



City Sanitation Plan for Bhimavaram Municipality

భిమవరం పురపాలక సంఘం



CSP Status Assessment Report: A City Sanitation Plan (CSP) should include baseline information related to sanitation and sanitation related services in the city. A status report is a document comprising of current situation of service provision in a city. Thorough analysis of baseline data in the status report and thereby identification of gaps & key issues is captured in the Status Assessment Report. Various standards / benchmarks (CPHEEO Manual, IS codes, Service Level Benchmarks, Best Practices and etc.) should be referred for concrete identification of gaps & issues.

The Status Assessment Report is a prerequisite for preparation of a CSP. The key gaps & issues identified in the Status Assessment Report form the background for identifying appropriate solutions / recommendation in a good CSP.

This ‘Template for preparation of CSP Status Assessment Report’ would help the ULBs in analyzing the current gaps & issues related to sanitation sector in a simplified and structure manner. Various formats / tables have been provided in this template, for analyzing the gaps & issues in each sector in a simplified manner. However, the formats / tables provided in the template can be modified to as per city requirements.

Table of Contents for Status Assessment Report

.....*Section I – Introduction & Context Setting*

1. Introduction & Background

- As per Status Report

2. City Sanitation Task Force (CSTF)

- As per Status Report
- Minutes of various meetings / consultations / workshop conducted by CSTF

3. City Profile

- As per Status Report
- Population projections

.....*Section II – Technical Sectors*

4. Water supply

- 4.1 Baseline Status
- 4.2 Gaps & Issues
 - Water demand forecasting
 - Zonal level water supply
 - Non-Revenue Water (NRW)

5. Access to Toilets

- 5.1 Baseline Status
- 5.2 Gaps & Issues
 - Coverage of Toilets (Individual & Community)
 - Community Toilet Blocks
 - Public Toilet Blocks

6. Waste-water Management

- Waste-water disposal arrangement
- Sanitation Flow Diagram (SFD)

6.1 Sewerage management

- Baseline Status
- Gaps &Issues
 - Sewer networks & Pumping stations
 - Sewage Treatment Plants (STPs)

6.2 Septage management

- Baseline Status
- Gaps &Issues
 - Septic Tanks
 - Septage Collection & Conveyance
 - Septage Treatment & Disposal / Reuse

6 Solid waste management

7.1 Baseline Status

7.2 Gaps &Issues

- Solid waste generation
- Primary collection
- Secondary collection
- Conveyance (Transportation) to Treatment facility
- Processing (Treatment) of Solid waste
- Disposal of Solid waste

8 Storm water management

8.1 Baseline Status

8.2 Gaps &Issues

- Storm water drainage system
- Water logging / flooding

9 Receiving water bodies management

9.1 Baseline Status

9.2 Gaps &Issues

.....*Section III – Supporting Factors*

10 Institutional & Governance

10.1 Baseline Status

10.2 Gaps &Issues

- Institutional arrangement
- Governance
- Inclusiveness

11 Municipal Finance

11.1 Baseline Status

11.2 Gaps &Issues

12 Capacity Enhancement

12.1 Baseline Status

12.2 Gaps &Issues

13 Health & Hygiene

13.1 Baseline Status

13.2 Gaps &Issues

.....*Section IV – Key Issues& Vision*

14 City-wide Key Issues

Key Issues& Rational for each issue

15 City-wide Sanitation Vision

15.1 Vision & Goals

15.2 Strategy / Road map for achieving vision

Annex 1: List of on-going and planned projects in the ULB

1 Introduction and Background

The National Urban sanitation Policy launched during 2008 envisages “All Indian cities and towns become totally sanitized, healthy and livable and ensure and sustain good public health and environmental outcomes for all their citizens with a special focus on hygienic and affordable sanitation facilities for the urban poor and women”.

The overall goal of National policy is to transform Urban India into community-driven, totally sanitized, healthy and livable cities and towns. Specific goals include:

- A. Awareness Generation and Behavior Change,
- B. Open Defecation Free Cities,
- C. Integrated Town-Wide Sanitation,
- D. Sanitary and Safe Disposal, and
- E. Proper Operation & Maintenance of all Sanitary Installations.

2 City Sanitation Task Force (CSTF)

The City Sanitation Plan (CSP) is aimed at developing and maintaining a clean, safe and pleasant physical environment in Bhimavaram town to promote social, economic and physical well-being of all sections of the population. It encompasses plan of action for achieving 100% sanitation in the town of Bhimavaram through demand generation and awareness campaign, sustainable technology selection, construction and maintenance of sanitary infrastructure, provision of services, O&M issues, institutional roles and responsibilities, public education, community and individual action, regulation and legislation.

To tackle the above challenges and to accord thrust to sanitation as a priority area, the Government of India (GoI) launched the National Urban Sanitation Policy (NUSP) in 2008. The NUSP articulates the resolve of GoI to achieve United Nations Millennium Development Goals specifically, MDG 7 pertaining to secure ecological sustainability and MDGs 4, 5 and 6, pertaining to health and hygienic conditions of the poor and women. In particular, the NUSP

- Envisions that all Indian cities and towns should become totally sanitized, healthy and livable and ensure and sustain good public health and environmental outcomes for all their citizens with a special focus on hygienic and affordable sanitation facilities for urban poor and women.
- Identifies a) poor awareness, b) social and occupational aspects of sanitation, c) fragmented institutional

roles and responsibilities, d) lack of integrated town-wide sanitation approaches, e) limited technology choices, f) reaching the un-served and poor and g) lack of demand responsiveness as the key policy issues to be tackled and aims to transform urban India into community-driven, totally sanitized, healthy and livable cities/towns through achieving:

The principal components of town-wide approach include:

- (a) Collection and sanitary disposal of wastes, including solid wastes, liquid wastes, industrial wastes, clinical and other hazardous wastes;
- (b) Storm water drainage;
- (c) Cleansing of thoroughfares, markets and other public places;
- (d) Environmental sanitation education;
- (e) Inspection and enforcement of sanitary regulations;
- (f) Monitoring the observance of environmental standards.

NATIONAL URBAN SANITATION POLICY (NUSP)

The Vision of the NUSP is:

All Indian cities and towns become totally sanitized, healthy and livable; and ensure and sustain good public health and environmental outcomes for all their citizens with a special focus on hygienic and affordable sanitation facilities for the urban poor and women.

To transform Urban India into community-driven, totally sanitized, healthy and livable cities and towns, the policy sets out the following goals:

A. AWARENESS GENERATION AND BEHAVIOUR CHANGE

B. OPEN DEFECATION FREE CITIES

C. INTEGRATED TOWN-WIDE SANITATION

1. Re-orienting Institutions and Mainstreaming Sanitation

2. Sanitary and safe disposal: 100% of human excreta and liquid wastes must be disposed of safely

3. Proper Operations and maintenance (O&M) of all sanitary installations

The policy envisages the preparation of State Sanitation Strategies within the overall National Policy framework. In turn, cities are expected to prepare their town-wide sanitation plans that need to be prepared in a consultative and participatory manner, and using an incremental approach to addressing the issue of sanitation in a comprehensive town-wide manner.

Source: NUSP, 2008.

The objective of this exercise is to prepare a city Sanitation Plan (CSP) for Bhimavaram City.

The City Sanitation Plan is envisaged as a comprehensive document that would detail the short, medium and long term plan for the issues related to Governance, Technical, Financial, Capacity Building, Awareness and Pro-poor interventions to ensure 100% access to safe sanitation.

Further, the CSP would also identify key areas where further detailed studies (detailed project report) are required. Briefly, the scope of work for assistance in formulation of the Town Sanitation Plan covered the following activities.

1. **Facilitating formulation of a City Sanitation Task Force (CTF)** – includes identifying stakeholders to form Town Sanitation Task Force in consultation with ULB, formally constitute the task force facilitate consultative functioning of the CTF during the course of preparation of the Town Sanitation Plan.
2. **Strengthening database of ULBs pertaining to Sanitation through a baseline review** - Guide ULB to develop a methodology and institute system to capture town level data pertaining to sanitation. The subtasks for carrying out this activity will include
 - a) review of available information,
 - b) collection of information on municipal finances,
 - c) identifying gaps and carrying out supplementary gap filling surveys and consultations to update these and
 - d) document regional best practices

- e) Inspection and enforcement of sanitary regulations;
- f) Monitoring the observance of environmental standards.

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5. Support in Awareness Generation and launch of 100 percent Sanitation Campaign - Formulating the components of awareness programme at the supply and demand level.

6. **Technological Options** - In consultation with CTF identify the key town specific technological options (for both existing and new developments including upgrade of existing infrastructure).

5. **Capacity Enhancement and Knowledge Management** - Identify needs and gaps for Capacity enhancement and knowledge management to develop ULBs as service providing agencies for sanitation and building up orientation and skills for various sanitation related activities.

Member of (CSTF)

Constitution of Town Sanitation Task Force is mandatory as per the National Urban Sanitation policy 2008 proposed with following members and the matter was placed in council meeting for approval. The council has unanimously approved the resolution vide CR No. 310, Dt. 26.08.2015

Sl.No	Name	Designation
1	Sri. Kotikalapudi Govinda Rao	Chairperson (Head of the CSTF)
2	Sri Ch.Naga Narasimha Rao	Commissioner(convener)
2	Sri N.V. NageswaraRao	Assitant Commissioner(Nodal Person)
3	Sri Mudunuri Suryanarayana Raju	Vice –Chair person (Member)
4	Sri.P.Srikanth	DEE Environment
5	Sri G.V.Satyanarayana Murthy	Assistant City Planer
6	Sri.K.Prasad	In-charge Health officer (Member)
7	Sri Prabhakar Rao	Municipal Engineer (Member)

8	Sri Tanala Krishna	Plastic Merchant's Association (Member)
9	Sri Bangaru Peddi Raju	Public Health Worker (Member)
10	Sri B.Ramu	Public Health Worker (Member)
11	Dr M. Satyanarayana	Rtd Professor (Member)
12	Sri Cherukuvada Ranga Sai	Convener Jana Vignana Vedika (Member)
13	Smt. Sheik Syeda debe	TLF President (Member)
14	Sri K.L.S.N. Dharma Raju	Press Reporter (Member)
15	Sri V.Linga Murthy	Press Reporter (Member)
16	Smt. A. Naga Valli	5 th Ward (Member)
17	Smt S.Rajeshwari	13 th Ward (Member)

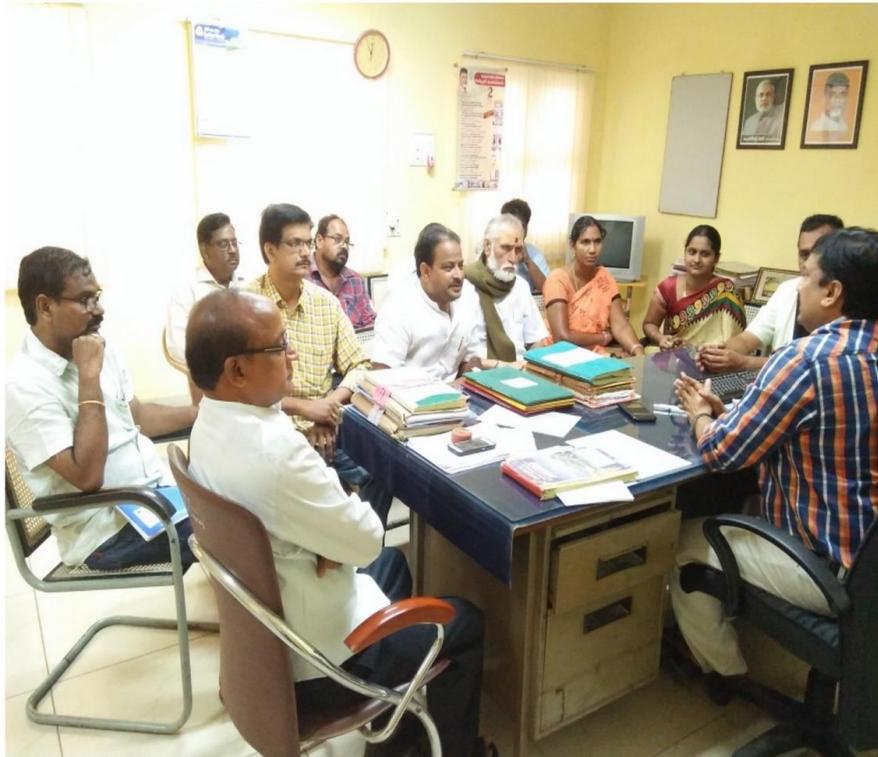
City sanitation Task Force meeting is held for Four times to discuss the issues related to cleanliness, water supply & eradicating open defecation.



