for sewerage network of 54.33 Km for immediate requirements along with necessary pumping machinery; Rs. 189 Lakhs for construction of Sewerage Treatment Plant (STP) involving advanced processes like UASB to cater to the entire sewerage being generated.

Action Plan for Implementation (2008-09 to 2012-13)

Sewerage System/ UGD		2008-09	2009-10	2010-11	2011-12	2012-13
Investment Upto 2012-13(Rs. lakhs)	Rs. 1,276 Lakhs	-	217	312	421	326
Capital Facilities	Conveyance and Rising mains for capacity augmentation		✓	✓	✓	✓
	Collection network augmentation by about 54.33 km		✓	✓	✓	
	Sewerage Treatment Plants about 5.41 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"> Preparation of 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"> 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%) 					

Sewerage System/ UGD	2008-09	2009-10	2010-11	2011-12	2012-13
• Cost recovery through user charges (100% O&M expenses)					

7.2.3 Roads, street lighting and traffic management

Long term needs (2031)

The demand-gap assessment above presented indicates a need for about 87.7 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 atleast 1.75 m and a minimum average road width of 7.0 m with either CC or BT surfacing for the entire road length. That generates a requirement of about 17.54 Km of CC roads and 70.16 Km of BT roads. This length of road network to be well lit at an average spacing of 30 m between lamp poles would require a total number of 2,923 street lighting poles with fixtures.

The total investment need for roads, street lighting and traffic management sectors by 2031 is estimated at Rs. 1,391 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 part of the identified investment is proposed to be funded by 2012-13 to cater to the current gaps and meet the immediate requirements.

Priority needs (2012-13)

A sum of Rs. 7,69 lakhs (59 percent of total investment need in the roads) requires for the roads and transport sector, while Rs. 66 Lakhs for street lighting sector (69% of the total requirement for street light sector). Rs. 66 Lakhs is the capital cost estimation for the proposed interventions towards up-gradation of roads and Rs. 619 lakhs are for new formation roads, while Rs. 84 Lakhs is required for the other transport related improvements like bus stand, road widening etc.

For street lighting, the investment proposed for installing tube lights, high power lamps and high mast lamps is Rs. 41 lakhs, Rs. 13 lakhs and Rs. 12 lakhs respectively.

Action Plan for Implementation (2008-09 to 2012-13)

Roads, Street lighting and Traffic Management		2008-09	2009-10	2010-11	2011-12	2012-13
Investment upto 2012-13 (Rs. lakhs)	Rs. 835 Lakhs	18	28	190	315	283
Capital Facilities	Roads Up-gradation from BT to CC			✓	✓	✓
	New Formations of CC roads			✓	✓	✓
	Improvement of traffic system and Junction improvements	✓	✓			
	Street lighting (1398 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 					

Roads, Street lighting and Traffic Management		2008-09	2009-10	2010-11	2011-12	2012-13
	<ul style="list-style-type: none"> 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, foot paths, utility ducts and storm water drains under the foot paths. New roads development shall be integrated with the drain construction (i.e. for any new road drainage facility 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 - % municipal roads surfaced (100% - CC/ BT surfacing) 					

7.2.4 Storm Water Drainage

Long term needs (2031)

The demand-gap assessment above presented indicates a need for about 114 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 existing open network to closed network and construction of new drains to cater to current and future service gaps. The total investment need for drains sectors by 2031 is estimated at Rs. 1,170 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 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.

Priority needs (2012-13)

A sum of Rs. 853 lakhs (73 percent of 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, Vandavasi Municipality will need to plan beyond 2012-13 for further augmentation of network by another 25.7 km of new pucca drains in line with new roads to be developed beyond 2012-13 to cater to long term needs of 2031.

Action Plan for Implementation (2008-09 to 2012-13)

Storm Water Drainage		2008-09	2009-10	2010-11	2011-12	2012-13
Investment upto 2012-13 (Rs. lakhs)	Rs. 853 Lakhs	29	44	214	283	283
Capital Facilities	New formation of pucca drains			✓	✓	✓
	Upgradation of drains	✓	✓	✓		
Support & System Sustenance Measures	Ensure that every divided road to have closed drains on either side and undivided roads have drains on at least one side	✓	✓	✓	✓	✓
Action	<ul style="list-style-type: none"> Preparation of DPR for augmentation of storm water system in the town 					

Measures	<ul style="list-style-type: none"> Isolate sewerage system from drinking water and storm water lines 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. Constructing new drains shall be integrated with the new roads development
Performance Monitoring Indicators	<ul style="list-style-type: none"> Drainage network should reach 88.3 Km of road length (min 130%) All divided roads to have drains on either side and undivided roads on at least one side Drains to be cleaned before and after monsoon for better functioning

7.2.5 Conservancy/ Solid Waste Management & Sanitation

Long term needs (2031)

The total investment need for conservancy and sanitation sectors by 2031 is estimated at Rs. 234 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 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.

Priority needs (2012-13)

A sum of Rs. 190 lakhs (81% percent of total investment need in the conservancy sector) is the capital cost estimation for the proposed interventions. The proposals include; Rs. 106 lakhs for development of permanent landfill infrastructure and composting facilities; Rs. 1 lakh for acquisition of new handcarts to cater the primary waste collection needs and Rs. 14 lakhs for secondary collection vehicles; construction of pay & use public convenience systems in various locations especially catering to the slums requires investment of about Rs. 45 Lakhs.

Further, Vandavasi Municipality will need to plan beyond 2012-13 for further augmentation of system by acquiring additional land for disposal site and continuous development of landfill and compost infrastructure at the landfill site to cater to long term needs of 2031.

Action Plan for Implementation

Solid Waste Management		2008-09	2009-10	2010-11	2011-12	2012-13
Investment upto 2012-13 (Rs. lakhs)	Rs. 190 Lakhs	34	44	59	51	2
Capital Facilities	Acquisition of new vehicles for primary and secondary collection	✓	✓			
	Acquiring new disposal site					
	Land fill infrastructure and composting facility development at disposal site		✓	✓	✓	
	Container Bins & dumper placers	✓	✓			
	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 at 80% households (Vandavasi 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 to 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- 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"> • Vandavasi 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 and accordingly projects and investments identified are to be funded by 2012-13. A sum of Rs. 177 lakhs is the investment identified for various improvement projects and for providing basic services to urban poor under IHSDP scheme. 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 handover of the developed units to the beneficiaries.

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. 177 Lakhs	27	27	27	35	62

Slums and Urban Poor		2008-09	2009-10	2010-11	2011-12	2012-13
Capital Facilities	In situ rehabilitation of slums- housing	✓	✓	✓	✓	✓
	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 Vandavasi Municipality		✓			
	Socio-Economic Survey of all slums in Vandavasi 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 Vandavasi Municipality shall assume the secondary/ supportive role		✓	✓	✓	
Other actions/ Measures	<ul style="list-style-type: none"> Providing for reservation of lands for EWS in or near each type of commercial/ industrial/ residential land use in the DP Facilitating access to credit for urban poor. Vandavasi Municipality can explore the option of acting as a guarantor. Frequent meetings with slum dwellers towards encouraging participation in slum development programmes, awareness creation on beneficiary contribution to project development and also assuming the responsibility of implementing the projects. Facilitate and encourage the neighbourhood concept in slums to carry out towards recreational activities such as reading, sports and drama. 					
Sector Notes	<ul style="list-style-type: none"> Infrastructure and basic services' provision in slums shall not be in isolation but in conjunction and 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 short run and individual toilets in 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, should have proposals for a total area of 9.71 Sq.km. The proposals include a number of lands reserved for various social and other development proposals. 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.

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 for decongestion of the core areas through <ul style="list-style-type: none"> Revision of FSI Norms and incentives Parking Norms Specific Regulations-Accommodation and Reservation Discourage development in critical, ecologically sensitive areas Environmentally critical locations need to be identified and demarcated. Special DCR to be made applicable to these areas to restrict encroachments and unauthorised developments. Develop available open spaces, parks and play grounds as lungs of the city Use of market friendly mechanisms like densification, accommodation, 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 facilities is Rs. 85 Lakhs upto year 2012-13.

Development of shopping complex and market facilities as discussed in the strategy section would cost Rs. 30 Lakhs and Rs. 20 lakhs respectively. Purchase of land for market will cost Rs. 5 lakhs in the year 2008-09.

Action Plan for Implementation

Economy, City beautification		2008-09	2009-10	2010-11	2011-12	2012-13
Investment upto 2012-13 (Rs. lakhs)	Rs. 85 Lakhs	41	36	8		
Capital	Shopping/ Commercial complexes	✓	✓			

Economy, City beautification		2008-09	2009-10	2010-11	2011-12	2012-13
Facilities	Agricultural/Vegetable / Fish Market	✓	✓			
	Community Complexes	✓	✓			
	Lodge/ dormitory	✓	✓	✓		

7.2.9 Non Commercial Community Amenities

Non commercial community amenities seek the investment of Rs. 100 lakhs in next five years till 2012-13, which includes Rs. 60 Lakhs for Park development while Rs. 30 lakhs is required for establishment of primary health care unit and hospital. Rs. 10 lakhs is required construction of new school as discussed in the strategic plan. Identified projects to develop these non-commercial facilities are discussed below:

Action Plan for Implementation

Economy, City beautification		2008-09	2009-10	2010-11	2011-12	2012-13
Investment upto 2012-13 (Rs. lakhs)	Rs. 100 Lakhs	38	46	16		
Capital Facilities	Park development	✓	✓			
	Primary health centre/ hospital	✓	✓	✓		
	ICDS/ Anganwadi centres/ school	✓	✓	✓		

7.2.10 Other Infrastructure Projects

Being upgraded from a village to a Municipality recently, Vandavasi has to upgrade its condition by taking initiatives for overall infrastructure development for a comprehensive and sustainable growth. For this, the ULB has to take initiatives other than regular infrastructure projects, like relocation of specific economic infrastructure like developing the tourist destination, markets, wholesale centres, creation of parking spaces, ensuring fire safety, efficient governance etc. While some of these have been already covered under commercial developments and traffic management measures, some other can be taken up by the ULB like water body development for Rain Water Harvesting and E-Governance. Although not proposed by the ULB as a priority requirement, these projects need to be taken up simultaneously for sustainable growth, effective implementation and monitoring of other projects as well as good governance.