Sri.N.V.Nageshwara Rao, commissioner of Bhimavaram municipality attended the training program held by GIZ to discuss the implementation process of City Sanitation Plan.



City Sanitation Plan Training Program



Responsibilities of CSTF:

- Launching the Town 100% Sanitation Campaign
- Generating awareness amongst the town's citizens and stakeholders
- Approving materials and progress reports provided by the implementing agency, other public agencies, as well as NGOs and private parties contracted by the Implementing Agency, for different aspects of implementation (see below)
- Approving the Town Sanitation Plan for the town prepared by the Sanitation Implementation Agency after consultations with citizens
- Undertaking field visits from time to time to supervise progress
- Issue briefings to the press / media and state government about progress
- Providing overall guidance to the Implementation Agency
- Recommend to the ULB fixing of responsibilities for town-wide sanitation on a permanent basis

The Task Force should meet formally frequently in the initial stages to monitor and guide the process of planning and implementation. At a later stage, meetings and field visits can be on an as-needed basis.

The Sanitation Task Force will recommend the assigning of responsibilities for town-wide sanitation to the ULB including the following aspects:

- The ULB to have final overall responsibility for town-wide sanitation, including devolving power, functions, functionaries and funds to them
- Planning and Financing including State Government and Govt. of India schemes
- Asset creation including improvement, augmentation
- Operations and Management (O&M) Arrangements for all network, on-site, individual, community and public sanitation facilities and systems (including transportation up to final treatment and disposal of wastes)
- Fixing tariffs and revenue collections in order to make O&M sustainable
- Improving access and instituting special O&M arrangements for the urban poor and un-served populations in slum areas and in mixed areas
- Adopting standards

- Infrastructure (e.g. design standards) (PHEDs/ Parastatals), and
- Service Delivery standards (e.g. by Urban Development departments)
- Adoption of Regulatory roles including environmental standards (e.g. State Pollution Control Boards), health outcomes (e.g. Health Departments).
- Measures in case specific stakeholders do not discharge their responsibilities properly
- Training and Capacity Building of implementing agency and related personnel
- Monitoring of 100% Sanitation involving multiple stakeholders

Terms of reference for Town Sanitation Task Force (CSTF) Town Sanitation Plan:

The Town Sanitation Plan is a main planning tool at local level to provide a strategic framework for achieving the goals of the National Urban Sanitation Policy and to formulate a town-wise sanitation vision. The CSP is comprehensive document, which details out the short, medium and long term vision for issues related to Governance, Technical, Financial, Capacity Building, Awareness and Pro poor interventions to ensure 100% access to safe sanitation

The CSP will need to be prepared keeping in view what the town can afford and finance. It will be better as far as possible to improve the effectiveness of existing facilities before embarking on expensive new investments. Further, thinking about the whole town, and not just some portions or just some facilities, will be necessary to achieve the goals in a comprehensive and systematic manner.

The Town Sanitation Plans (CSP) must be prepared and presented by the Implementing Agency/ ULB and presented to the Task Force for approval. While the exact contents of the CSP may vary depending on the local situation, the following aspects are to be covered:

- Plan for Development of Institutions / Organizations responsible for sanitation, and their roles and responsibilities;
- Plan for ensuring 100% Sanitation Access to different socio-economic groups, and related O&M systems (including improving existing systems, supplementary facilities, O&M Management contracts using PPP and community management, etc.);
- Costs and tariffs for service provision;
- The issue of collection of dues needs to be emphasized as a means of ensuring accountability as well as financial sustainability

- Investments and O&M systems for new development areas / market and public places, and residential and other habitations
- Plan for safe collection, conveyance and treatment of sanitary wastes
- Plan for M&E of implementation, and of achieving and sustaining 100%
- Sanitation (including use of community monitoring, etc.)
- Issues such as diminishing water resources, impact of climate change, use of low energy intensive onsite/decentralized wastewater treatment technologies, distributed utilities etc.
- Manpower issues such as adequate remuneration, hazardous nature of work, employment on transparent terms and conditions, use of modern and safe technology, provision of adequate safety equipment such as gloves, boots ,masks, regular health checkups, medical and accident insurance cover etc.
- Plans for other aspects significant locally Overview of CSP Strategy

3 City Profile

Bhimavaram Municipality:-

Bhimavaram is Selection Grade municipality located in west Godavari district of Andhra Pradesh. It is the administrative capital of bhimavaram mandal and second largest town in the west Godavari district with a population of 142184. Bhimavaram is hub of educational institutes and a major pilgrimage center. Bhimavaram is spread in an extent of **25.64 Sq.kms** in a scenic serene environment and is an important town in West Godavari District, Andhra Pradesh, India. It is located at 16.5^0N 80.64^0E latitude and longitude. It is a major centre of aqua culture, trade, commerce, education and industries in the Region. Two important temples are situated in Bhimavaram town one is Someswara Swamy temple and another one is Sri Mavullamma Temple. Someswara Swamy temple is one of the Pancharama kshetra. The temples draw pilgrims from various places all over the country predominantly from State of Andhra Pradesh and Karnataka.

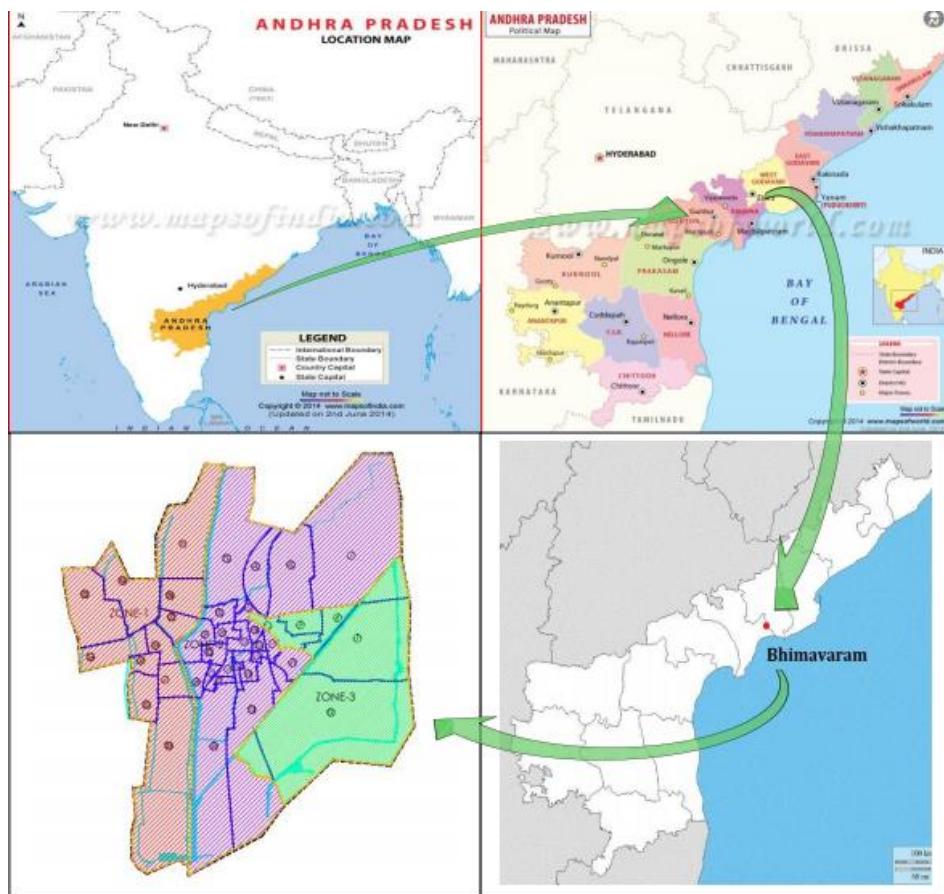


Figure 1 Location map of Bhimavaram Town

The town is rich in water resources owing to its many tanks and reservoirs. These give it an equitable climate throughout the year. However summer can be particularly hot. The average temperature is around 40.0° C. There are no. of major industries in Bhimavaram town i.e., Rice Mils, Ice factories, Fish and Prawns export companies etc., are located near to the town resulting migration of people from neighboring villages thus accounts for springing up of slums in and around the town adding the burden of providing civic amenities in general and Storm Water Drainage in particular. This Town located at a distance of 76.00 Kms from the District Head Quarters town Eluru and 450.00 Kms from the combined State Capital Hyderabad. Bhimavaram, located in the interior of Godavari Delta region in West Godavari District, Andhra Pradesh, India. It is about 20 km. from the Bay of Bengal. It is one of the largest town in West Godavari District and is divided into two parts i.e., the Eastern part, called as "One Town" and the Western part called as "Two Town". These two towns are separated by Enamadurru Drain, which flows through Bhimavaram Town and joins Upputeru River at 29th mile straight cut of Upputeru. Before presenting the details of the study area, some details of the river Godavari are given in the following paragraph.

Selection Grade Municipality	Sep 2011
Special Grade Municipality	April 1980
1 st Grade Municipality	Oct 1967
2 nd Grade Municipality	Aug 1963
3 rd Grade municipality	April 1948

Figure 2 Status of the Bhimavaram Municipality

Typography

Bhimavaram town is situated between the $16^{\circ}32'00''$ northern latitude and $81^{\circ}32'00''$ eastern longitude, and spread over 25.60sq.kms. Broadly the area is covered by black-cotton soil exhibiting the behavior of clay soil. The soil has an extremely large surface area. It has fine pores, poor drainage and poor aeration. It has the highest water holding capacity. It is suitable for agriculture and aquaculture. It has a fertile land assured of irrigation facilities with less natural hazards.

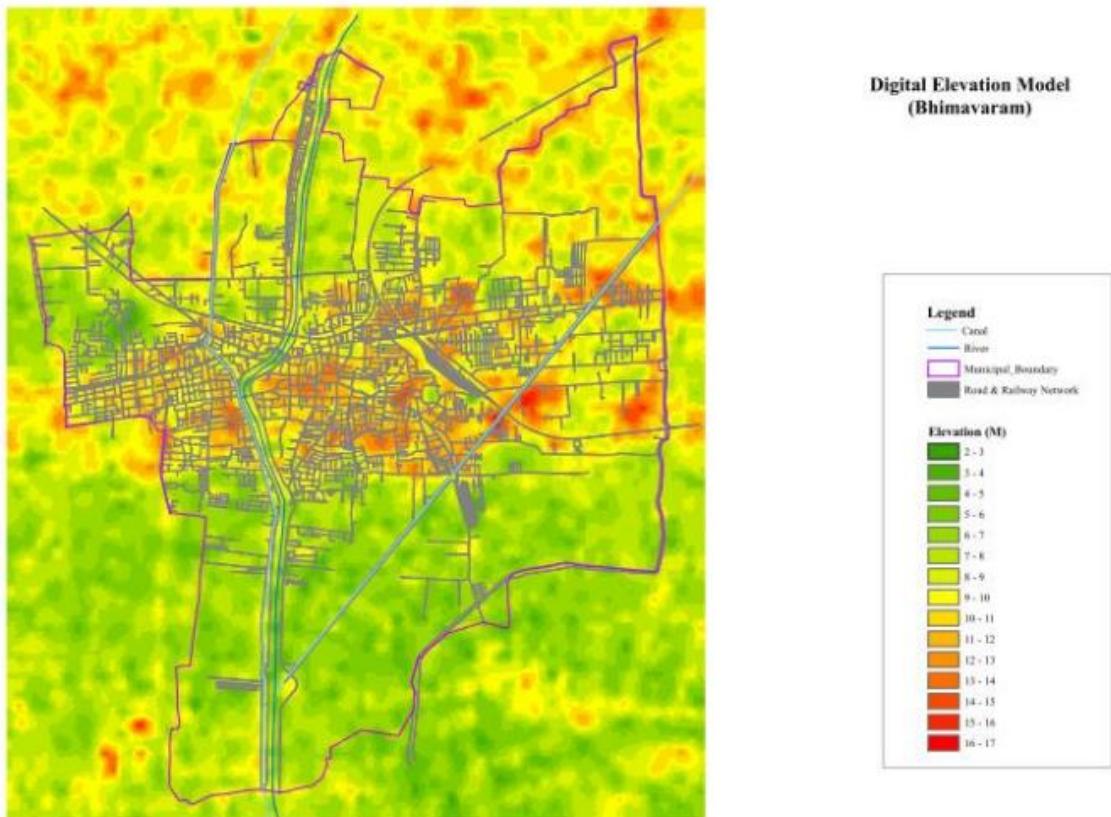


Figure 3 Digital Elevation Map of Bhimavaram Town

CLIMATE AND RAINFALL

The climate is tropical in Bhimavaram. In winter there is much more Rainfall in Bhimavaram than in summer. The maximum temperature in Bhimavaram is 35.5 °C. In December, the temperature is 21.0 °C and is the lowest temperature of the whole year. The warmest month of the year is May with a temperature of 45.5 °C and maximum Annual Rain Fall is 86 mm.

Winter - The cold weather commences early in November and comes to an end in the middle of March

Summer- The hot weather sets in and lasts until the middle of June. The average wind is 17-67 km/hour. The hot wind greatly affects human comfort during this season.

Monsoon - After Mid June the rainy season commences and continues till end of September the beginning of this season occurs when a storm from the Bay of Bengal passes over Andhra Pradesh.

Post Monsoon—An important feature of the retreating monsoon season in Andhra Pradesh is the invasion of Tropical cyclones originating in the Bay of Bengal at about 16.50°N, 80.64 °E Latitude and Longitude, Andhra Pradesh is also influenced by the cyclones originating in Bay of Bengal and Arabian Sea. The maximum frequency of the Tropical cyclones in Andhra Pradesh during June to November. These cyclones are essential for the moistening of Paddy and are required for the moistening of the soil for the cultivation of Rabi crops.

POPULATION

As per 2001 census report, the population of the town is 1,37,237 and it is increased to 1,42,317 in the year 2011 census in that Males are 70069 and Females are 72234. The decadal growth is **3.6%**. The density of population comes to be about 5552 persons per SQ.KM. Demographic Studies revealed a population of 2, 34,000 for Ultimate Year i.e. 2044 and 2, 00,000 for Prospective Year i.e. 2032.

EDUCATIONAL FACILITIES

It is also hub for major educational institutions like ARKR Municipal High school, PSM Girls High School, JLBM Girls High School, SUS Municipal High School, Chinaranganipalem Municipal High School, Dr B.V. Raju Municipal High School, One UP School and 36 Elementary Schools are running under the management of Bhimavaram Municipal Council. D.N.R. College, K.G.R.L. College, Murthy Raju Govt College, SRKR Engineering College, Vishnu Engineering and Dental College's and also so many colleges like B.Ed., M.C.A., M.B.A., Law and several Private convents and schools are situated in Bhimavaram Town.



Visnu Institute Of Technology



SRKR engineering college

List of schools within the jurisdiction of ULB:

Name of the School	Ward No.	Number of Students
A.R.K.R Mpl High SCHOOL	4	467
DR.B.V.RAJU Mpl.High School	39	214
p.s.m. girls High School	19	716
J.L.B. Mpl.High School	34	204
S.U.S Mpl.High School	12	340
Chinaranganipalem Mpl High School	8	406
17 th ward Mpl High School	12	118
18 th ward Mpl.Ele School	11	60
7 th ward Mpl. Ele School	22	17
9 th ward Mpl. Ele School	1	36
A.B.R.M Mpl.Ele School	19	13
A.V.Ch.R. MPI Ele School	25	53
B.V.R. Mpl Ele School	5	55
Ambedkar Mpl Ele School	12	21
Bethany Mpl ELe School	14	28
CH.Palem Mpl Ele School	8	92
DR.B.V.Raju Mpl Ele School	7	37
Durgapuram MPI Ele School	39	153
G.M.C.Balayogi Mpl Ele School	12	61
G.R.Mpl Ele School	37	40
Gandhinagar Mpl Ele School	7	8
Kurmaiah Peta Mpl Ele School	6	30
L.B.S.Mpl Ele School	21	12
MAKA Mpl Ele. School	19	114
Mahatma Gandhi Mpl Ele. School	19	153
Mentevarithota Mpl. Ele. School	2	39

Muslims Girls Mpl. Ele. School	19	18
Nehru Colony Mpl. Ele. School	7	37
Nehru Nagar Mpl. Ele. School	3	67
Nehrupeta Mpl. Ele. School	34	91
PVR Mpl. Ele. School	31	110
Pasimoggala Mpl. Ele. School	28	32
Pedapeta Mpl. Ele. School	21	32
RHR Mpl. Ele. School	26	61
Dr YSR New Mpl. Ele. School	27	31
RR Mpl. Ele. School	33	61
Rajiv Kranthi Mpl. Ele. School	29	31
STLN Mpl. Ele. School	7	31
SVR Mpl. UP School	29	22
Sivaraopeta Mpl. Ele. School	35	32
Suryanarayananapuram Mpl. Ele. School	35	36
TSS Mpl. Ele. School	11	42

MEDICAL RELIEF

There is one Unani Dispensary, Three Urban Health Centers and One MCH Welfare Centers maintained by the Municipality. There is one Government Head Quarters Hospital existing. In addition to there are several private Nursing Homes catering medical needs of town as well surrounding villages.

ECONOMIC BASE OF THE TOWN

Bhimavaram is one of the important Commercial Centre in West Godavari District, being surrounded by number of villages whose activity is mainly agriculture. The major crops cultivated here are Paddy, Sunflower and Sugar cane. The vegetation of most famous includes Chillies, Cucumber, Tomatoes, Ridge Gourd, Indian Broad Beans, and Cluster Beans. All types of leafy vegetables are grown here. The soil here is of mixed varieties making it suitable to grow many crops. Commercial crops like Bananas are extensively grown in and around Bhimavaram though its productivity declined gradually. Bhimavaram which ensures to meet the demand for quality seed of the farmers. Hence there is busy commercial activity for the agricultural produce and Aqua culture.

Demography & growth patterns

In this Municipality, considerable growth in population is taking place; the demand for water is also going up abnormally. The population densities in the ULB have considerably increased and a rational approach for arriving at the future population growth is necessary. As per 2001 census report, the population of the town is 1,37,327 and it is increased to 1,42,188 in year 2011 census report thus recording 3.60% decadal growth. As per 2011 census Bhimavaram municipality has a total population of 142188 with a total households of 37838.

Total Population	142188
Total Area	25.64 sq.kms
Total No.of Households	37838
Total No.of Wards	39
Total No.of Slums	55
Total No.of Slum Households	8400
Slum Population	32973
Male Population	70040
Female Population	72148

The density of population comes to be about 5,552 persons per SQ.KM at an average all though main town is denser.

The process of Estimation of population with the data obtained from the ULB/Census from the Census decade 1981 – 2011 were considered and illustrated in detail as follow

3.1.1 Decadal Growth Rate

Years	Population	Increase in population(X)	Incremental Increase(Y)	Decadal % Increase in population	Compounded Annual Growth
1961	43821				
1971	63762	19941		45.51	3.82
1981	101739	37977	18036	59.56	4.30
1991	121314	19575	-18402	19.24	3.45
2001	137409	16095	-3480	13.27	2.90
2011	142184	4775	-11320	3.48	2.38
Total	98363		-15166	141.05	16.86

Average	19673	-3792	18.89	3.37
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Population Projection:-

Population Projection has been done in five different ways based on the below given methods such as

1. Arithmetic progression Method
2. Geometrical progression Method
3. Incremental Increase Method
4. Growth Method

Graphical method Sl. No	Population Projection Method	2011	2015	2018	2033	2048
1	Arithmetic Progression Method	142184	150053	155955	185464	214973
2	Geometrical Progression Method	142184	152372	160490	208045	269691
3	Incremental Increase Method	142184	148991	153699	172118	182006
4	Growth Method	142184	153559	162090	204745	247400
5	Graphical Method					
	a) Linear Method	142184	162386	168663	200049	231435
	b) Exponential Method	142184	187261	201181	287927	412075