Action Plan for Implementation

Economy, City beautification		2008-09	2009-10	2010-11	2011-12	2012-13
Water Bodies development						
Investment upto 2012-13 (Rs. lakhs)	Rs. 20 Lakhs	10	10	-	-	-
Capital Facilities	Rain water Harvesting and renovation of lakes	✓	✓	✓	✓	✓

Economy, City beautification		2008-09	2009-10	2010-11	2011-12	2012-13
Urban Governance/ System Modernisation and System study						
Investment upto 2012-13 (Rs. lakhs)	Rs. 50 Lakhs	15	15	20		
Capital Facilities	Urban governance, GIS systems, Systems modernisation	✓	✓	✓	✓	
	Support system studies	✓	✓	✓	✓	
Support & System Sustenance Measures	Implementing GIS based property tax system and support engineering services	✓	✓	✓		
	Rationalisation of tax admin. Process	✓	✓			
	Restructuring of admin. Systems		✓	✓		
	Regular capital works	✓	✓			

7.2.11 Regular Minor Capital works

Apart from various major capital investments proposed, Vandavasi Municipality also proposes to invest Rs. 25 lakhs through budget allocations for regular minor development works be identified on a year-to-year basis by 2012-13, like construction of compound walls of burial grounds etc. These regular capital works are in addition to proposed investment, they shall be fully funded by Vandavasi 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 (In Rs. Crores)
Water supply Total Investment required: Rs 10.09 Crores		
Source/ system capacity augmentation	- 3.97 MLD	1.98
Treatment capacity augmentation	- 6.77 MLD	2.03
Distribution network augmentation	- 36.13 km	3.61
Elevated Storage capacity augmentation	- 0.61 MLD	0.06

Refurbishment of old Distribution Network	- 4.32 km	0.35
Metering System	- for all connections	.206
Sewerage and sanitation		Total Investment required: Rs 12.76 Crores
I. UGD network development	- 54.3 km	10.87
II. Treatment capacity development (STPs)	- 5.41 MLD	1.89
Transportation (road, street light, bus stand)		Total Investment required: Rs 8.35 Crores
Roads Upgradation	- 1.59 km BT to CC - 0.25 km WBM to BT	0.66
Roads New Formation	- 5.62 km CC - 22.49 km BT	6.19
Imp. Rds (Widening, ROBs, bridges etc)	2.4 km	0.72
Land Acquisition for Road Improvements		0.02
Public Transport/ Improvements		0.10
Installation of new lamp posts	1398 nos	0.66
Storm Water Drainage		Total Investment required: Rs 8.53 Crores
I. Drains New Formation	- 47.54 km pucca open and 11.6 km pucca closed	146
II. Drain upgradation	- 29.2 km pucca open to pucca closed	707
Solid waste management		Total Investment required: Rs 1.90 Crores
I. Purchase of primary and secondary collection vehicles and equipments	43 hand carts	- 0.15
II. Acquiring new disposal site and development of land fill infrastructure	7.3 acres	- 1.29
III. Construction of public toilets	91 seats	- 0.45
Slum development		Total Investment required: Rs 1.77 Crores
I. Housing	As per IHSDP project report	- 1.77
II. Physical Infrastructure (Roads, drains etc)		

III. Social Infrastructure facilities		
Commercial / non-commercial / other amenities Total Investment required: Rs 2.95 Crores		
Shopping/ Office Complexes	- 30 shops	-0.30
Vegetable and Fish Market	- 40 shops	-0.20
Purchase of land for market		-0.05
Lodge/Dormitory	2 Units	-0.20
Municipality community complexes	1 no	-0.10
Park development	3 nos	-0.60
Health centre	1 no	-0.10
Hospital	1 no	-0.20
Educational Institutions	1 no	-0.10
Lake/Pond Development and rain water harvesting	2 nos	-0.20
Urban Governance/ E-Governance/ GIS		-0.50
Regular Capital Works		-0.25
Land use / development planning		-0.15

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

- Upgradation of hospital – state health department
- School improvement - state education department
- Improvement of major roads including widening, ROB, flyovers – OWD / State highway dept / NHAI

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

- The Municipality is in the initial phase of preparing a detailed proposal (DPR) along with the TWAD board to set up an underground drainage (UGD) network in the town

8 ASSET MANAGEMENT PLAN

Vandavasi Municipality has several assets that require regular maintenance for sustenance of reasonable service delivery levels. Considering 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 activity. Most municipal entities do not have a proper database; hence creating and listing assets is one of the first activities the 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 driven by defined service levels and performance standards*
- *Scarce financial resources allocated properly and optimally investment*
- *Long-term approach in determining asset operations, maintenance and renewal*

8.1 The process

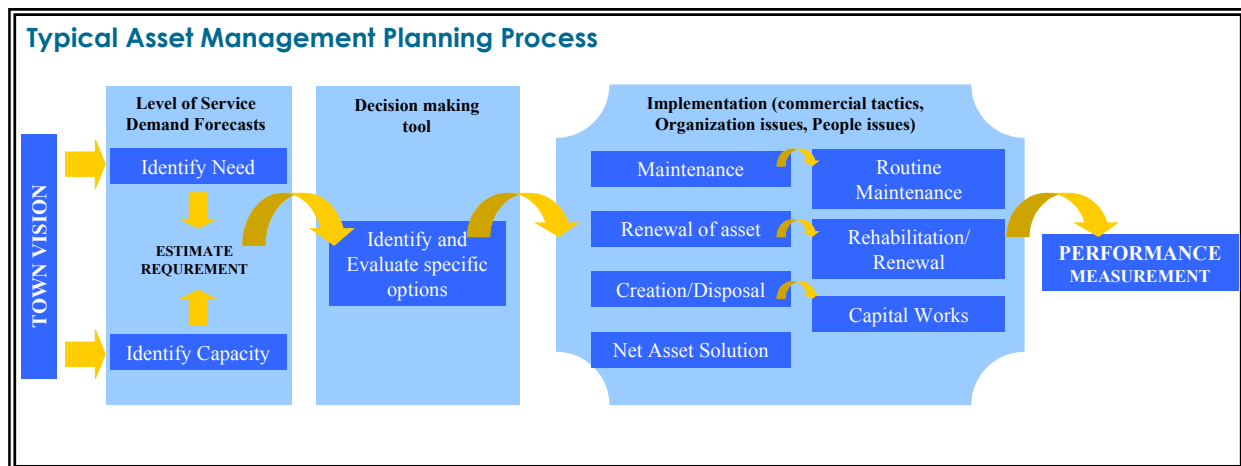
Management of assets is an evolving process that improves as the understanding of asset conditions; their performance and operational costs improve. The benefits of implementing the asset management plan would include:

- 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, assets of municipality that have been developed, handed over or acquired over time from various sources and departments have to be identified and traced. This would include the detection of unrecorded infrastructure facilities, and properties; scrutiny of 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

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 a knowledge of the infrastructure inventory, its age and judgements about its life expectancy. In fact it is a logical starting point in 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 the 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 both are 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 Vandavasi municipal assets

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

8.3.1 Non-remunerative asset

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	4.00	1.00
Water Supply	1	4.00	1.00
Public Health	3	8.00	4.00
Street Lighting	-	-	-
Sanitation (Cess Pool Cleaning)	-	-	-
Details of Conservancy Vehicles	Number	Age	
Tractors	1	9	-
Mini Trucks	2	12	-
Trucks	-	-	-
Tippers	-	-	-
Push carts	-	-	-
Compactors	-	-	-
.Dumper Placer	-	-	-
Others (tri cycle)	20	5	-

8.3.1.1 Plan for vehicles maintenance

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

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 Asset

Most of the assets created by the municipality are under the 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 so as 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	244	4.00
Office Buildings	1	651	-
Commercial Complexes	2	274	12.00
Rest Houses/Travellers Bungalow	-	-	-
Daily Markets- Local Body	-	-	-
Weekly Market	-	-	-
Pay and Use latrines	1	37	13.00
Slaughter House	-	-	-
Total	-	-	-

8.3.3 Social and service related assets

Table 47: Social infrastructure owned by the municipality

Social infrastructure	Number	Area (Sq.m)
School Buildings	-	-
Office Buildings	1	674
Pumping Stations	1	13
Service Oriented Assets	-	-
Maternity Centres / Homes	-	-
Hospitals / Dispensaries	-	-
Noon Meal Centres	-	-
Reading Rooms	-	-
Common Bath Rooms	-	-

Social infrastructure	Number	Area (Sq.m)
Parks & Play Grounds	-	-
Integrated Sanitary Complex	1	101

The 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 STRUCTURING AND RISK 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 Vandavasi 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, Vandavasi, 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 1,229 lakhs, of which Rs 1,014 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 Vandavasi
Sector	Water Supply
Location (Area, Town)	Vandavasi Municipal area
Estimated Project Cost	Rs 1,014 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)
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 1,593 lakhs, of which Rs 1,276 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 Vandavasi
Sector	Sewerage
Location (Area, Town)	Vandavasi Municipal area
Estimated Project Cost	Rs 1,276 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	Underground Drainage Scheme for Vandavasi
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 1,282 lakhs, of which Rs 726 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 Vandavasi
Sector	Roads and Urban Transport
Location (Area, Town)	Vandavasi Municipal area
Estimated Project Cost	Rs 726 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.
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 1,578 lakhs, of which Rs 1193 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 Vandavasi
Sector	Storm water drains
Location (Area, Town)	Vandavasi Municipal area
Estimated Project Cost	Rs 1,193 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 234 lakhs which is relatively lesser than the investment required by the other sectors dealt with so far. Of the total investment amount of Rs 234 lakhs, Rs 190 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 Vandavasi
Sector	Solid Waste Management & Conservancy
Location (Area, Town)	Vandavasi Municipal area
Estimated Project Cost	Rs 1.90 lakhs
Project Financing Options	<ul style="list-style-type: none"> e) Grants under 12th 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 12th 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 177lakhs 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 Vandavasi
Sector	Slums and Basic Services for Urban Poor
Location (Area, Town)	Vandavasi Municipal area
Estimated Project Cost	Rs 177 lakhs
Project Financing Options	<ul style="list-style-type: none"> 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 have been three commercial projects which have been identified viz. Market Development Project, Construction of multi purpose Community Hall, and construction of hostels. 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. For the construction of the Community hall and the hostels, the Municipality would have to rely on a combination of internal revenue resources and on loan.