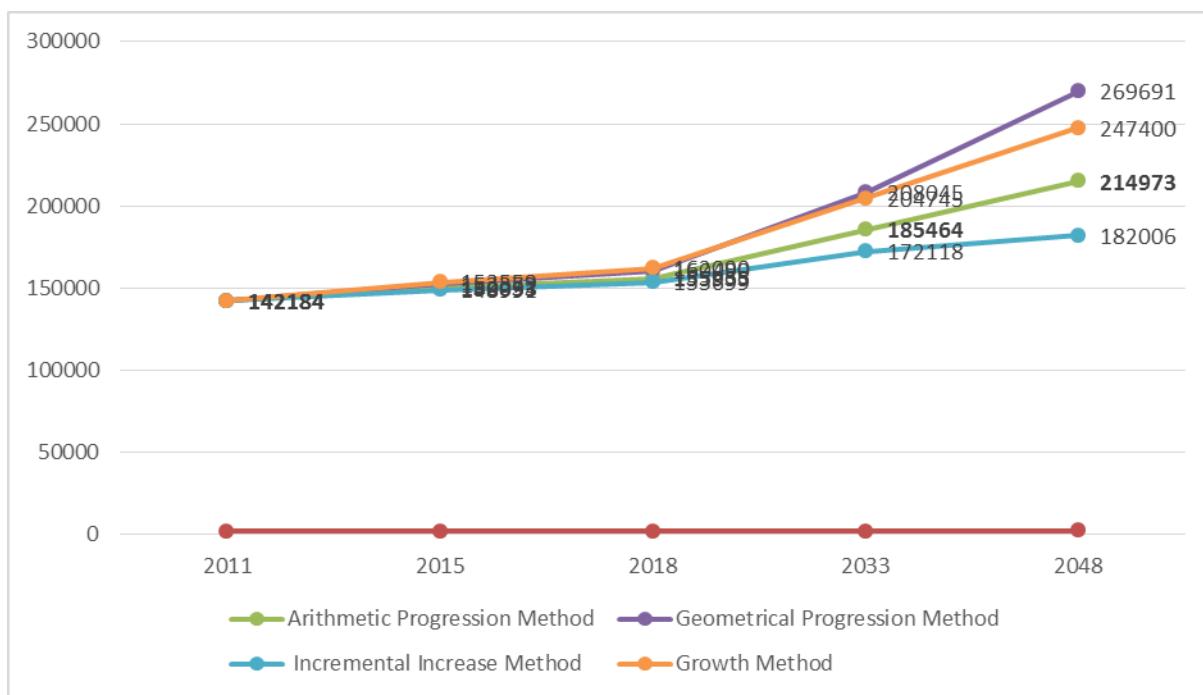


Table 1: Ward data

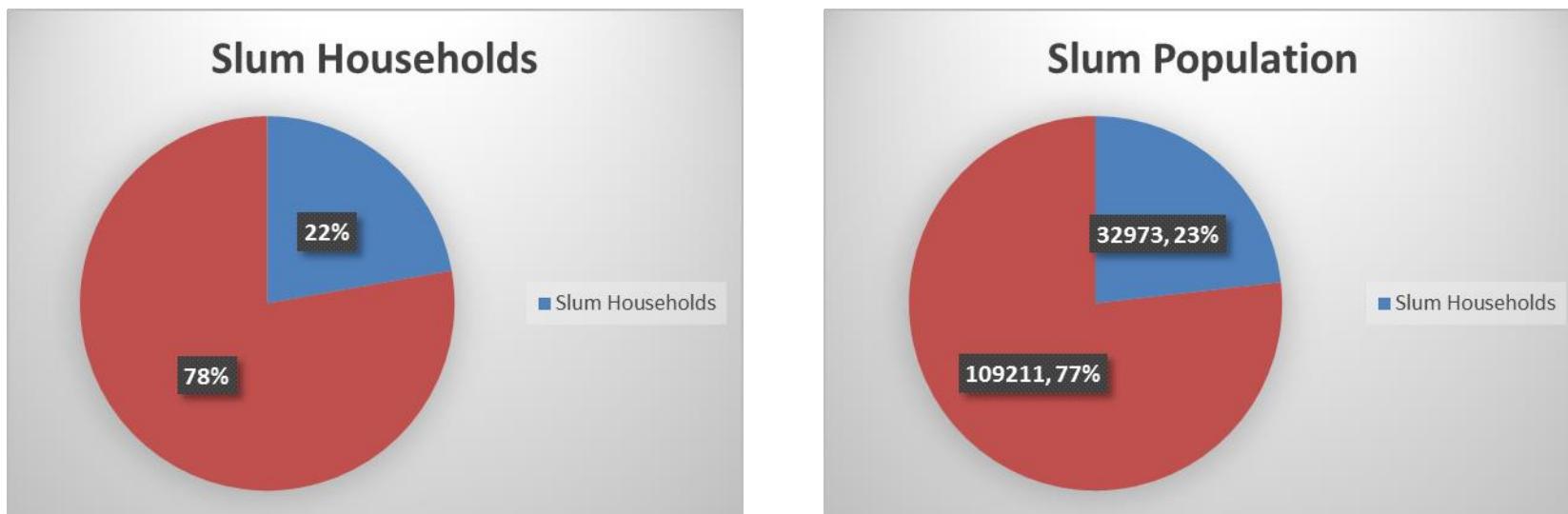
Ward No.	Area (Hectare)	No.House Holders	Population			Density (Person / Hectare)
			Males	Females	Total	
1	150	1147	2219	2190	4409	29.39
2	40	863	1556	1703	3259	81.48
3	20	687	1350	1390	2740	137.00
4	55	854	1618	1563	3181	57.84
5	90	961	1680	1774	3454	38.38
6	280	1002	1871	1614	3485	12.45
7	105	1037	1853	1849	3702	35.26
8	32	678	1338	1455	2793	87.28
9	20	783	1588	1496	3084	154.20
10	50	1042	1928	2057	3985	79.70
11	25	972	1741	1921	3662	146.48
12	210	1482	2789	3019	5808	27.66
13	260	659	1249	1452	2701	10.39
14	20	889	1713	1694	3407	170.35
15	15	1037	1874	2091	3965	264.33
16	15	591	1276	1323	2599	173.27

17	25	744	1315	1402	2717	108.68
18	15	759	1439	1511	2950	196.67
19	15	1057	2050	2047	4097	273.13
20	25	784	1487	1392	2879	115.16
21	40	706	1348	1344	2692	67.30
22	20	1122	2031	2119	4150	207.50
23	15	1292	1854	2132	3986	265.73
24	15	796	1503	1490	2993	199.53
25	20	1017	1835	1882	3717	185.85
26	200	1059	1987	2084	4071	20.36
27	30	878	1688	1695	3383	112.77
28	30	976	1782	1897	3679	122.63
29	40	1216	2240	2291	4531	113.28
30	20	816	2166	2167	4333	216.65
31	30	1062	1974	1950	3924	130.80
32	20	1088	1923	2006	3929	196.45
33	40	1199	1984	2118	4102	102.55
34	60	1164	2038	2052	4090	68.17
35	130	1160	2195	2205	4400	33.85
36	90	1131	2105	2134	4239	47.10

37	125	1047	1689	1732	3421	27.37
38	40	877	1574	1664	3238	80.95
39	132	1204	2194	2235	4429	33.55
Total	2564	37838	70044	72140	142184	55.45

Table 2: Slum data

As per the records of the Bhimavaram Municipality there were a total of 56 notified and non-notified slums in Bhimavaram city with a total population of 32973 which is 23% of the total population.



Sl. No	Slum Name	Location / Ward	Category (Notified, Recognized, Identified)	Area (Hectare)	No.of house Holds	Total population
1	Indirapuram	1	Notified	0.5260918	100	438
2	Mentevarithota Harizanawada	2	Notified	0.5463261	103	457
3	Mentevarithota	2	Notified	1.6673063	99	460
4	Harijana Dector st	3	Notified	1.821087	161	747
5	Nehru Nagar	3	Notified	2.832802	239	1037
6	Rajakulapeta Ward no 15	4	Notified	1.6227909	160	691
7	Nakkalagunta	6	Notified	2.5252406	141	649
8	Bokkavaripalem	6	Notified	0.8862623	55	198
9	Rajakula peta ward no 19	7	Notified	3.7635798	50	198
10	Kamuju varipalem	7	Notified	0.8498406	64	292
11	Gandhinagar leprosy	7	Notified	7.5473939	91	383

City Sanitation Plan for Bhimavaram Municipality

	colony					
12	Leprosy Colony	7	Notified	0.550373	205	646
13	S.T. Colony 19th Ward	7	Non-Notified	2.7478179	83	365
14	Sowbhagyanagar	7	Non-Notified	0.8538875	65	275
15	Mallithota	7	Non-Notified	0.2711396	18	75
16	Kankara Doddi	8	Notified	0.578701	69	311
17	Chinaranginipalem Extension	9	Notified	2.1448358	60	282
18	Chinaranganipalem Puntha	9 & 10	Notified	1.3354638	230	920
19	Sweepers Colony, 17th Ward	10	Non-Notified	0.4006391	55	250
20	Garuvupeta Harizanawada	11	Notified	1.5054319	61	253
21	Gunupudi Harizanawada	11	Notified	1.618744	201	812

22	Garuvupeta Harizanawada	11	Notified	2.602131	141	635
23	Vasanthalavari Street	11	Notified	2.630459	150	621
24	Arundhatipeta	11	Notified	1.7603841	39	183
25	Bridge Peta	12	Notified	1.1614488	139	513
26	Ambedkar Nagar	12	Notified	1.764431	168	791
27	Pothulavaripeta Harizanawada	12	Notified	1.6592126	85	390
28	Indiramma Colony (YSR Nagar)	12	Non- Notified	5.6817914	585	--
29	Rajakulapeta Ward No 25	13	Notified	0.7082005	76	365
30	Chigidilapeta	15	Notified	2.2500542	213	977
31	Betanipeta	15	Notified	1.1735894	76	330
32	Gunupudi R.S.No 25,33	17	Notified	0.9712464	83	387
33	Somagundam out-let drain	17	Notified	0.4492015	49	242

City Sanitation Plan for Bhimavaram Municipality

34	Ramabadhadrabadava Street	18	Notified	2.4685846	228	1068
35	Pedapeta	21	Notified	1.214058	126	593
36	Chinapeta	25	Notified	3.5612368	450	1854
37	S.P.St	26	Notified	3.844517	270	1213
38	Katari Nagar	26	Notified	3.237488	60	255
39	S.V.S.Colony	26	Notified	1.8615556	104	489
40	Jalara peta	27	Notified	1.2909483	76	355
41	31 st Ward	28	Notified	0.9712464	114	540
42	Yenamadurru Drain East Bund	28 & 1	Notified	3.237488	265	1159
43	B.C. Colony	29	Notified	3.439831	165	564
44	Balusumudi Yanadula Colony	29	Notified	1.7280092	110	392
45	Balusumudi Church St	31	Notified	1.2909483	95	421
46	Balusumudi Punta	32	Notified	1.0279024	117	489

City Sanitation Plan for Bhimavaram Municipality

47	Nagendra Nagar	34	Notified	0.7284348	74	325
48	Nehru Peta	34	Notified	1.618744	105	410
49	Katrevugunta	35	Notified	0.6151227	67	250
50	Ramaraju thota	35	Notified	2.428116	234	962
51	Krishnamandiram Road	36	Notified	1.3516512	127	564
52	Sivarao peta	36	Notified	1.1128865	105	424
53	M.R. Nagar	36	Non-Notified	0.4734826	48	192
54	Rajakulapeta ward 4	37	Notified	1.214058	103	417
55	Lankapeta	38	Notified	2.02343	358	1330
56	Durgapuram	39	Notified	5.4551673	885	3534
Total Population				105.603	8400	32973

4 Water supply

Baseline status

Bhimavaram Town is a Selection Grade Municipality having population of 1, 42,317 as per 2011 census and Present Population is 1, 50,000. The Area of the town is 25.64 Sq.km. The main source of drinking water is G & V Canal. Daily 19.50 million liters of protected drinking water is being supplied in the town @ 88 LPCD.

There are two Summer Storage Tanks for drawing water during closure period of G & V canal. The old S. S. Tank Capacity is 361 ML, the New S. S. Tank has a capacity of 850 ML .Hence the combined Capacity of S. S. Tanks is 1211 ML.

4.1.1 Water Treatment plant & clear water mains:

The Municipality is being served by three Filtration plants of combined Capacity of 22.73 MLD. The treated water collected in clear water sumps is pumped to service Reservoirs through clear water pumping mains.

4.1.2 Reservoirs (ELSR /GLSR)

The town is having 8 No's Elevated Level Service Reservoirs of combined Capacity of 8,970 KL located in various localities of town.

4.1.3 Distribution Network

The existing Distribution Network in part is as old as the scheme itself i.e., over 40 Years and is out lived. Further the existing distribution network is extended for a length of 116.74 Kms only as against the total road network of 189.64 Kms thus falls short 38.45%. This shortage is in additional to the distribution network need to be replaced due to in adequacy or un serviceable condition. The total length of distribution pipe line laid in the town is 116.74 Kms. Total road lengths in the town 189.64 Kms and all the streets are not provided with pipe lines.

Distribution Zones: - Bhimavaram Town divided in to 8 Zones at present.

Zone Wise Coverage of Households

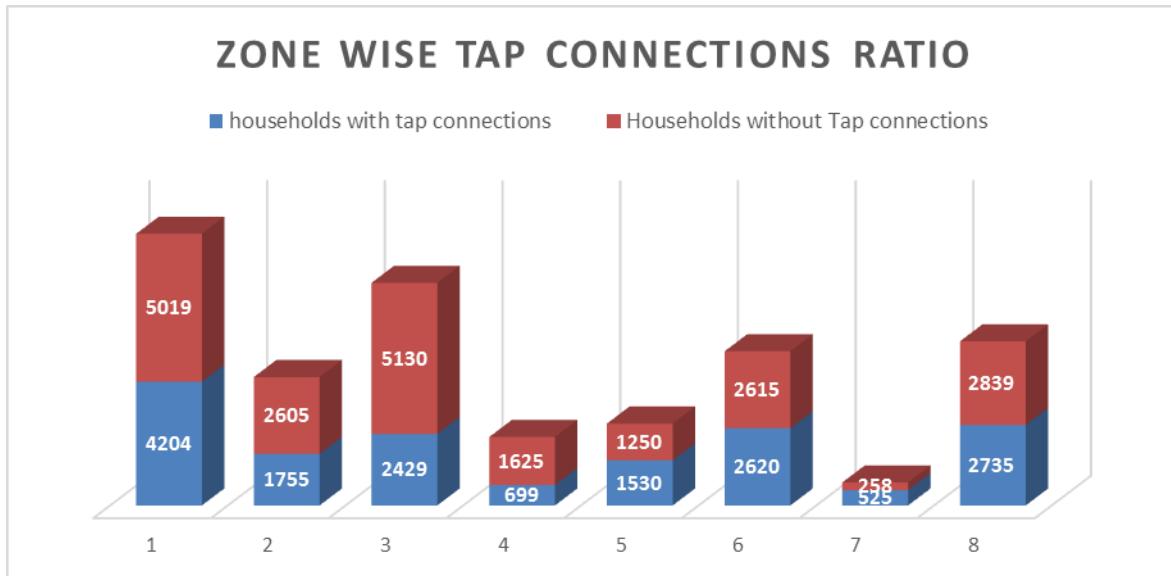


Figure 4 Zone wise Tap Connections

Zone No	Total No of Households	Households with Water tap Connection	Households without water tap connections
1	9223	4204	5019
2	4360	1755	2605
3	7559	2429	5130
4	2324	699	1625
5	2780	1530	1250
6	5235	2620	2615
7	783	525	258
8	5574	2735	2839
Total	37838	16497	21341

Figure 5 Table Showing zone wise tap connections

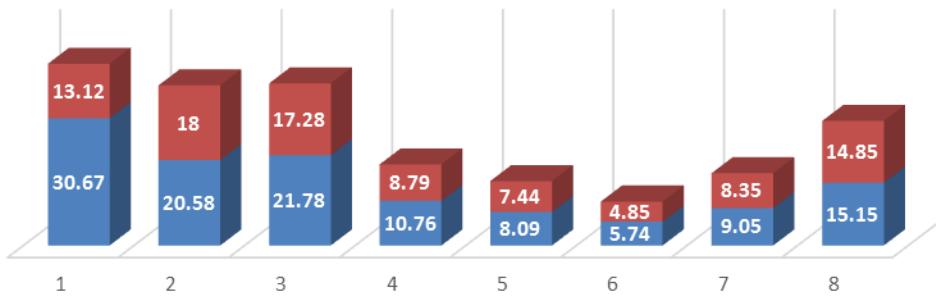
There a total of 685 Meter Tap Connections existing in the Bhimavaram Municipality. There are 685 Meter Tap Connections existing in this Municipality. Out of them only 10 Meters Workings. For

Apartments, where meters are not working, this municipality collecting Rs. 120/- per Flat per Month as per the Municipal Councils resolutions.

4.1.4 Zone Wise and Street Wise Coverage of Pipeline Network:-

RATIO OF WATER DISTRIBUTION PIPE LINE W.R.T STREET LENGTH

- Total Street Length with water distribution pipe line
- Total Street Length with water distribution pipe line



Zone No	Total Street Length(KM)	Street length with water distribution pipe line (KM)	Street length without water distribution pipe line (KM)
1	43.74	30.67	13.12
2	38.58	20.58	18.00
3	39.07	21.78	17.28
4	19.55	10.76	8.79
5	15.53	8.09	7.44
6	10.59	5.74	4.85
7	17.40	9.05	8.35

8	30.00	15.15	14.85
Total	189.64	116.74	72.90

Figure 6 Zone wise Street Length with water distribution pipeline(kms)

Gaps &Issues

- With the growth of the town, availability of raw water and creation of higher Capacity / allocation and adjoining areas should be dealt with on priority. Further, it is also observed that the existing water supply system suffers from various legacy problems including reduced carrying Capacity of the primary transmission system, poor operating efficiency of the distribution system, high percentage of losses and non-revenue water. As such, the supply of water in general has been inadequate.
- Because good sanitation is directly linked to a minimum availability of water, this is area of immediate concern and should be tackled on priority. There appears to be a case for preparing a master plan and Detailed Project Report for water supply.

Water demand forecasting – There are the existing distribution is very old in the old town area and need remodeling. The distribution is not up to the satisfaction of the citizen of Bhimavaram. The Existing total length of distribution system is about 116.74 Km out of which are considered in the distribution system design and 47.10 KM are discarded due to old age pipes, prone for contamination and cause for low head, and about the total length of Proposed distribution system is about 189.64 Kms. These distribution & storage facilities cannot meet with the future demand of water.

Table 3: Water demand forecasting

S.NO.	COMPONENT	Present Year 2011	Base Year 2014	Prospective Year 2029	Ultimate Year 2044
1	Population	1,42,317	1,49,000	1,88,000	2,34,000
2	Per capita water Supply	135	135	135	135
3	Clear Water requirement in MLD	19.21	20.12	25.38	31.59

City Sanitation Plan for Bhimavaram Municipality

4	UFW @ 10% in MLD	1.92	2.01	2.54	3.16
5	Filter loses@5%	0.96	1.01	1.27	1.58

Zonal level water supply

Table 4: Zonal level Water supply

Zone No	Zone name	Reservoir Type	Capacity (KL)	Wards served	No. of HH	No. of connections	Water Quality	Per capita supply (Adequate, Inadequate)	Frequency of water supply	Hours of supply	Pressure Adequate/Inadequate	Remarks
1	ASR Nagar	ELSR Existing	1200 KL	29,30, 31 & Part of 34,35	9223	4204	90%	Adequate	Twice a day	Morning 1 Hour, Evening 1 Hour	Adequate	--
2	Sriramapuram	ELSR Existing	1600 KL	32,33 & Part of 34,36,37, 38,39	4360	1755	90%	Adequate	Twice a day	Morning 1 Hour, Evening 1 Hour	Adequate	--
3	Bank Colony	ELSR Existing	1300 KL	Part of 12,13,14, 15,22,23, 24,25,26, 27	7559	2429	90%	Adequate	Twice a day	Morning 1 Hour, Evening 1 Hour	Adequate	--
4	Gunupudi	ELSR Existing	1200 KL	11 & Part of 12,17	2324	699	90%	Adequate	Twice a day	Morning 1 Hour,	Adequate	--

City Sanitation Plan for Bhimavaram Municipality

									Evening 1 Hour		
5	Wednesday Market Sr-I	ELSR Existing	1135 KL	1,2,20 & Part of 19,22	2780	1530	90%	Adequate	Twice a day	Morning 1 Hour, Evening 1 Hour	Adequate
6	Wednesday Market Sr-II	ELSR Existing	1135 KL	3,16 & Part of 17,18,19	5235	2620	90%	Adequate	Twice a day	Morning 1 Hour, Evening 1 Hour	Adequate
7	Housing Board Colony	ELSR Existing	200 KL	4 & Part of 5,9,10	783	525	90%	Adequate	Twice a day	Morning 1 Hour, Evening 1 Hour	Adequate
8	Chinaranganipalem	ELSR Existing	1200 KL	6,7,8 & Part of 10	5574	2735	90%	Adequate	Twice a day	Morning 1 Hour, Evening 1 Hour	Adequate

Table 5: Non-Revenue Water

Cost Recovery	2014	2013	2012	2011	2010
Operating Expenses (Rs.)	---	---	---	--	---
Operating Revenues (Rs.)	---	---	---	--	---
Cost Recovery (%)	---	---	---	--	---

Main issues of Water Supply:

1. Systematic Survey should be held in order to cover all the loop holes.
2. Revenue generation should be increased from water supply by covering and collecting the water taxes.
3. G & V Canal flows for about 9 months only.
4. The Capacity of S.S tanks are not Adequate.
5. Treatment plants are not sufficient for present demands.
6. Storages & Distribution System are not sufficient for present demand.

5 Access to Toilet

Baseline Status

- **Individual Household Toilets:** - Pour flush type toilets - 36,755 as against 37,838 Households
- **Community Toilets** :-This municipality is having 14 No. of Community toilets.
- **Public Toilets** :-There are 8 No. of public toilets
- **School Sanitation** :-This Municipality having 42 No. of Municipal schools
- **Open defecation** :-There is open defecation in certain slums in Bhimavaram Municipality. Which are now covered with Individual House Hold Toilets under Swachh Bharat Mission
- **Proposed project to improve Toilets access:**-This Municipality has been proposed to construct sanitary toilets for those who are not having toilets and for which according to the survey for identification of houses are not having individual toilets under Swacch Bharath – Swatch Andhras corporation.

Open Defecation Spots identified in Bhimavaram Municipality

Survey Location	Ward No.	Survey conducted in the Year	No. of OD Spots
Asram Canal Bund	7	2015	1
NearFCI Godown,Canal Bund	8	2015	1
B N Road, Indiramma Colony	12	2015	1
Near Gandhi Nagar Bridge	12	2015	1
Yanamadurru canal Bund	2,21	2015	1
Gollavanithippa Yanamadurru Canal Bund	29	2015	1
Gollavanithippa Road, Anjaneya Swamy Statue	29	2015	1
Yanamadurru Canal Drain	39	2015	1

City Sanitation Task Force passed the resolution of levying a fine of 200 Rs./- on Open Defecation

Gaps & Issues

- 1) There are still number of wards that needs to be covered to decrease the open defacation. there are only two public toilets and 14 community toilets which covers the needs of only nine wards out of 39 wards in the Bhimavaram.
- 2) Awareness programmes should be conducted to explain the importce of the Swach Bharat -mission and its goals.
- 3) Under Swatch Bharat Mission Still public toilets with capacity of 200 seats to be constructed in the City.
- 4) Frequent Training programs should be conducted to the staff of municipality.

Table 6: Coverage of Toilets (Individual & Community)

Ward	Total HHs	Urban poor HHs	No. of HHs			No of urban poor HHs			Remarks
			Having individual toilets	Dependent on community toilets	Practicing open defecation	Having individual toilets	Dependent on community toilets	Practicing open defecation	
1 to 39	37838	729	35569	1540	729	171	1540	558	--

Community Toilet Blocks

Table 7: Community Toilets Blocks in Bhimavaram Municipality

Sr. No.	Location / Ward	No. of Population dependent	No of Seats		No of Urinals		Waste disposal arrangement (sewered, septic tank, open drains, etc)	Functional status (water, lighting, etc)	Design consideration for men & women (privacy) – Yes / No	Is complaint redressal system available ?	Owned & Maintained by	User charges (Rs)	Cost Recovery (%)	Remarks
			Men	Women	Men	Women								
1	Garuvupeta 11 th ward	100	5	5	---	---	Septic Tank	No Lights	Yes	Yes	ULB	Nil	Nil	---

City Sanitation Plan for Bhimavaram Municipality

2	Pothula vari veedhi 12 th ward	100	---	5	---	---	Septic Tank	No Lights	---	Yes	ULB	Nil	Nil	---
3	Bridgepet / 12 th ward	100	---	4	---	---	Septic Tank	No Lights	---	Yes	ULB	Nil	Nil	---
4	Indira Gandhi MPI Ele school Road 12 th ward	200	5	5	---	---	Septic Tank	Yes	Yes	Yes	ULB & Ever Green Society	Nil	Nil	---
5	Chigidila Peta 14 th ward	100	10	---	---	---	Septic Tank	Yes	Yes	Yes	ULB & Ever Green Society	Nil	Nil	---
6	Chigidila Peta 14 th ward	100	--	10	---	---	Septic Tank	Yes	Yes	Yes	ULB & Ever Green Society	Nil	Nil	---
7	Fish Market 22 nd ward	100	12	---	---	---	Septic Tank	Yes	Yes	Yes	ULB & Ever Green Society	Nil	Nil	---
8	Fish Market	100	--	12	---	---	Septic Tank	Yes	Yes	Yes	ULB & Ever	Nil	Nil	---

	22 nd ward									Green Society			
9	Chinapet 23 rd ward	100	---	10	---	---	Septic Tank	Yes	Yes	Yes	ULB & Ever Green Society	Nil	Nil
10	BC Colony 29 th ward	50	---	8	---	---	Septic Tank	No	Yes	Yes	ULB	Nil	Nil
11	Punta Road 32 nd ward	100	5	5	---	---	Septic Tank	No	Yes	Yes	ULB	Nil	Nil
12	Rajakulape t 37 th ward	50	8	8	---	---	Septic Tank	No	Yes	Yes	ULB	Nil	Nil
13	Lankapet 38 th ward	50	--	8	---	---	Septic Tank	No	Yes	Yes	ULB	Nil	Nil
14	Lankapet 38 th ward	100	4	5	---	---	Septic Tank	No	Yes	Yes	ULB	Nil	Nil

5.1.1 Public Toilet Blocks

Table 8: Public Toilets in Bhimavaram Municipality

City Sanitation Plan for Bhimavaram Municipality

S. r. N. o.	Locati on / 3War d	No. of floatin g popula tion depen dent	No of Seats		No of Urinals		Waste disposa l arra nge ment (sewe r, septic tank, open drains, etc)	Functi onal status (water, lightin g, etc)	Design consid eration for men & women (privacy) – Yes / No	Compl aint redress al system availa ble	Owned & Mainta ined by	User char ges (Rs)	Cost Reco very (%)	Rem arks
			M en	Wo men	M en	Wo men								
1	Praka sam Chow k 21 st ward	250	5	3	2	2	Septic Tank	Yes	Yes	Yes	AP Samsk ar Sanitati on, Guntur	Rs.3 /- per head	100	BOT
2	Old Bus Stand / 37 th ward	300	7	4	2	3	Septic Tank	Yes	Yes	Yes	AP Samsk ar Sanitati on, Guntur	Rs.3 /- per head	100	BOT
3	New Bus stand/	200	4	3	1	-	Septic Tank	Yes	Yes	Yes	AP Samsk ar	Rs.3 /- per	100	BOT