9.2.8 Non Commercial Amenities

For the development and regular upkeep of the parks and ponds in the Municipality, it may explore a PPP option. The viability of the same would have to be worked out by the Municipality with the suitable private parties. For the construction of health centre, the Municipality can avail of funds from under. Education fund may be utilised in addition to the Municipality's own resources for the construction of the school.

10 ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT OF PROJECTS

10.1 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 empowerment of 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 Tamil Nadu Urban Development Fund (TNUDF), is committed to channelise 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 would take place or that the borrower will be taking 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 in 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 subproject that it funds is developed in accordance with ESF and is adequately protected from associated risks. The ESF also aims to sensitise borrowers to 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.
- 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 the environmental and social issues, their impact assessment requirement and other compliance measures that would be necessary for the projects identified by the ULB.

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, 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) ³ . Those projects/activities, which require environmental clearance as per the EIA notification published by Ministry of Environmental and Forest ⁴ 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 potential adverse environmental impacts are less adverse than those of E1 projects. These impacts are mostly generic impacts in nature 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'. Hence	None
Social		
S-1	Projects that will affect 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 have any households affected at all i.e. they can be classified as 'socially benign'.	Social Status Report (SSR)

³ Refer Annexure 5 for list of Sensitive Environmental Components

⁴ Refer Annexure 6 for notification

10.2 EIA and SIA requirement for CCP-BP of Vandavasi Municipality

The list of identified projects for various infrastructure sectors for Vandavasi Municipality which are to be taken up on priority as identified by the ULB, are mentioned in the table below.

Table 49: List of Identified projects

Sector	Identified Projects
Water supply	Improvement of water supply <ol style="list-style-type: none"> Source/ system capacity augmentation – 3.97 MLD Treatment capacity augmentation – 6.77 MLD Elevated Storage capacity augmentation – 1.12 MLD Refurbishment of old Distribution Network – 4.32 km Metering System – for all connections
Sewerage and sanitation	Development of Under Ground Drainage System <ol style="list-style-type: none"> UGD network development – 54.3km Treatment capacity development (STPs) – 5.41 MLD Pumping machinery (Intermediate pumping stations/transmission mains)
Storm water drainage	Development of Storm Water Drainage System <ol style="list-style-type: none"> Drains New Formation – 72.7 km (40.75km pucca open and 31.97 km pucca closed) Drains upgradation – 29.16 km pucca open to pucca closed Desilting & Strengthening of Primary Drains
Transportation	Improvement of roads and transport and traffic management: <ol style="list-style-type: none"> Upgradation of road surface – 2.08 km of BT to CC New Construction of road – 4.15 km of CC road and 21.89 km of BT Road Installation of new lamp posts – 1398 nos Improvement of bus stand
Solid waste management	Improvement of Solid Waste Management: <ol style="list-style-type: none"> Purchase of primary and secondary collection vehicles and equipments Acquiring new disposal site and development of land fill infrastructure Construction of public toilets
Slum development*	Improvement of Slum Infrastructure: <ol style="list-style-type: none"> Housing Physical Infrastructure (Roads, drains etc) Social Infrastructure facilities
Commercial amenities	<ol style="list-style-type: none"> Development of market facilities Construction of multipurpose community hall Hostel for working men/ women

Sector	Identified Projects
Non-commercial/ community amenities	i. Park development- 3 nos ii. Construction of primary health centre and hospital iii. Construction of new school
Others	i. Lake development with boating facilities

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.

10.3 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 discussion 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 modification of the project component, location and magnitude of the project and any other change as deemed necessary while preparing Detailed Project Report.

Briefly outlined below is the EIA and SIA framework for projects listed in the previous section.

Project Title	Improvement of water supply		
Location (Area, Town)	Vandavasi Municipal area		
Project Description/Components / Capacity / Size	i. Source/ system capacity augmentation – 3.97 MLD ii. Treatment capacity augmentation – 6.77 MLD iii. Elevated Storage capacity augmentation – 1.12 MLD iv. Refurbishment of old Distribution Network – 4.32 km v. Metering System – for all connections		
Environmental Impact	Environmental issues that may arise and need concern for these projects are: - 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

Project Title	Improvement of water supply		
	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)	Vandavasi Municipal area		
Project Description/Components / Capacity / Size	i. UGD network development – 54.3km ii. Treatment capacity development (STPs) – 5.41 MLD iii. Pumping machinery (Intermediate pumping stations/transmission mains)		
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)	Vandavasi Municipal area		
Project Description/Components / Capacity / Size	i. Upgradation of road surface – 2.08 km of BT to CC ii. New Construction of road – 4.15 km of CC road and 21.89 km of BT Road iii. Installation of new lamp posts – 1398 nos iv. Improvement of bus stand		
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

Project Title	Improvement of roads and transport and traffic management		
	New roads	E-1	- 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)	Vandavasi Municipal area		
Project Description/Components / Capacity / Size	i. Drains New Formation – 72.7 km (40.75km pucca open and 31.97 km pucca closed) ii. Drains upgradation – 29.16 km pucca open to pucca closed 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)	Vandavasi Municipal area		
Project Description/Components / Capacity / Size	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		
Environmental Impact	Environmental issues that may arise and need concern for these projects are: <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 		
	Component type	Environmental category	Applicable legislation
	Land fill sites	E-1	MSW Rules 2000 Air Act, Water Act and EPA

Project Title	Improvement of Solid Waste Management		
	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	Shopping / office complex development		
Location (Area, Town)	Vandavasi Municipal area		
Suggested Capacity/Size / components	Construction of building with provision of services		
Environmental Impact	Environmental issues that may arise and need concern for these projects 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 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 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	Market development		
Location (Area, Town)	Vandavasi Municipal area		
Suggested Capacity/Size / components	Construction of vegetable and fish market with 40 shops		
Environmental Impact	Environmental issues that may arise and need concern for these projects 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 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 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	Construction of hostel/ lodging facility		
Location (Area, Town)	Vandavasi Municipal area		
Suggested Capacity/Size/ component	2 wings for men and women with total 24 nos capacity and common facilities		
Environmental Impact	Environmental issues that may arise and need concern for these projects 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 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

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- 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	Construction of community hall		
Location (Area, Town)	Vandavasi Municipal area		
Suggested Capacity/Size / component	Construction of building with provision of services		
Environmental Impact	Environmental issues that may arise and need concern for these projects 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 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 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		
Location (Area, Town)	Vandavasi Municipal area		
Suggested Capacity/Size	Aim to develop green zones- capacity not identified		
Project Description/Components	a) Development of three parks		
Environmental Impact	Environmental issues that may arise and need concern for these projects are: - 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.		

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	Improvement of health care facilities		
Location (Area, Town)	Vandavasi Municipal area		
Suggested Capacity/Size	Health centre (1 unit with equipment) and hospital (1 no with 10 beds)		
Project Description/Components	a) Construction of health centres b) Construction of hospital		
Environmental Impact	Environmental issues that may arise and need concern for these projects are: - Change in landuse - Solid and liquid waste disposal - Public health and safety - Sanitation - Parking - Fire safety		
	Component	Environmental category	Applicable legislation
	a) Health care centres / hospital	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 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	Establishment of educational institutes		
Location (Area, Town)	Vandavasi Municipal area		
Suggested Capacity/Size	One school in the town		
Project Description/Components	c) Construction of building with provision of services		
Environmental Impact	Environmental issues that may arise and need concern for these projects are: <ul style="list-style-type: none"> - Change in landuse - Solid and liquid waste disposal - Public health and safety - Sanitation - Parking - Fire safety 		
	Component	Environmental category	Applicable legislation
	a) Educational institutes	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.		

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	Lake improvement project		
Location (Area, Town)	Tindivanam Municipal area		
Suggested Capacity/Size	Improvement of 2 lakes namely - Bhooma Chetti Kullam - Vanni Kullam		
Project Description/Components	a) Renovation and maintenance of water body b) Development of boating facility		
Environmental Impact	Environmental issues that may arise and need concern for these projects are: - Change in landuse, 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

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 be able to invest only 7.5% 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 Vandavasi 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, Vandavasi 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 Vandavasi 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)
Collection Performance	85%

Head	Assumptions
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 15% 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 15% 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 15 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.

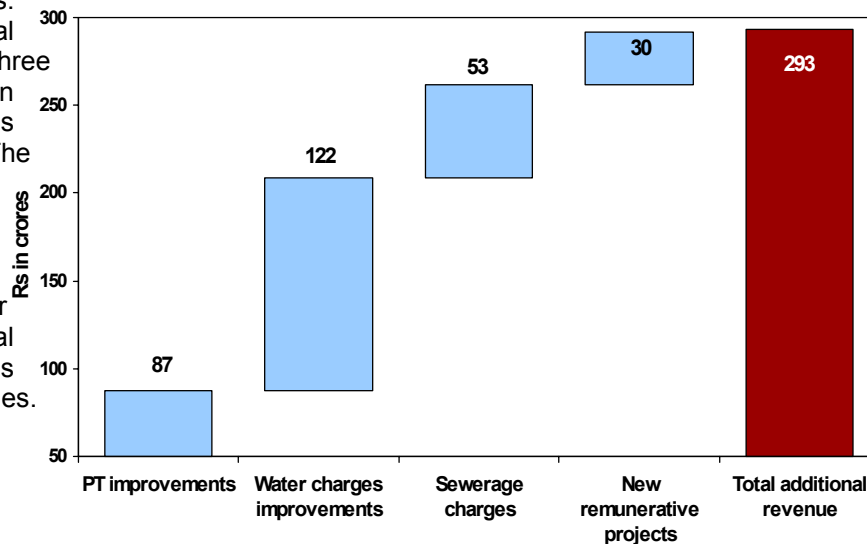
11.4 Impact of Improvements Measures on Finances of ULB

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. 293 lakhs.

11.4.1 Property Tax

Vandavasi has about 6,580 no. of assessed properties, property tax collection accounts for Rs. 60.3 lakhs in year 2006-07, with an average collection of Rs. 70 per month per property. The collection efficiency of the property tax collection was average 61% in last five years. This highlights below moderate collection efficiency, with a significant potential to increase further. The details of properties for the last five years are presented in table below.