	20									Sanitation, Guntur	head		
4													

1. City profile (based on any survey conducted in last 3 years/ RAY/Slum Free City Plan of Action)

Sr. No.	Name of the Residential Area	Ward No.	No. of households	No. of households with individual toilets
1	Indirapuram, Govindara rao nager, CPM Office back side	1	1147	1147
2	Mentivari thota, HW, Koyavari street, Rajula street, Grandhivari street, Vellavari street, Khadar vari street	2	863	863
3	Pinnesulavari st., HW doctors st., Motupallivari st., Peersahaeb str.,	3	687	687
4	Nagendra swamy temple st., Rajukualapeta	4	854	854
5	Kumadavalli road, Garuvu road, Abbannavari street	5	961	961
6	Nakkalagunta area, Ramachandrapuram, Bokkavaripalem	6	1002	1002
7	Maruthinagar, Gandhinagar, Leprasi colony	7	1037	1037
8	Chinaranganipalem, FCI road	8	678	678
9	Chinaranganipalem puntha, APHB	9	783	783
10	Sweepers colony, Challavari streeet	10	1042	1042

11	Arundathipeta, Garuvupeta, Gunepudi (HW)	11	972	972
12	Bridge peta, Township (Indiramma colony), Ambedkhar nager	12	1482	1482
13	Rajukulapeta, Bethanipeta, Nallamvarithota	13	659	659
14	Mustivari thota, Mission hospital area, Ramarajubhushanam street	14	889	889
15	Chigidilapeta, Ammirajuthota	15	1037	1037
16	Papoluvari street, Ayyagarivari st.,	16	591	591
17	Nallamvari st., Vasanthalavari st.,	17	744	744
18	Ramabadrapadu st., Mahamadiyula st.,	18	759	759
19	Bhimeswaraswamy temple area, Mahamadiyula st.,	19	1057	1057
20	Ganabathulavari st., Motupallivari st.,	20	784	784
21	Pedapeta, Mavulamma temple area, Chinamasid st.,	21	706	706
22	Jalarlapeta, Venkaiah naidu st.	22	1122	1122
23	Chinapeta, Vanapallivari st.,	23	1292	1292
24	Chinaapprachota, Ramayanam thota	24	796	796
25	Bank colony, SP St.	25	1017	1017
26	Katari nagaer, Reddy colony, BMK Rice mill area	26	1059	1059
27	Rest house road, Yadavula st.,	27	878	878
28	Rest house road, Chiristan barrial ground area, Y- drain east bund	28	976	976
29	Prakshnager, Bhimeswara colony, RL	29	1216	1196

	Nager, Tele colony			
30	Sagarla peta, DNR College area	30	816	816
31	Balusumudi canal road, ST Colony	31	1062	1062
32	Tadimallavari st., Mahamadiyula st.,	32	1088	1088
33	Rajarajeswari school area, Sri ram puram area	33	1199	1199
34	Nehrupeta, Nagendra nager	34	1164	1164
35	Adarshanager, Suryanarayananapuram, Katravanigunta	35	1160	1160
36	Mulugurthi naganna st., Krishnamandiram st., Ramarajuthota	36	1131	1131
37	Rajakula cheruvu area, Yadavula st., Town rly. Station area	37	1047	1047
38	Lankapeta, Garagaparru road	38	877	877
39	Durgapuram	39	1202	1202

5.1.2 Main issues of Access to toilets:

- 1. Inadequacy of land for construction.**
- 2. Lack of awareness in public.**
- 3. Poor maintenance of existing community toilets.**

Examples for issues:

- Most of the households in the Municipality have toilets connected to individual septic tank and the effluent from septic tanks is discharged to the Storm Water Drains. However, in many areas, sullage and human wastes are directly let into Storm Water Drain, which carry considerable flows throughout the year.

6. Waste-water Management

Waste-water disposal arrangements – Herein the ULB identifies gaps & issues with respect to waste-water disposal arrangements for toilets according to the following table:

Table 9: Waste water disposal arrangements

Ward	No. of Households	Waste water disposal arrangement for toilets (No.)							No. of Insanitary latrines	
		Sewerage system	Septic tank		Soak pit	Pit Latrines	Open drains	Other		
			Connected to soak pit	Connected to open drain						
1 to 39	37838	Nil	97.30%	2.70%	79%	13.30%	2.70%	5%	1540	

Sanitation Flow Diagram (SFD) –

A Sanitation (or Shit) Flow diagram presents a clear picture of how excreta flows are managed within the city. The diagram clearly depicts how excreta flows from user interface to the final disposal. It has the following stages:

1) Containment

- In the periphery of the city, with Low-income groups mostly lined pits with open bottom were observed, which have an effluent pipe connected to the Open Drains
- For the construction of the lined tanks, the rings are first hard-pressed into the pit and then the concrete solution is poured to seal the bottom
- While in the center of the city from middle to high-income group households have lined tanks with the closed bottom with an outlet connected to open drains or septic tanks connected to open drains. This difference is mainly due to the presence of borewell, where it was recorded that such practice has been taken up in order to avoid the page of black water into the ground water. Most households use groundwater for washing purpose

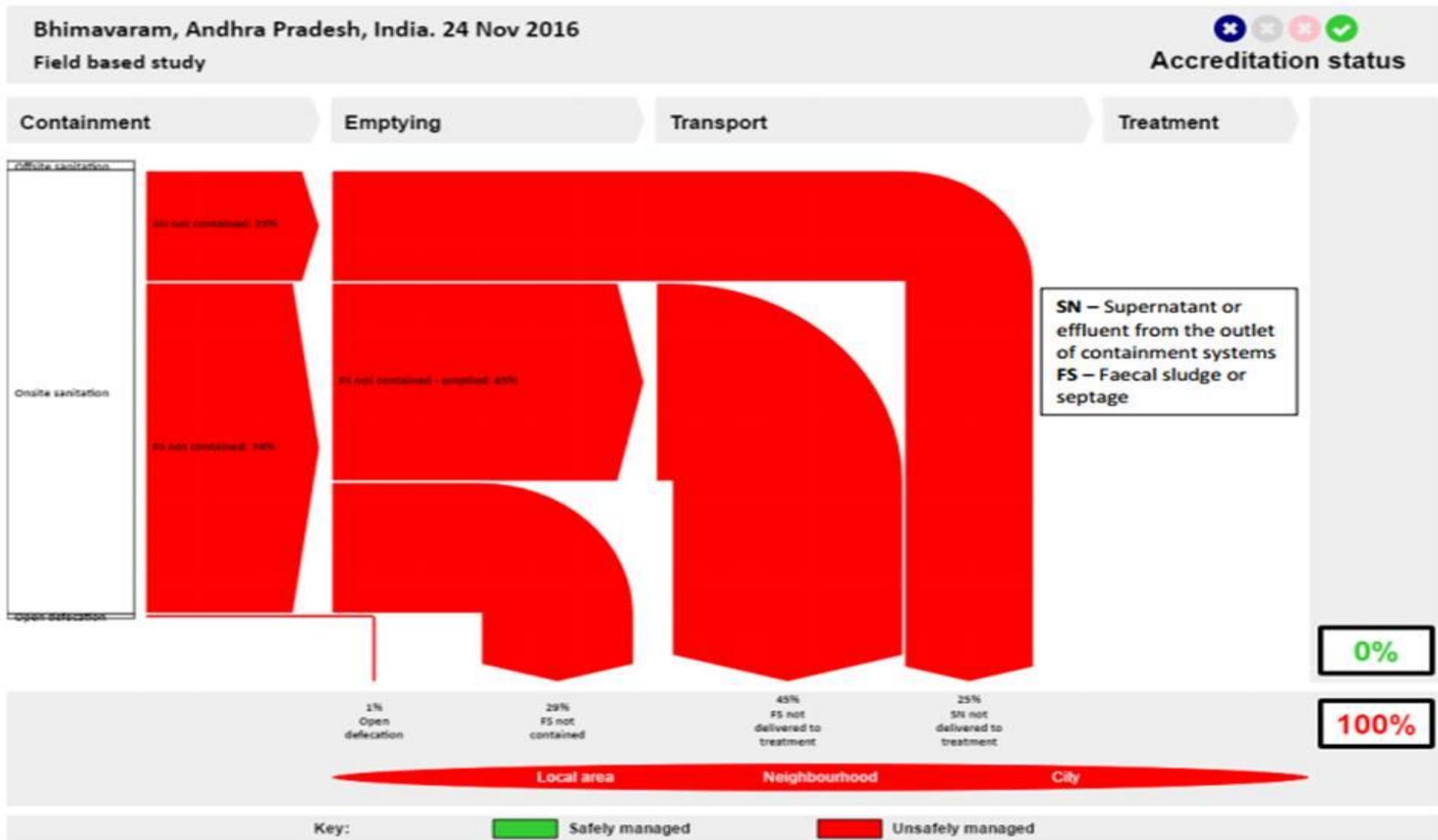


Figure 7 Sanitation flow Diagram Prepared by CSE team after Field Study Shows the containment of effluent is 100% unsafely managed

- In case of septic tanks, a rectangular pit is dug and then in-situ construction of the septic tank is carried out. Baffle walls are provided in the septic tank as per the availability of area; in case of space constraint a fully lined tank with outlet connected to open drain is constructed
- In case of apartment buildings ranging from 4 floors, baffle walls are provided in the septic tanks
- Types of on-site containments observed during field visit: -
 - Lined pit with open bottom with effluent pipe connected to open drain (33% population)
 - Lined pit with open bottom without outlet (33% population)
 - Septic tanks connected to open drains (33% population)



Figure 8: Cast Rings



Figure 9: Lined pit with semi permeable walls and open bottom without outlet or overflow

2) Emptying & Transportation

- Emptying of the containment systems in the city takes place using private vacuum tankers. Private emptiers are solely responsible for the emptying services. There are a total of 6 private operators and 7 vehicles operating in the city
- All the suction machines are truck mounted. The capacity of each vacuum tank is 5000 litres.
- The emptiers advertise and market their services using beguiling wall paintings, hoardings and distribution of visiting cards. These cleaners operate within the city as well in neighboring towns charging 2500/trip within the city, while 3000/trip outside the city
- Assembly of these vehicles takes place at Rajahmundry, with an average age of vehicle being 2-5 years
- On a peak day, these private emptiers get about 7-8 trips per day, with an average of 1 hour dedicated to one trip
- The emptying is usually carried out by 3 people (1 driver + 2 laborers)

- Emptying frequency ranges from 3 months to 2 year for lined tank with semi-permeable walls and bottom or closed bottom with or without outlet. Emptying frequency for septic tanks is 7 to 10 years
- SN from 25 % population (16% from septic tanks and 9% from lined tank with open bottom and outlet)
- FS from 45% population, is not contained but emptied (15% from lined pit with open bottom, 15% from septic tanks and 15% from lined tanks with open bottom and outlet)
- FS from 29% population is not contained and not emptied (24% infiltration and 5% FS remains in the tank)



Figure 10: Private Vacuum Tanker



Figure 11: Advertisement of vacuum tankers to call for emptying service

3) Treatment and Disposal

- The collected septage from households by private emptiers and the sewage generated in the city is disposed at Yenamadarru Drain
- The sewage flows in 30-35 km long drain, and meets Kolleru Drain at Upputeru Village
- The Yenamadaru drain was basically a fresh water canal, which is polluted by the paper mills and others micro and small medium enterprises 10-30 km upstream



Figure 12: Containment outlet connected to open drain



Goals

Short term goals

- Recognize the private emptiers and issue them license to operate
- Buy more vacuum trucks, if there is a shortfall
- Identify 2-3 suitable disposal sites (so that the distance traveled by the trucks is optimized). The land could be taken on lease, private parties can be encouraged to develop business around treated faecal sludge.
- Develop DPRs for FSTPs (faecal sludge treatment plants) at these identified disposal sites

Medium term goals

- Demarcate land for STPs/FSTPs in the master plan
- Enforce scheduled desludging
- Improve bylaws, to enforce proper design of septic tanks
- Implement decentralized waste water treatment systems at several locations to treat supernatant and grey water and encourage reuse of treated waste water

6.1 Sewerage management

This Municipality is not having comprehensive sewerage system. As per the 2005 population , 24 MLD of sewage is being generated. The house holds are having their own septic tanks and over flows pipes are connected to SWD system or Open fields.

Bhimavaram has generally flat terrain. In absence of sewerage network, the wastewater is discharged into nearby road side drains which ultimately joins the major drains passing through the town. There are three major drains namely Yanamaduru Drain, Gunupudi South Drain and Rayalam Drain. Besides these, there are some minor drains namely Miramiya Kodu Drain & Old Y Drain, both are sub-drains of Yanamaduru Drain. Yanamaduru's drain ultimately joins the Bay of Bengal and is the major carrier drain for Bhimavaram.

Broadly, the town can be divided into three zones:

1. Zone I : On Western side of Yanamaduru Drain.
2. Zone II : Bounded by Yanamaduru Drain, Railway line and GNV Canal
3. Zone III : Bounded by GNV canal and Gunupudi South Drain.

The zones are depicted in figure below. The zoning is primarily based on the references provided in available detailed project report and desktop analysis.

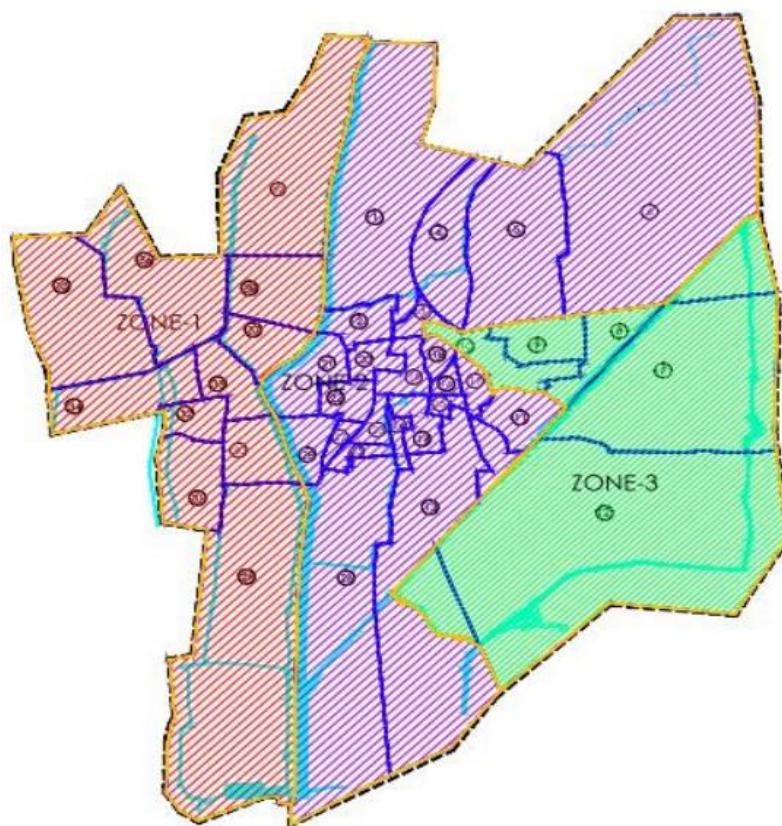


Figure 13 Sewerage Zones in Bhimavaram

- Gaps & Issues

1. There is no organized Sewage/Septage collection and Treatment system.
2. Desludging from septic tanks is unorganized and generally more than the design period. Due to this the effluent coming out of tank is highly contaminated and targeted BOD/TSS removal within septic tank is not getting achieved.
3. Sullage and effluent from septic tank is discharged in open drains and remains untreated. This is resulting in unhygienic conditions. Moreover, it is detrimental to environment and natural water bodies.
4. Sludge collected from septic tanks is dumped indiscreetly at many places. This not only endangered the surrounding environment but pose a serious threat to quality of ground water.
5. Part of population (2.7%) is deprived of the sanitation system.

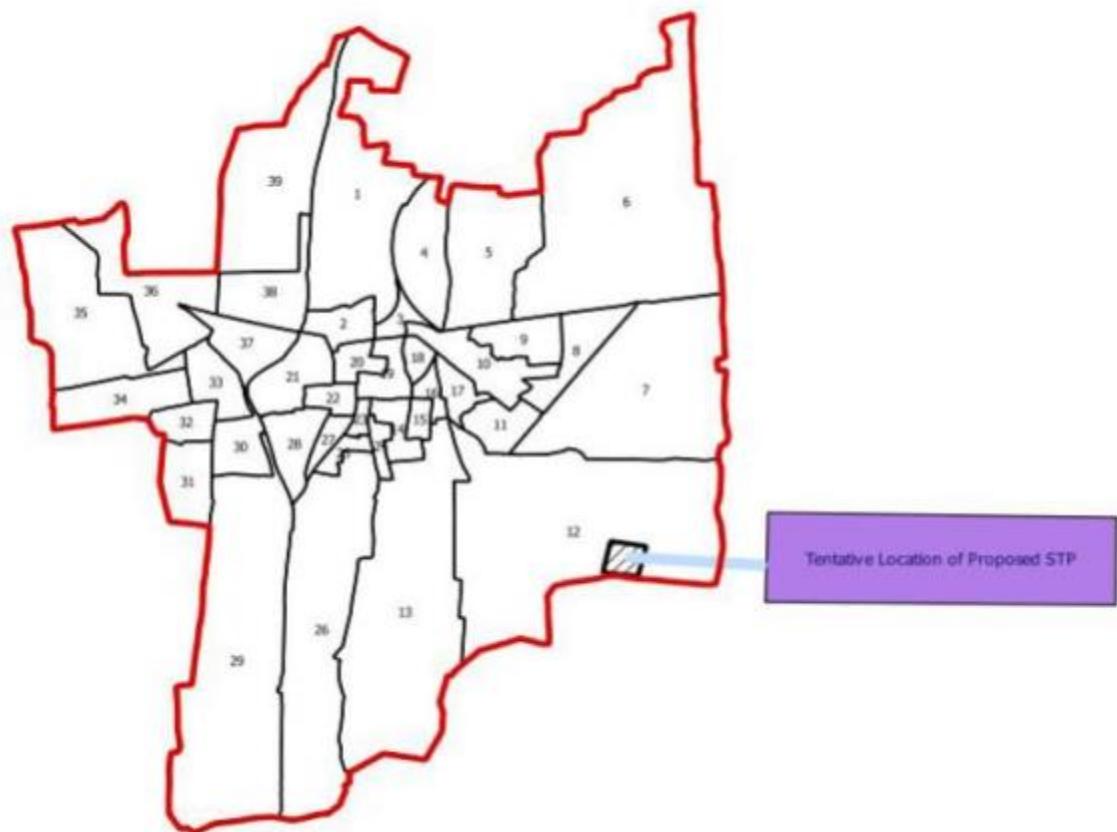


Figure 14 proposed Location for STP

STP's Maintained by Private bodies:-

There are five Septic tank private bodies within the city limits to handle and dispose the septic tanks and one from the outside the city limits

Surya Septic Tank
Vamsi Septic tank
Pandu Septic TANK
Visakha Septic tank
Vamsi Septic tank

Main issues of Sewerage management:

- 1. Underground drainage system is not available in the municipality. Under Detailed Project Report prepared for the Amrut scheme the projected demand of STP is 24.13 MLD.**
- 2. Underground drainage system is yet to be implemented.**

7.2 Septage management

- Baseline status

This Municipality is not having Septage Management system. Only individual reputations are existing and being maintained by them

- Gaps & Issues

This section will identify gaps and issues related to Septage Management:

- **Septic Tanks** –At present there is no systematic and organized to collect, transport and treat waste from the septic tanks, the duration of cleaning of septic cleaning is as per the necessity and affordability of the public .the over flows of the septic tanks are being either let out in to near by drains or open fields.
- **Septage collection & conveyance** – Herein the ULB identifies gaps & issues with respect to emptying (from septic tanks)& transportation of septage. The issues may include

- lack of data on private operators involved in desludging & transportation of septage,
- the private operators are not authorized and not regulated,
- desludging of septic tanks is not carried out regularly (once in every 2-3 years),
- desludging service is inadequate to meet existing / future demand,
- poor complaint redressal system and absence of operational,
- -health & safety standards for septage collection & conveyance. ULBs also need to identify no. of manual scavengers in the city and reason for engaging into manual scavenging.

- Septage treatment & disposal / Reuse – Herein the ULB identifies gaps & issues with respect to septage treatment and its safe disposal. The issues may include

- absence of septage treatment facility,
- ill effects due to disposal of untreated septage
- improper reuse of untreated septage.

7. Solid waste management

7.1 Baseline status

Solid Waste Management is also the responsibility of the Municipality. According to an estimate done by the Municipality on an average about 56.31 MT of solid waste is generated in the town in each day which is disposed off by the Municipality. The major sources of solid waste generation in the town are domestic waste, commercial establishments, markets, hotels and restaurants, etc. A majority of the households use garbage bins for the disposal of the domestic waste. In some of the slum areas the domestic waste is being dumped on the streets, open spaces, and vacant places thereby creating unhygienic conditions in the neighborhood.

While Door-to-door collection and source segregation efforts (through twin bin system i.e., storage of biodegradable waste & non-biodegradable wastes separately in green and red colored bins respectively) was initiated. The garbage from the streets and the market places are collected in Push Carts, Tata ace, Auto trolleys, Tractors with the help of contract and permanent Public Health Workers. and transported to certain internal collection points.



Figure 15 Solid Wastes Segregation at Household level



Figure 16 Segregated Solid wastes have taken to compost yards in different mode of transports

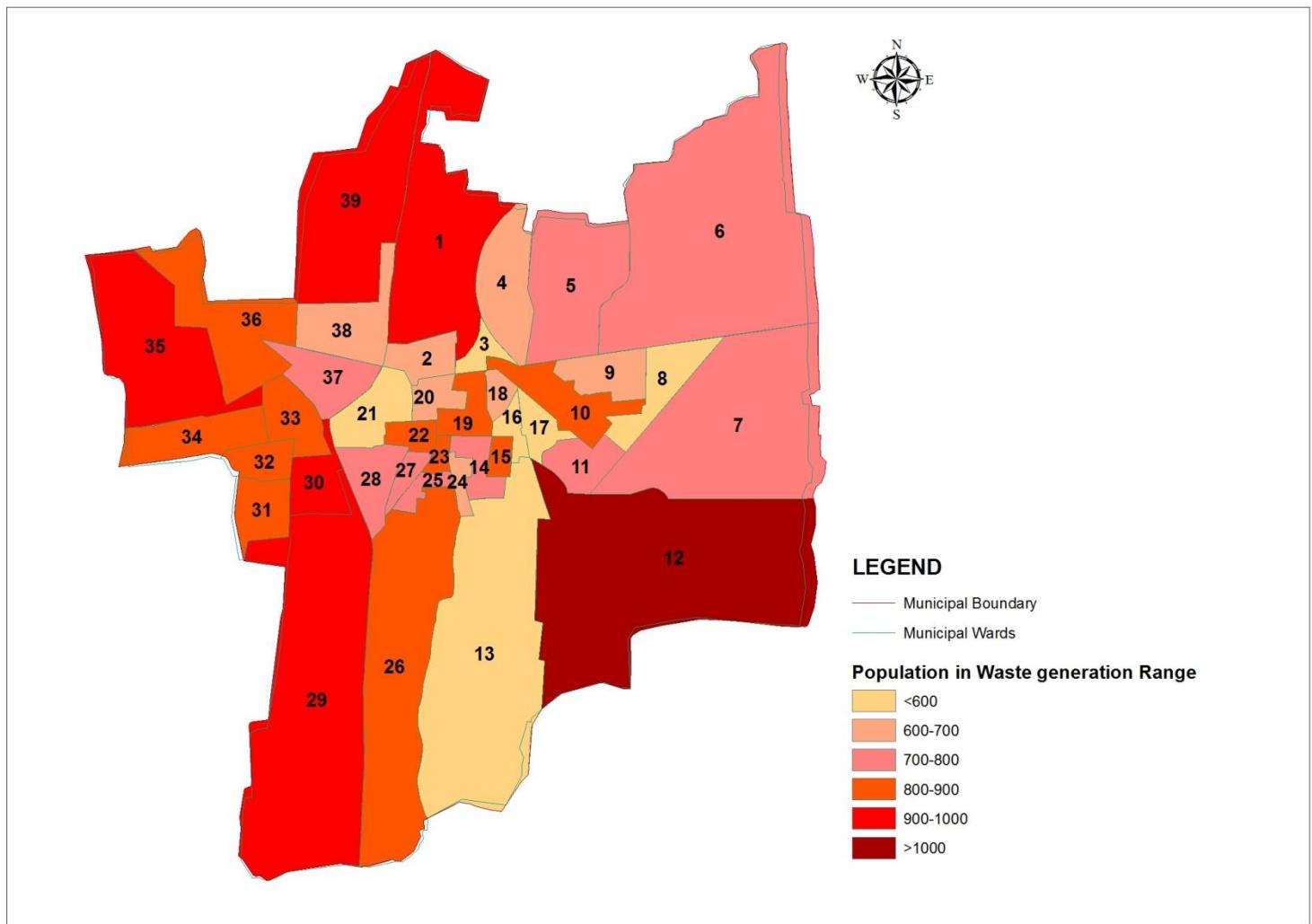


Gaps & Issues

- At present there is no Compost Yard. Allotted 14 Acres Compost Yard is under pending dispute in - Hon'ble Supreme Court, Delhi. Door to Door collection is implemented in all wards with 90 % coverage. The waste collected is being segregated and transported to the dump site.
- **The current practices of SWM are inadequate and in urgent need of systemic improvement.** In this regard, the step to prepare Detailed Project Report to address the requirements in a holistic manner is a welcome step, but needs to be reviewed in the context of modern practices including bin-less door-to-door approaches and scope for private participation.
- **Solid waste generation** –the major challenge facing by the city is dumping of solid wastes into the open drains and unabated encroachments into the storm water drains. The city immediately needs a compost yard to meet the need of present and future demand.