Table 51: Property tax details – 2002-03 to 2006-07

Property Tax Details		2002-03	2003-04	2004-05	2005-06	2006-07
Properties Register						
Number of Assessments		5,846	6,021	6,202	6,388	6,580
Tax Demand						
Average Tax (Rs./ Assessment/ Month)		-	76	70	70	70
DCB Statement (Rs. Lakhs)						
i	Opening Balance (Arrears Demand)		30.6	29.7	35.1	70.34
ii	Demand Raised (current)		54.80	52.45	54.05	55.04
	Total Demand		85.40	82.17	89.19	125.38
iii	Arrears Collection		38.52	39.10	33.00	36.93
iv	Current Collection		17.56	17.68	21.82	23.38
	Total Collection		56.08	56.78	54.82	60.31
v	Collection Performance (Arrears) - %		57	59	62	33
vi	Collection Performance (Current) - %		70	75	61	67
vii	Collection Performance (Total) - %		66	69	62	48

11.4.1.1 Improvement measures:

Inclusion of un-assessed properties: Almost all the properties are already under assessment.

Improvement in collection efficiency: The efficiency of property tax collection in 2006-07 was 48%, which is below moderate. If the overall efficiency is raised to 85% (For Current and Arrears), property tax would generate total additional revenue of about **Rs. 15 lakhs** in next 5-year period from 2008-09 to 2012-13.

Rate increases: Property tax in Vandavasi 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 not undertaken council resolution to increase property tax rate at a rate of 25% however, as a reform measure 25% rate revision is considered at this point. This revision would yield additional Rs. 72 lakhs

Summary

If all improvement measures are undertaken as per the assumptions, the total additional revenue would be Rs. 87 lakhs

Table 52: Revenue potential through improvement in property tax

Improvement Measure	Revenue (In Rs. Lakhs)
Improvement in collection efficiency	15
Rate increase by 25% in year 2008-09 and followed increase by 25% after every 5 year	72
All of the above measures combined	87

Timeline for Property Tax reform measures

Reform measure	2008-09	2009-10	2010-11	2011-12	2012-13
Property tax					
I Initial rate revision (%)*	25				
II Regular revision (%)	25% every 5 years				
III Collection performance (%)	73	75	85	85	85

* PT Revision was last carried out in 1998, hence 25% revision is considered

11.4.2 Water & Sewerage Charges

11.4.2.1 Improvement measures in water charges

Increase in Coverage: Vandavasi municipality has generated approximately Rs 13 lakhs from 3,094 HSCs in year 2006-07. Municipality's water supply system has coverage of about 47% of the total properties, if it will increase up to 90% by 2012-13. Water Charges would generate about **Rs. 53 lakhs** in addition to the current collection in next five year.

Collection efficiency gains: Collection efficiency in the municipality is good at about 78%. If they increase this to 85% there will be additional revenue generation of **Rs.5 Lakhs** in next 5 years from 2008-09 to 2012-13.

Rate increase: If the rates would increased by 25% in year 2008-09 and followed by revision of 25% @every 3 years, as well as one time connection deposit is increased by 25% it would generate additional revenue of **Rs. 64 lakhs**.

11.4.2.2 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%. The Vandavasi municipality will generate about **Rs. 53 lakhs** in next three years upto 2012-13.

Table 53: Improvement in Water charges & sewerage Charges

Improvement Measure	Revenue (In Rs. Lakhs)
Improvements in water Charges	122
Introduction of Sewerage Charges	53
Both the above measures combined	175

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 (%)	82	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

** Water charges has not been revised, hence due for revision in the current FY

11.4.3 Other revenue sources

The other heads of revenue include:

- Revenue from the new remunerative projects like:
 - Shopping/ office Complex
 - Vegetable/Fish Market
 - Dormitory for working man/women
 - 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. 30.38 lakhs till year 2012-13.

Table 54: Revenue potential of other sources

Category	Revenue (In Rs. Lakhs)
Shopping / office complex	13.50
Vegetable/Fish Market	9.00
Dormitory / lodge for working men / women	3.50
Municipal Community Halls	4.38
Total	30.38

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 Vandavasi. 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

Department	Sector	Area
	Street lighting	2. Introducing telemetry system
Health department		<ol style="list-style-type: none"> 1. Energy conservation measures through higher usage of solar/wind energy, public awareness program on fuel efficiency, purchase of latest infrastructure 2. Study tour of several similar municipalities to identify potential reforms by adopting the specific best practices 3. Training sweepers on hygiene standards; medical professionals and other specialists in the department on the latest technology and equipment 4. Public awareness program on town cleanliness and citizens' responsibilities
Revenue department		<ol style="list-style-type: none"> 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 Vandavasi 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. 46.35 crores at constant prices till 2012-13** (Rs. 61.75 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, Vandavasi municipality would be able to sustain only 7.5% i.e. 3.47 crores of the total identified investment by 2012-13.

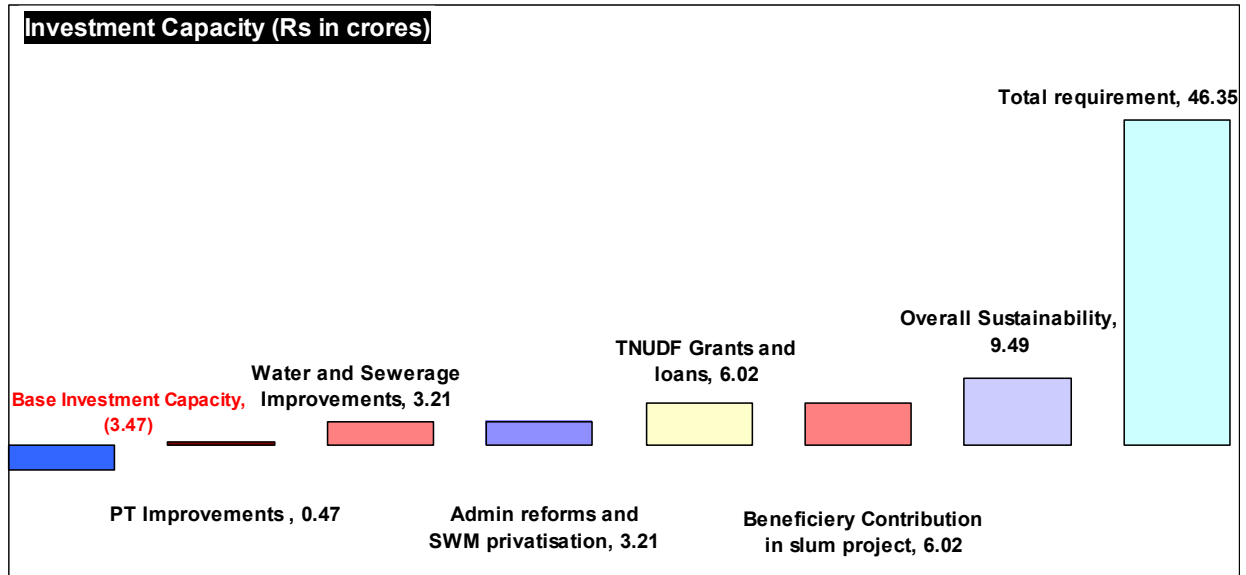
11.7.1 Impact of TNUDF Grant & Reforms on Investment Capacity

It is observed that at the current growth trends (in the absence suggested measure), municipality can sustain an investment of only Rs. 3.47 crores, which is only 7.5% of the identified 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.

Introducing the suggested reforms will increase the sustainability of Vandavasi municipality as follows:

- Property tax reforms will increase the sustainable capacity of the municipality to Rs. 3.94 crores, which is 8.5% percent of the identified investment.
- Water and sewerage reforms like revision of charges would increase sustainable capacity to Rs. 6.68 crores.
- Admin reforms & privatisation of SWM will have no impact on sustainability.
- GoTN grants and TNUDF/IBRD loan will increase the sustainability to Rs. 9.49 crores, which is 21% of the total sustainability.
- Sustainability remains the same with beneficiary contribution in slum project.

Introduction of all above mentioned reform will increase the total sustainability of the municipality to 21%, which is about Rs. 9.5 crores.



11.7.2 Fund Requirement

For the investment identified by 2012-13 of Vandavasi municipality of Rs. 46.35 crores at constant prices and Rs. 61.75 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 - Current			46.35	
Identified Investment till 2012-13 - Constant			61.75	
Sustainable Investment till 2012-13 (%)			7.49%	20.47%
Sustainable Investment till 2012-13 (In Rs. crores)-constant			3.47	9.49
1	TNUDF Grant	TNUDF	1.46	3.97
2	Loan	TNUDF/ World Bank	2.68	7.31
3	Loan	FI	-	-
4	Own sources	Municipality	0.46	1.26
5	Beneficiary Contribution	User	0.02	0.04
	Total (current prices)		4.61	12.58

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. 9.5 crores** for Vandavasi 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.

Based on the sustainable investment capacity and priority need of the citizens following projects are suggested:

Water supply: Source augmentation (existing 83 lpcd), treatment plant (existing 0 ML), augmentation of distribution network (existing 54%) ESR construction and refurbishment of old network. **Rs 8.03 crores** of investment are allocated for the same. This was the utmost priority sector during consultation.

Solid waste management: Land is available with municipality hence it intends to built up infrastructure facility, the cost towards same is **Rs 1.2 crores**.

Commercial complex: **Rs 30 lakhs** is allocated for construction of commercial complex. This is a remunerative project and would yield revenues for corporation.

The same were also strongly recommended during stakeholder meeting.

▪ Selection of projects for priority investment

Total Sustainable investment		Rs. 9.5 Crores		
Total Identified investment till 2012-13		Rs. 46 Crores		
Project component	Capacity / size	Project Cost (In Rs. Crores)	Projects under Sustainable investment (Rs in Crores)	Remark
Water Supply - Total Investment required: Rs 10.09 Crores				
Source/ system capacity augmentation	- 3.97 MLD	1.98	1.98	<i>Source augmentation, treatment plant, ESR, Refurbishment of network and laying new network is proposed under sustainable capacity.</i>
Treatment capacity augmentation	- 6.77 MLD	2.03	2.03	
Distribution network augmentation	- 36.13 km	3.61	3.61	
Elevated Storage capacity augmentation	- 0.61 MLD	0.06	0.06	
Refurbishment of old Distribution Network	- 4.32 km	0.35	0.35	
Metering System	- for all connections	.206	.206	<i>For metering ULB should recover meter cost from users incrementally</i>

Sewerage and sanitation - Total Investment required: Rs 12.76 Crores					
III.	UGD network development	- 54.3 km	10.87	10.87	
IV.	Treatment capacity development (STPs)	- 5.41 MLD	1.89	1.89	
Transportation (road, street light, bus stand) - Total Investment required: Rs 8.35 Crores					
	Roads Upgradation	- 1.59 km BT to CC - 0.25 km WBM to BT	0.66	0.66	ULB can take up on Upgradation of priority roads from its own resources on an incremental basis.
	Roads New Formation	- 5.62 km CC - 22.49 km BT	6.19	6.19	
	Imp. Rds (Widening, ROBs, bridges etc)	2.4 km	0.72	0.72	
	Land Acquisition for Road Improvements		0.02	0.02	
	Public Transport/ Improvements		0.10	0.10	
	Installation of new lamp posts	1398 nos	0.66	0.66	
Storm Water Drainage - Total Investment required: Rs 8.53 Crores					
III.	Drains New Formation	- 47.54 km pucca open and 11.6 km pucca closed	146	146	
IV.	Drain upgradation	- 29.2 km pucca open to pucca closed	707	707	
Solid waste management - Total Investment required: Rs 1.90 Crores					
IV.	Purchase of primary and secondary collection vehicles and equipments	43 hand carts	- 0.15	- 0.15	
V.	Development of land fill infrastructure	7.3 acres	- 1.06	- 1.06	ULB intends to develop the already in possession landfill site, hence suggested under sustainable investment
VI.	Construction of public toilets	91 seats	- 0.45	- 0.45	

Slum development - Total Investment required: Rs 1.77 Crores						
IV. Housing	Physical Infrastructure (Roads, drains etc)	Social Infrastructure facilities	As per IHSDP project report	- 1.77	- 1.77	This project after clearance would be funded under IHSDP Scheme
V.						
VI.						
Commercial / non-commercial / other amenities - Total Investment required: Rs 2.95 Crores						
Shopping/ Office Complexes		- 30 shops	-0.30	-0.30	Rs 0.3 crores of work for commercial complex are proposed under the sustainable investment as this was the priority works voiced by ULB for generating further revenues	
Vegetable and Fish Market		- 40 shops	-0.20	-0.20		
Purchase of land for market			-0.05	-0.05		
Lodge/Dormitory		2 Units	-0.20	-0.20		
Municipality community complexes		1 no	-0.10	-0.10		
Park development		3 nos	-0.60	-0.60		
Health centre		1 no	-0.10	-0.10		
Hospital		1 no	-0.20	-0.20		
Educational Institutions		1 no	-0.10	-0.10		
Lake/Pond Development and rain water harvesting		2 nos	-0.20	-0.20		
Urban Governance/ E-Governance/ GIS			-0.50	-0.50		
Regular Capital Works			-0.25	-0.25		
Land use / development planning			-0.15	-0.15		

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 TNUIFSL 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.
- For project such as agriculture market with cold storage facility, ULB can either built the same with private sector participation wherein private partner can construct the facility and users can pay the required charges. The feasibility of the same should be assessed separately.
- 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 Vandavasi is only 26.5 and at this stage municipality can sustain 26% 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.

Table 57: Project phasing

Sector/ Component	2008-09	2009-10	2010-11	2011-12	2012-13
	(Rs. crores)				
Water Supply	2.18	3.36	3.74	0.81	
Sewerage		2.17	3.12	4.21	3.26
Roads & Urban Transport			1.71	3.05	2.83
Drains	0.29	0.44	2.14	2.83	2.83
Street Lights	0.18	0.18	0.19	0.10	
Conservancy (SWM) & Sanitation	0.34	0.44	0.59	0.51	
Urban Poor/ Slums	0.27	0.27	0.27		
Land use/ Dev. Planning	0.15				
Commercial projects	0.41	0.36			
Non Commercial Projects	0.38	0.46			
Other Projects	0.30	0.30	0.25	0.05	0.05
Total	4.5	8.1	12.0	11.6	9.0

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 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 Vandavasi Municipality in financial performance and institutional sector:

- ***Dependency on external sources is at 33% : Need for revenue generating activities by ULB***
- ***Property tax collection efficiency is moderate at 61% and that of water charge is 62% : Need for revenue improvement measures- both financial and institutional***
- ***Current debt liability Rs. 50 lakhs: Need for better planned financial management***
- ***Establishment expenditure is 20.8% of total Revenue income : Need for maintaining the same rate, not affecting performance of ULB - Institutional Reform***
- ***Poor financial position of the ULB leading to low investment sustenance capacity- Need for addressing financial and institutional aspects with overall reform approach***
- ***26% developed land area, unauthorized development/encroachment leading to environmental degradation: Need for proper enforcement of regulatory measures as well as better land management through Master Plan recommendations***
- ***High share of slum population- more than 36% : Need for integrated slum improvement with participatory 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.

12.2.2 Financial reform measures:

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.

12.2.3 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.⁵

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 58: 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

⁵ 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.

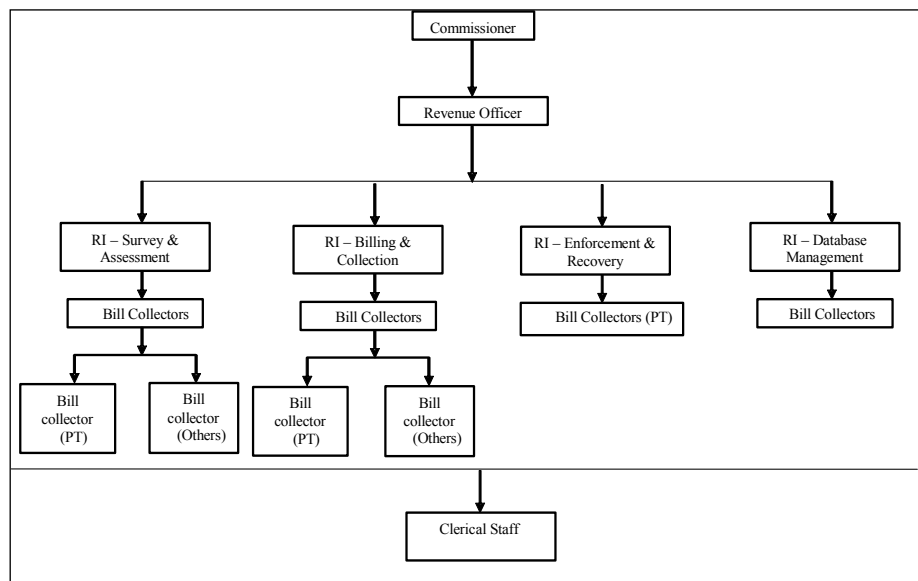
POSSIBLE KEY ACTIONS FOR INCREASING COLLECTION LEVELS

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 Identify additions at the time of registration / transfer itself	<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 Create a separate property tax counter⁶ 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

⁶ This method has been adopted by Indore Municipal Corporation and has yielded favourable results

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 ⁷ /Name of the owner/property	Demand per year (Rs. Lakhs)	Arrears status

⁷ 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 the citizens • 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

12.2.4 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.

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 59: 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
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,	Systems and procedures of utilizing the property survey database to

Position/Designation	Area
Manager	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 60: 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

12.2.5 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

12.2.6 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 Vandavasi 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 61: Action required for implementation of Business Plan

Action	Council	Administration	State Government
Increase coverage of properties, reduce exemptions	Support in covering properties in unauthorized layouts in the town	1.Include the properties unauthorized layouts in database 2.Ensure filing for vacant land 3.Tax collection from State and Central Govt. properties 4.Ensure that exemption to self occupied properties is not misused 1.Ensure correct assessment	1.Support regularization of properties in unauthorized layouts 2.Exemptions to educational institutions
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 2.Debate on whether number of hoardings should be increased	Identify illegal hoardings	1.Collection of advertisement tax by ULB 2.Assist in auctioning/ privatizing the activity
generate one time revenues	1.Approve long term lease/ sale of shops and municipal properties 2.Finalize on UGD connection charges and deposits	1.Assets for long term lease/ sale 2.Identify defaulters on building licenses and completion reports of buildings 3.Explore upfront disposal of IDSMT shops	1.Approve issue of certificate to properties 2.Develop a retail financing scheme for households 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 2.Integrate various revenue related information and approval process	Provide financial planning and management skills to the local body

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. Vandavasi 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

12.4.1.1 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)⁸

BMC has taken a number of steps to create 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:

⁸ Best Practices Catalogue, CMAG/September, 1999

- 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

12.4.1.2 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 Services⁹

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.

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, Brazil¹⁰

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.

⁹ Good Urban Government Campaign-September, 2001

¹⁰ Good Urban Governance Campaign-September, 2001

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.

12.4.1.3 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.

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)¹¹

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.

¹¹ Municipal Accounting Reforms-Dr. Ravikant Joshi

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

Case Studies

(i) Budgetary cum financial reforms undertaken by Vadodara Municipal Corporation (VMC)¹²

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.

¹² Municipal Budgetary and Financial Control Reforms-Dr. Ravikant Joshi

12.4.1.4 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.

a) 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.

Case Studies

(i) Professionalization of workforce – Ahmedabad Municipal Corporation (AMC)¹³

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/utilities¹⁴

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.

12.4.1.5 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)¹⁵

¹³ Urban Finance-NIUA

¹⁴ www.etu.org.za

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)¹⁶

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 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 municipality¹⁷

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%.

12.4.1.6 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 Corporation¹⁸

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.

¹⁵ Urban Finance-NIUA/June, 2002

¹⁶ *ibid*

¹⁷ *ibid*

¹⁸ Good Urban Governance Campaign-September, 2001

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 Tamil Nadu have simplified the property tax following the area-based approach.

(ii) **Self-Assessment System for Property Tax – Bangalore Mahanagar Palike**¹⁹

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.

(iii) **Self-Assessment System for Property Tax – Municipal Corporation of Hyderabad (MCH)**²⁰

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

¹⁹ Urban Finance-NIUA/June, 2002

²⁰ *ibid*

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

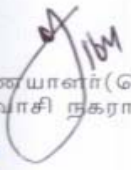
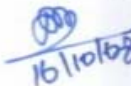
In Ludhiana, neighbourhood 'park management committees' undertakes the maintenance of around 70% of the parks. They hire gardeners and are reimbursed by MCL @ Re. 1 per sq. metre per month. This system has resulted in saving of around 80% for MCL and also avoids the hassles of absenteeism, unionism and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

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.

ANNEXURES

Annexure 1: Council Resolution

<p>விடுநர்</p> <p>திரு.ஆர்.சந்திரசேகரன், டி.சி.இ., நகராட்சி பொறியாளர் மற்றும் ஆணையாளர் (பொ) வந்தவாசி நகராட்சி வந்தவாசி.</p>	<p>பெறுநர்</p> <p>Manager Crisil Infrastructure Advisory CRISIL Risk and Infrastructure Solutions Limited 303, Partions Towers Ushmanpura Ahmadabad - 380013.</p>
<p>ந.க.எண்.1806/2008/இ1, நாள்:16.10.2008</p>	
<p>அய்யா,</p> <p>பொருள்: வந்தவாசி நகராட்சியில் நகர்புற அபிவிருத்தி மற்றும் பணி திட்டத்தின்கீழ் (City Corporate cum Business Plan) திட்டங்கள் பற்றிய அறிக்கை சமர்ப்பித்தல் - சம்மந்தமாக.</p> <p>பார்வை: மேலாளர், நகர்புற அபிவிருத்தி மற்றும் பணி திட்ட அலுவலகம், பேங்களுர் அவர்களின் தொலைபேசி செய்தி நாள்:20.10.2008.</p> <p style="text-align: center;">- - -</p> <p>பார்வையில் கண்ட தொலைபேசி செய்திக்கிணங்க, இந்நகராட்சியில் நகர்புற அபிவிருத்தி மற்றும் பணி திட்டத்தின்கீழ் (City Corporate cum Business Plan) திட்டங்கள் பற்றிய அறிக்கைக்கு நகர மன்ற தீர்மான எண்.104, 25.09.2008ல் தீர்மானிக்கப்பட்டுள்ளது. நகர மன்ற தீர்மான நகலினை இத்துடன் இணைத்து அனுப்பப்பட்டுள்ளது என்பதை கனிவுடன் தெரிவித்துக்கொள்கிறேன்.</p> <p style="text-align: right;">  ஆணையாளர்(பொ) வந்தவாசி நகராட்சி. </p> <p>இணைப்பு: நகர மன்ற தீர்மான நகல்.</p> <p style="text-align: right;">  16/10/08 </p>	

Annexure 2: Details of the stakeholder workshop at Vandavasi

Date: 20th February 2008

Venue: Municipal Community Hall, Vandavasi

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 9:30 hours with the welcome and introduction of CRISIL Representatives to the hall by Mr. S. Thirunavukkarasu, Commissioner, Vandavasi Municipality and Mr. G. Srinivasan, Chairman, Vandavasi Municipality. The councillors, municipal officials, representative from local NGO, traders association, market committee, citizen welfare associations and few citizens were invited for the workshop. Over 40 stakeholders have participated in the proceedings. Ms. Shrimoyee Bhattacharya and Ms. Ruhi Lal represented CRISIL Infrastructure Advisory at the workshop.



The Chairman apprised the stakeholders about the objective of the workshop. Ms. Ruhi Lal 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

The stakeholders stressed on the need source augmentation for improving water supply. At present, water is supplied on alternate day. Thus increasing the frequency is important. The town does not have adequate water as per norm to operate a UGD system. Need for more public stand posts were also brought under notice.

Sewerage and Sanitation

It was pointed out that the sewerage network is very necessary for Vandavasi town. The stakeholders suggested that DPRs has been prepared for the same and the project is under investigation. It was also suggested that more public toilets should be constructed especially near the main road of the town.

Storm Water Drainage

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 thus no proper disposal of waste water is done leading to unhygienic condition.

Solid Waste Management

Stakeholders suggested that an effective Solid Waste Management system, more number of sanitary workers are necessary. The present strength of sanitary staff is insufficient for effective SWM.

Roads & Transport

Apart from pointing out the need for constructing new roads, the stakeholders also pointed out that it is necessary to upgrade of existing roads. The demand for one ring road has also been placed however; this will not come under the purview of ULB.

In other transportation related aspects, need for improvement of existing bus stand has been mentioned

Slum Improvement

The stakeholders expressed their concern about the slum condition of the town. It was pointed out that about 36% of the town populations are slum dwellers. Thus slum improvement is necessary

Commercial Amenities

The stakeholders mentioned about the need for developing a market with all facilities like cold storage for economic development of the town. The municipality need to buy land for that also. The stakeholders also suggested to construct hostel/ lodging for working men/women in the town.

Non-commercial Amenities

The ULB expressed their intention to develop three parks in the town for which the ULB has land. Need for developing schools were also expressed as a major thrust area.

In health facilities, the stakeholders pointed the need for one hospital and primary health care center in the town.

The stakeholders also placed the demand for one community hall with gymnasium and other facilities.

Other Issues

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

1. Municipal office is understaffed
2. Small industries should be encouraged to grow in the town
3. improvement of municipal office is required

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:

To develop the town as a trading hub with an enhanced quality of life and increased economic activity, supported by adequate infrastructure and focused towards local economic development.

Project Identification

Based on the discussion and vision as defined above, the projects for the Town to be taken on a priority basis in next five years (2008-09 to 2012-12) were selected as listed below:

Sector	Identified Projects
Water supply	<ol style="list-style-type: none"> i. Source augmentation ii. Increased Overhead water storage iii. Underground water storage facilities iv. Erection of public standposts
Sewerage and sanitation	<ol style="list-style-type: none"> i. UGD project for entire ULB area – Project already prepared ii. Construction of public toilets
Transportation	<ol style="list-style-type: none"> i. Up-gradation of existing Roads to CC ii. Improvement of Bus Stand

Slum development	i. Slum improvement and rehabilitation (all the basic amenities including housing)
Commercial amenities	iv. Development of market facilities v. Construction of multipurpose community hall vi. Hostel for working men/ women
Non-commercial/ community amenities	iv. Park development- 3 nos v. Construction of primary health centre and hospital vi. Construction of new school
Others	ii. Lake development with boating facilities

PARTICIPANTS OF THE WORKSHOP

Vandavasi Municipality

Mr. S. Thirunavukkarasu, Commissioner

Mr. G. Srinivasan, Chairman

Others (Attendance list attached)

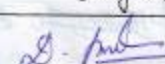




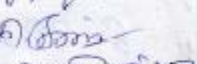

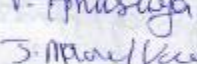
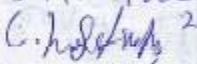
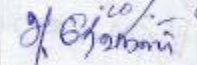

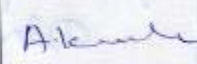
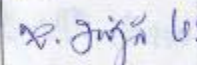
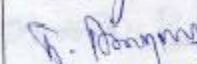


CRISIL Infrastructure Advisory

Ms. Shrimoyee Bhattacharya

Ms. Ruhi Lal

Attendance list of the participants at the workshop has been attached below

Sl. No.	Name	Designation	Signature
1.	R. R. R. R. R. R.	Secretary	
2.	R. R. R.	Secretary	R. R. R.
3.	R. R. R.	Secretary	
4.	R. R. R.	B. G. R.	
5.	R. R. R.	" " "	S. Arsan
6.	R. R. R.	" " "	A. V. R.
7.	R. R. R.	" " "	M. Mohan
8.	R. R. R.	" " "	R. R. R.
9.	R. R. R.	Secretary	
10.	R. R. R.	Secretary	
11.	R. R. R.	Secretary	
12.	R. R. R.	Secretary	
13.	R. R. R.	Secretary	
14.	R. R. R.	Secretary	
15.	R. R. R.	Secretary	
16.	R. R. R.	Secretary	
17.	R. R. R.	Secretary	
18.	R. R. R.	Secretary	
19.	R. R. R.	Secretary	
20.	R. R. R.	B. G. R.	S. Ambalaji
21.	R. R. R.	Secretary	
22.	R. R. R.	" " "	M. R. R.
23.	R. R. R.	" " "	
24.	R. R. R.	B. G. R.	S. R. R.
25.	R. R. R.	" " "	N. R. R.

Sl. No.	Name	Designation	Signature
26	D. Latha	studying.	
27	P. Balakrishnan		
28	V. Srinivas	தொழிலாளர்.	
29	M. Srinivasalingam	பெருநகர்.	
30	P. Lakshminathan	பெ.க.உ.	
31	B. Rajan	பெ.க.உ.	
32	A. Srinivasan	பெ.க.உ.	
33	V. Srinivasan	தொ.	
34	J. Srinivasan	பெ.க.உ.	
35	C. Srinivasan	"	
36	S. Srinivasan	பெ.க.உ.	
37	V. Srinivasan	தொ.தொ.தொ.தொ.	
38	A. Srinivasan	தொ.தொ.தொ.தொ.	
39	I. Srinivasan	தொ.தொ.தொ.தொ.	
40	T. Srinivasan	தொ.தொ.தொ.தொ.	
41	D. Srinivasan	தொ.தொ.தொ.தொ.	

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 -	Kutchra to Pucca Open	Rs.8.75 lakhs/ Km
	Kutchra 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: Summery Of Capital Investment Plan (CIP) Phasing Till 2012-13 –

Sector/ Component	Investment till 2012-13 (Rs. Lakhs)	2008-09	2009-10	2010-11	2011-12	2012-13
Water Supply	1,009	218	336	374	81	(0)
1 Source/ system capacity augmentation	198	40	79	79	-	(0)
2 Treatment capacity augmentation	203	-	41	81	81	-
3 Distribution network augmentation	361	72	145	145	-	-
4 Elevated Storage capacity augmentation	6	3	3	-	-	-
5 Refurbishment of old Distribution Network	35	35	-	-	-	-
6 Metering System	206	69	69	69	-	-
Sewerage	1,276	-	217	312	421	326
1 UGD - Network	1,087	-	217	217	326	326
2 UGD - STPs	189	-	-	95	95	-
3 UGD - Pumping Machinery	-	-	-	-	-	-
Roads & Urban Transport	769	-	10	171	305	283
1 Roads Upgradation	66	-	-	13	26	26
2 Roads New Formation	619	-	-	124	247	247
3 Imp. Rds (Widening, ROBs, bridgesetc)	72	-	10	29	24	10
4 Land Acquisition for Road Improvements	2	-	-	1	1	-
5 Public Transport/ Improvements	10	-	-	4	6	-
6 Traffic Management/ Jn. Improvements	-	-	-	-	-	-
Drains	853	29	44	214	283	283
1 Drains Upgradation	146	29	44	73	-	-
2 Drains New Formation	707	-	-	141	283	283
3 Desilting & Strengthening of Primary Drains	-	-	-	-	-	-
Street Lights	66	18	18	19	10	(0)
1 Replacement - Tube Lights	-	-	-	-	-	-
2 New Installation - Tube Lights	41	10	10	10	10	-
3 New Installation - High power Lamps	13	4	4	5	-	(0)
4 New Installation - High Mast Lamps	12	4	4	4	-	(0)
Conservancy (SWM) & Sanitation	190	34	44	59	51	2
1 New Vehicles (Primary Collection)	1	1	1	-	-	-
2 New Vehicles (Secondary and Disposal)	14	2	2	4	3	2
3 Acquiring New Disposal Site	22	22	-	-	-	-
4 Infrastructure at Disposal Site	106	-	27	43	36	-
5 DLDPs & Container Bins	1	1	1	-	-	-
6 Public Convenience Systems	45	9	14	11	11	-

Urban Poor/ Slums	177	27	27	27	35	62
1 Slum Improvement - Rehabilitation/ Housing	177	27	27	27	35	62
2 Slum Improvement - Infrastructure	-	-	-	-	-	-
3 Slum Improvement - Land acquisition	-	-	-	-	-	-
Land use/ Dev. Planning	15	15	-	-	-	-
1 Acquisition of Reserved lands	-	-	-	-	-	-
2 Existing Land use Survey (GIS based)	15	15	-	-	-	-
2 Others	-	-	-	-	-	-
Commercial Complexes	85	41	36	8	-	-
1 Shopping/ Office Complexes	30	15	15	-	-	-
2 Vegetable and Fish Market	20	10	10	-	-	-
3 Purchase of land for market	5	5	-	-	-	-
4 Slaughter House	-	-	-	-	-	-
5 Kalyan Mandapam/ Marriage Halls	-	-	-	-	-	-
6 Lodge/Dormitory	20	6	6	8	-	-
7 Municipality community complexes	10	5	5	-	-	-
Non Commercial Community Amenities	100	38	46	16	-	-
1 Park development	60	30	30	-	-	-
2 Play Grounds	-	-	-	-	-	-
3 Health centre	10	2	4	4	-	-
4 Hospital	20	4	8	8	-	-
5 Educational Institutions	10	2	4	4	-	-
6 Burial Grounds	-	-	-	-	-	-
7 Gasifier Crematorium	-	-	-	-	-	-
Other Projects to be taken by ULB	95	30	30	25	5	5
2 Lake/Pond Development and rain wayter harvesting	20	10	10	-	-	-
3 Temple Development	-	-	-	-	-	-
4 Parking spaces	-	-	-	-	-	-
5 Fire System	-	-	-	-	-	-
6 Urban Governance/ E-Governance/ GIS	50	15	15	20	-	-
7 Others	-	-	-	-	-	-
8 Regular Capital Works	25	5	5	5	5	5
Total	4,635	450	807	1,224	1,191	961

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 7: Details Of Council Level Presentation

Date: 22nd August 2008

Venue: Municipal Council Hall, Vandavasi

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 Vandavasi town and pass suitable resolution through a Council meeting thereafter.

MINUTES OF THE WORKSHOP

The workshop started at 11:00 am with the welcome and introduction of CRISIL Representatives to the hall. The Chairman, 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 following bullets capture the discussion and feedback from the ward councillors

- Development of slums was of utmost importance to the municipal stakeholders
- They were also very keen on implementing revenue generating projects
- They were planning to revise property tax in the short term but were unwilling to revise water charges
- They complained of lack of staff to undertake administrative functions effectively

Forms were distributed and the councillors were asked to mark their priority for undertaking the implementation of projects. The following table captures their priorities:

No.	Project	Ranking by Ward															
		2	6	17	21	4	16	12	14	8	9	11	VC	1	2	7	20
1	Water Supply	1	3	1	1	1	2	5	1	1	1	1	2	2	2	3	1
2	UGD and Sewage treatment	5	2				3	1	2	2	2	2		3	3	2	2
3	Roads (Repairs)		5						3	3	3	4		4	4	4	3
4	Roads (New)	3		2	3	4	1										
5	Parks/ Playgrounds												5				
6	storm water drains				2	2		3									
7	Markets/ Commercial complex	2	6					6	5	5	5		4				5
8	Marriage Hall											5					
9	Gasifier (Cremation)	4															
10	Slum improvement		1			3		4	4	4	4		1	1	1	1	4
11	Community Hall		4														
12	Solid waste management (composting and other associated infrastructure)																
13	Mosquito spray						4	2				3		5	5		

When asked to prioritize the list of projects considering the low level of sustainability the councillors agreed upon the following as most important for Vandavasi

1. Enhancement of water supply
2. Infrastructure for solid waste management (land is available with the municipality but infrastructure needs to be built)
3. Underground drainage and sewage treatment infrastructure
4. Markets and Commercial complex near bus stand

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 8 : 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;

- I. 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

Commissioner

Date

Vandavasi 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	95%	-	-	135	-	-	
	Storage Capacity/Total Supply	%	33%	54%	-	-	-	-	-	Existing is sufficient for next 5 years
	Treatment Capacity/Total Supply	%	100	0%				100%	-	
	Length of Distribution Network	% of roads	85%	52%	-	-	85%	-	-	* has to be increased with increased road length.
	Population having access to water supply	%	100%	52%	-	-	-	-	-	Have to maintain over the years
Sewerage & Sanitation										
	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	244		200	125	60		
Solid Waste Management										
	Collection efficiency	MT	100%	87%	-	-	-	-	-	*Have to maintain 100% over the years with increase in waste

Category	Description	Unit	Norm	Existing	Year 1	Year 2	Year 3	Year 4	Year 5	Remark / Reforms and Action Required by the ULBs
										generation
	Door to Door collection coverage	%	100%	-		100%				
	Vehicle capacity to total waste generated	%	33%	33%					33%*	*Have to maintain 33% over the years with increase in waste generation
	Availability of composting facility	Yes / no		Partial						Need to be augmented over the years
	Road length covered by per conservancy staff	Meters	0.68	1.2					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%	1%			40%	50%	60%	
	Road length covered with pucca open SWD	%	70%	8%			30%	50%	70%	
12.5.1.1 Roads										
	Concrete Road/Total Road	%	20%	9%				15%	20%	to be maintained at 20% over the years with increased total road length
	Black Top Road/Total Road	%	80%	83%					80%	To be maintained over the years with increased total road length
Street Lighting										
	Spacing between Streetlights	Meters	30	32					30	to be increased over the years with increased road length
	Tube lights/Total Lights	%	80%	95%				80%		to be increased and maintained over the years with increased road length
	High power lights/Total Lights	%	15%	5%			15%			to be increased and maintained over the years with increased road length
	Other Lights/Total Lights (high mast lamps etc)	%	5%	0%			5%			

Category	Description	Unit	Norm	Existing	Year 1	Year 2	Year 3	Year 4	Year 5	Remark / Reforms and Action Required by the ULBs
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%	56%	85%					to be maintained over the years with increase in no of properties
Water charges										
	Metered Connections	%	100%	0%					100%	
	Collection efficiency	%	85%	32%	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

		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											
General Account																				
A	SUMMARY																			
i	Opening balance	0	-148	-347	-546	-729	0	52	104	96	109	141	304	351	403	456	473	499	551	
ii	Revenue Receipts	231	183	186	200	189	180	208	218	239	255	270	307	327	347	366	388	442	470	
iii	Revenue Expenditure	110	100	118	109	109	128	144	155	176	212	243	259	276	294	349	363	390	419	
iv	Municipal receipts	489	491	572	517	526	445	247	264	345	395	406	307	327	347	366	388	442	470	
v	Municipal expenditure	637	689	771	699	720	393	196	272	332	364	243	259	276	294	349	363	390	419	
New Debt Servicing Exp.							0	2	5	11	35	49	49	49	49	49	49	49	49	
New O&M Exp.							0	0	1	4	9	12	13	13	14	15	15	16	17	
ULB contribution/ Rev. Surplus Transfer for Asset creation							4	5	12	16	15	0	0	0	0	0	0	0	0	
vi	Operating Surplus/ Deficit for the year	121	83	68	91	80	52	64	63	64	43	26	48	52	53	17	25	52	52	
vii	Municipal Surplus/ Deficit for the year	-148	-198	-200	-182	-194	52	52	-7	13	31	163	48	52	53	17	25	52	52	
viii	Closing balance	-148	-347	-546	-729	-922	52	104	96	109	141	304	351	403	456	473	499	551	603	
ix	Performance Indicators																			
	DSCR						6.11	6.14	5.27	4.05	1.95	1.45	1.82	1.88	1.91	1.29	1.52	2.07	2.07	
	DSR						6%	6%	7%	9%	18%	22%	19%	18%	17%	16%	13%	11%	10%	
	PT Collection Performance						67%	69%	73%	77%	81%	85%	89%	93%	96%	100%	100%	100%	100%	
B REVENUE ACCOUNT																				
RECEIPTS																				
I Own Sources																				
Taxes																				
1	Property Tax	22	33	35	30	33	60.3	78.9	78.7	80.0	81.8	83.4	105.0	110.3	113.9	113.2	116.1	149.2	153.7	
2	Professional Tax	5	6	7	6	6	6.4	6.9	7.4	8.0	8.7	9.4	10.1	10.9	11.8	12.7	13.7	14.8	16.0	
3	Other Taxes & Charges	4	4	4	4	4	4.5	4.9	5.3	5.7	6.1	6.6	7.2	7.7	8.3	9.0	9.7	10.5	11.4	
Non-Tax Income																				
1	Income from Properties	12	13	14	13	13	14.6	15.7	17.0	18.4	19.8	21.4	23.1	25.0	27.0	29.1	31.5	34.0	36.7	
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	7	7	7	7	7	7.4	8.0	8.7	9.4	10.1	10.9	11.8	12.8	13.8	14.9	16.1	17.4	18.7	
4	Income from Fees	6	8	8	7	8	8.4	9.1	9.8	10.6	11.4	12.3	13.3	14.4	15.5	16.8	18.1	19.6	21.1	
5	Income form Remunerative projects							0.0	0.0	9.0	10.7	10.7	12.1	12.3	12.3	13.9	14.2	14.2	15.9	
6	Miscellaneous Income	16	8	10	11	9	10.2	11.0	11.9	12.9	13.9	15.0	16.2	17.5	18.9	20.4	22.1	23.8	25.7	
	Total Own Sources	72	78	86	79	81	111.8	134.5	138.7	153.8	162.6	169.8	198.8	210.9	221.6	230.0	241.5	283.5	299.3	
Assigned Revenue																				
1	Entertainment Tax	5	2	3	4	3	3.4	3.7	4.0	4.3	4.6	5.0	5.4	5.8	6.3	6.8	7.4	7.9	8.6	
2	Surcharge on Stamp Duty	20	6	11	12	9	10.2	11.0	11.9	12.8	13.9	15.0	16.2	17.5	18.9	20.4	22.0	23.8	25.7	
	Total	25	8	14	16	13	13.6	14.7	15.9	17.1	18.5	20.0	21.6	23.3	25.2	27.2	29.4	31.7	34.3	
II Transfers & Revenue Grants																				
1	SFC Fund	68	56	40	55	50	54.3	58.7	63.3	68.4	73.9	79.8	86.2	93.1	100.5	108.6	117.3	126.6	136.8	
2	Other 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	
	Total	68	56	40	55	50	54.3	58.7	63.3	68.4	73.9	79.8	86.2	93.1	100.5	108.6	117.3	126.6	136.8	
	Total Revenue Receipts	165	142	140	149	144	179.7	207.9	218.0	239.4	255.0	269.6	306.6	327.3	347.3	365.8	388.1	441.8	470.3	

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												
EXPENDITURE																									
III	Establishment						48	44	44	46	45	62.7	72.2	77.6	83.5	85.3	92.2	99.5	107.5	116.1	160.2	173.1	186.9	201.8	
IV	O&M Expenses																								
	O&M on Current Assets						51	41	60	51	51	54.9	59.7	61.2	67.0	73.3	80.2	87.8	96.1	105.2	115.2	126.1	138.1	151.2	
	1 General Administration and Taxes						8	12	11	10	11	11.8	12.8	10.3	11.2	12.0	13.0	14.1	15.2	16.4	17.7	19.1	20.6	22.3	
	2 Public Works and Roads						2	1	3	2	2	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.5	3.7	4.0	4.4	4.7	5.1	
	3 Street Lighting						9	14	18	14	15	16.7	18.0	19.8	21.8	24.0	26.4	29.0	31.9	35.1	38.6	42.5	46.7	51.4	
	4 Public Health & Conservancy						1	1	5	2	3	2.8	3.0	2.7	2.9	3.2	3.6	3.9	4.3	4.7	5.2	5.7	6.3	6.9	
	5 Town Planning						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	
	6 Contribution to other Funds						27	10	20	19	16	17.6	19.4	21.3	23.5	25.8	28.4	31.2	34.4	37.8	41.6	45.7	50.3	55.3	
	7 Miscellaneous Items						4	4	3	4	4	4.0	4.3	4.7	5.1	5.5	5.9	6.4	6.9	7.4	8.0	8.7	9.4	10.1	
	O&M on New Assets											0.0	0.0	0.9	4.4	8.8	12.0	12.7	13.3	13.9	14.6	15.4	16.1	17.0	
	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						10	14	13	12	13	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	0.0	0.0	0.0
	New Outstanding Debt Liabilities - IBRD											0.0	2.2	4.7	10.7	34.8	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	
	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							109	99	116	108	108	127.8	144.3	154.6	175.7	212.3	243.1	258.7	275.6	294.0	348.8	363.1	389.7	418.5	
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						142	196	279	205	227	265.3	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											14.4	18.0	37.7	50.5	52.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	6 Beneficiary Contribution											0.5	0.5	0.5	0.8	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Total						142	196	279	205	227	265.3	14.9	18.5	38.3	51.3	53.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
III	Capital Loan						116	112	107	112	110	0.0	24.6	27.8	67.0	89.2	82.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	IBRD Loan											24.6	27.8	67.0	89.2	82.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Commercial Bank																								
	Total Capital Receipts						257	308	386	317	337	265.3	39.5	46.3	105.3	140.4	136.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
EXPENDITURE																									
IV	CAPEX						527	589	654	590	611	265.3	51.4	117.0	156.0	151.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

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											
Water and Sanitation Account																			
A SUMMARY																			
i	Opening balance	0	-67	-36	-88	-121	0	65	163	319	496	767	972	1054	1173	1301	1426	1601	1785
ii	Revenue Receipts	32	119	35	59	71	93	137	216	262	370	315	206	248	263	273	330	347	364
iii	Revenue Expenditure	26	23	20	23	22	27	33	45	65	84	101	124	129	134	149	155	163	171
iv	Municipal receipts	43	148	70	84	101	122	189	355	443	509	410	206	248	263	273	330	347	364
v	Municipal expenditure	110	117	122	116	119	56	91	200	265	238	206	124	129	134	149	155	163	171
New Debt Servicing Exp.							0	3	11	22	31	36	50	50	50	50	50	50	50
New O&M Exp.							0	0	2	8	16	24	30	32	33	35	37	39	41
ULB contribution/ Rev. Surplus Transfer for Asset creation							6	15	20	15	11	0	0	0	0	0	0	0	0
vi	Operating Surplus/ Deficit for the year	6	96	15	36	49	65	104	171	198	286	215	82	119	128	124	175	185	194
vii	Municipal Surplus/ Deficit for the year	-67	31	-52	-32	-18	65	98	155	178	271	204	82	119	128	124	175	185	194
viii	Closing balance	-67	-36	-88	-121	-138	65	163	319	496	767	972	1054	1173	1301	1426	1601	1785	1979
ix	Performance Indicators																		
	DSCR						-	34.25	15.87	9.87	10.34	6.91	2.64	3.38	3.56	3.48	4.49	4.69	4.87
	DSR						0%	2%	5%	9%	8%	12%	24%	20%	19%	18%	15%	14%	14%
	Water Charges Collection Performance						45%	82%	81%	82%	84%	85%	89%	92%	96%	100%	100%	100%	100%
B REVENUE ACCOUNT																			
RECEIPTS																			
I Own Sources																			
1	Water Tax	9	11	16	9	12	13.4	14.7	16.1	17.6	19.2	21.0	23.0	25.2	27.5	30.1	32.9	36.0	39.4
2	Water Charges	16	15	12	20	15	31.4	29.6	35.2	41.6	58.9	64.7	67.3	85.9	89.8	89.4	115.4	118.9	122.5
3	New Connection Charges - Water	7	5	4	0	3	12.7	54.6	52.3	55.1	72.6	16.3	16.8	21.6	22.3	23.0	29.5	30.5	31.4
4	Sewerage Charges						0.0	0.0	0.0	8.0	18.4	26.2	28.2	36.1	38.0	39.5	49.9	52.5	54.5
5	New Connection Charges - Sewerage	0	0	0	0	0	0.0	0.0	71.1	95.9	153.4	135.4	15.2	19.4	20.0	20.6	26.6	27.5	28.2
6	Other Income	0	88	3	31	41	35.2	38.0	41.0	44.3	47.8	51.7	55.8	60.3	65.1	70.3	75.9	82.0	88.5
7	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
Total		32	119	35	59	71	93	137	216	262	370	315	206	248	263	273	330	347	364
Total Revenue Receipts		32	119	35	59	71	93	137	216	262	370	315	206	248	263	273	330	347	364

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											
EXPENDITURE																			
II	Establishment	10	13	9	11	11	15.2	16.4	17.7	19.1	20.7	22.3	24.1	26.0	28.1	38.8	41.9	45.2	48.8
III	O&M Expenses																		
	O&M on Current Assets	16	11	11	13	11	12.3	13.3	14.3	15.5	16.7	18.0	19.5	21.0	22.7	24.5	26.5	28.6	30.9
	Power Charges	14	9	9	11	9	10.2	11.0	11.9	12.9	13.9	15.0	16.2	17.5	18.9	20.4	22.0	23.8	25.7
	All Others/ O&M	2	2	2	2	2	2.1	2.2	2.4	2.6	2.8	3.0	3.3	3.6	3.8	4.1	4.5	4.8	5.2
	O&M on New Assets - Water						0.0	0.0	1.7	4.6	8.2	9.3	9.8	10.3	10.8	11.3	11.9	12.5	13.1
	O&M on New Assets - Sewerage							0.0	0.0	3.0	7.8	14.6	20.6	21.6	22.7	23.9	25.0	26.3	27.6
	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	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
	New Outstanding Debt Liabilities - IBRD							3.1	11.5	22.3	30.6	36.3	50.1	50.1	50.1	50.1	50.1	50.1	50.1
	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	26	23	20	23	22	27	33	45	65	84	101	124	129	134	149	155	163	171
CAPITAL ACCOUNT																			
RECEIPTS																			
I	Capital Grant	12	28	35	25	29	29.0	17.4	46.3	60.3	46.3	31.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
II	Beneficiary 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	0	0	0	0	0	0.0	34.8	92.6	120.5	92.6	63.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	IBRD Loan							34.8	92.6	120.5	92.6	63.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Commercial Bank																		
	Total Capital Receipts	12	28	35	25	29	29.0	52.2	138.9	180.8	138.9	94.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EXPENDITURE																			
IV	CAPEX	84	94	102	93	96	29.0	58.0	154.4	200.8	154.3	105.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0