Solid wastes dumped along canal side due to no composte yard



Ward wise waste generation map of Bhimavaram

- Primary collection -

Table 12: Primary Collection of Solid waste

Ward No. & Name	No. of HHs	Total waste generated (MT/day)	If Household Door to Door collection system is available							If Household Door to Door collection system is not available			Remarks
			No. of HHs covered	Qty. of waste collected (MT/day)	Source segregation (Yes/No)	Waste collection frequency	Waste collection charges (Rs./month)	Existing manpower (Nos.)	Equipments used (Nos.)	Method of disposal	Qty of waste disposed (MT/day)	Location of Disposal	
1 st Ward	1147	2.04	1147	2.04	Yes	Daily once	0	7	2 Push carts	--	--	--	--
2 nd ward	863	2.04	863	2.04	Yes	Daily once	0	7	2 Push carts	--	--	--	--
3 rd ward	687	2.04	687	2.04	Yes	Daily once	0	7	2 Push carts	--	--	--	--
4 th ward	854	2.04	854	2.04	Yes	Daily once	0	7	2 Push carts	--	--	--	--
5 th ward	961	2.04	961	2.04	Yes	Daily once	0	7	2 Push carts	--	--	--	--

City Sanitation Plan for Bhimavaram Municipality

6 th ward	1002	2.04	1002	2.04	Yes	Daily once	0	7	2 Push carts	--	--	--	--
7 th ward	1037	2.04	1037	2.04	Yes	Daily once	0	7	2 Push carts	--	--	--	--
8 th ward	678	1.75	678	1.75	Yes	Daily once	0	7	2 Push carts	--	--	--	--
9 th Ward	783	1.76	783	1.76	Yes	Daily once	0	7	2 Push carts	--	--	--	--
10 th ward	1042	2.07	1042	2.07	Yes	Daily once	0	7	2 Push carts	--	--	--	--
11 th ward	972	1.88	972	1.88	Yes	Daily once	0	7	2 Push carts	--	--	--	--
12 th ward	1482	2.14	1482	2.14	Yes	Daily once	0	7	2 Push carts	--	--	--	--
13 th ward	659	1.73	659	1.73	Yes	Daily once	0	7	2 Push carts	--	--	--	--
14 th ward	889	1.91	889	1.91	Yes	Daily once	0	7	2 Push carts	--	--	--	--
15 th ward	1037	2.03	1037	2.03	Yes	Daily once	0	7	2 Push carts	--	--	--	--
16 th ward	591	1.72	591	1.72	Yes	Daily once	0	7	2 Push carts	--	--	--	--

City Sanitation Plan for Bhimavaram Municipality

17 th ward	744	1.85	744	1.85	Yes	Daily once	0	7	2 Push carts	--	--	--	--
18 th ward	759	1.97	759	1.97	Yes	Daily once	0	7	2 Push carts	--	--	--	--
19 th ward	1057	2.04	1057	2.04	Yes	Daily once	0	7	2 Push carts	--	--	--	--
20 th ward	784	1.77	784	1.77	Yes	Daily once	0	7	2 Push carts	--	--	--	--
21 th ward	706	1.93	706	1.93	Yes	Daily once	0	7	2 Push carts	--	--	--	--
22 nd ward	1122	2.04	1122	2.04	Yes	Daily once	0	7	2 Push carts	--	--	--	--
23 rd ward	1292	2.04	1292	2.04	Yes	Daily once	0	7	2 Push carts	--	--	--	--
24 th ward	796	1.95	796	1.95	Yes	Daily once	0	7	2 Push carts	--	--	--	--
25 th ward	1017	1.95	1017	1.95	Yes	Daily once	0	7	2 Push carts	--	--	--	--
26 th ward	1059	2.04	1059	2.04	Yes	Daily once	0	7	2 Push carts	--	--	--	--
27 th ward	878	1.88	878	1.88	Yes	Daily once	0	7	2 Push carts	--	--	--	--

City Sanitation Plan for Bhimavaram Municipality

28 th ward	976	2.04	976	2.04	Yes	Daily once	0	7	2 Push carts	--	--	--	--
29 th ward	1216	2.04	1216	2.04	Yes	Daily once	0	7	2 Push carts	--	--	--	--
30 th ward	816	1.96	816	1.96	Yes	Daily once	0	7	2 Push carts	--	--	--	--
31 st Ward	1062	2.04	1062	2.04	Yes	Daily once	0	7	2 Push carts	--	--	--	--
32 nd ward	1088	2.04	1088	2.04	Yes	Daily once	0	7	2 Push carts	--	--	--	--
33 rd ward	1199	2.04	1199	2.04	Yes	Daily once	0	7	2 Push carts	--	--	--	--
34 th ward	1164	2.04	1164	2.04	Yes	Daily once	0	7	2 Push carts	--	--	--	--
35 th ward	1160	2.04	1160	2.04	Yes	Daily once	0	7	2 Push carts	--	--	--	--
36 th Ward	1131	2.04	1131	2.04	Yes	Daily once	0	7	2 Push carts	--	--	--	--
37 th ward	1047	2.04	1047	2.04	Yes	Daily once	0	7	2 Push carts	--	--	--	--
38 th ward	877	2.04	877	2.04	Yes	Daily once	0	7	2 Push carts	--	--	--	--

39 th ward	1204	2.04	1204	2.04	Yes	Daily once	0	7	2 Push carts	--	--	--	--
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- Secondary collection

Table 13: Secondary Collection of Solid waste

Ward No. & Name	Ward population	Waste generated (MT/day)	If Community bins are available for secondary collection					If Community bins are not available for secondary collection			Remarks
			No. of community bins available	Location of bins	Capacity of bins (MT)	Collection frequency	System of collection (type and number of vehicle used)	Reason for unavailability of bins	Disposal arrangement	Location of disposal	
1 st ward	4409	2.04	8	Opposite CPM Office, near mentevari thota, Near Wonderkid School	.06	Once in a Day	Tractor	--	--	--	--
2 nd Ward	3259	2.04	8	Panduranga Temple near	.06	Once in a Day	Tractor	--	--	--	--

City Sanitation Plan for Bhimavaram Municipality

				Mentevari thota, Meena Biscuit Company Near Mentevari Thota							
3 rd Ward	2740	2.04	8	Nehru Nagar & Kalabhavan Veedhi	.06	Once in a Day	Tractor	--	--	--	--
4 th Ward	3181	2.04	8	Prasanthi Veedhi corner, Narasaiah Agraharam	.06	Once in a Day	Tractor	--	--	--	--
5 th Ward	3454	2.04	8	Karnam Gari Veedhi corner, Kodavalli Road	.06	Once in a Day	Tractor	--	--	--	--
6 th Ward	3485	2.04	8	RTC Backside Backside	.06	Once in a Day	Tractor	--	--	--	--
7 th Ward	3702	2.04	8	Near Maruthi nagar Park	.06	Once in a Day	Auto	--	--	--	--
8 th Ward	2793	1.75	8	Sri Venkateswara Swamy Temple Corner, Chinaranganipale	.06	Once in a Day	Tractor	--	--	--	--

City Sanitation Plan for Bhimavaram Municipality

				m							
9 th Ward	3084	1.76	8	Near A.P. Housing Board Arch at St. marry school	.06	Once in a Day	Tractor	--	--	--	--
10 th Ward	3985	2.07	8	Near Saibaba Temple, Bandarpuntha	.06	Once in a Day	Auto	--	--	--	--
11 th Ward	3662	1.88	8	Near Garuvupeta Burial Ground, Near Water tank	.06	Once in a Day	Tractor	--	--	--	--
12 th Ward	5808	2.14	8	Indiramma Colony & Ambedkar Nagar	.06	Once in a Day	Tractor	--	--	--	--
13 th Ward	2701	1.73	8	Near SUS High School	.06	Once in a Day	Tractor	--	--	--	--
14 th Ward	3407	1.91	8	Near Kalyanamandapa m	.06	Once in a Day	Auto	--	--	--	--
15 th Ward	3965	2.03	8	Missamma Hospital Road	.06	Once in a Day	Auto	--	--	--	--

City Sanitation Plan for Bhimavaram Municipality

16 th Ward	2599	1.72	8	Near Sri Someswara Swamy Temple	.06	Once in a Day	Tractor	--	--	--	--	--
17 th Ward	2717	1.85	8	Near Bantrothula chervu	.06	Once in a Day	Tractor	--	--	--	--	--
18 th Ward	2950	1.97	8	Near Kamakshamma Temple & Near Rajakula Cheruvu	.06	Once in a Day	Auto	--	--	--	--	--
19 th Ward	4097	2.04	8	Near Gulabi Tailors shop	.06	Once in a Day	Tractor	--	--	--	--	--
20 th Ward	2879	1.77	8	Near SJGHM High School, Opp.Bus Stand	.06	Once in a Day	Tractor	--	--	--	--	--
21 st Ward	2692	1.93	8	Prakasam Chowk, Near Sai baba Temple	.06	Once in a Day	Tractor	--	--	--	--	--
22 nd Ward	4150	2.04	8	Fish Market, R.H.Road,	.06	Once in a Day	Tractor	--	--	--	--	--
23 rd Ward	3986	2.04	8	Old Yanamadurru Drain Kaluvagattu,	.06	Once in a Day	Auto	--	--	--	--	--

City Sanitation Plan for Bhimavaram Municipality

				Near Chinapeta Church							
24 th Ward	2993	1.95	8	Ramayanam Subbanna gari thota	.06	Once in a Day	Tractor	--	--	--	--
25 th Ward	3717	1.95	8	Degala vari veedhi, Old Yanamadurru Drain Kaluvagattu,	.06	Once in a Day	Tractor	--	--	--	--
26 th Ward	4071	2.04	8	Katari nagar 9 th street, Bank Colony 1 st Street	.06	Once in a Day	Tractor	--	--	--	--
27 th Ward	3383	1.88	8	Opposite to Yadavula Street, Yadavula vari veedhi-2	.06	Once in a Day	Tractor	--	--	--	--
28 th Ward	3679	2.04	8	Amballa vari veedhi, R.H.Road, Near Burial Ground, R.H.Road	.06	Once in a Day	Auto	--	--	--	--
29 th	4531	2.04	8	Rama Lakshman	.06	Once in a	Auto	--	--	--	--

City Sanitation Plan for Bhimavaram Municipality

Ward				Nagar		Day					
30 th Ward	4333	1.96	8	Near DNR Boys Hostel, sagarlapeta	.06	Once in a Day	Tractor	--	--	--	--
31 st Ward	3924	2.04	8	Near urban Health Centre, Balusumudu, Near Don Bosco EM school	.06	Once in a Day	Tractor	--	--	--	--
32 nd Ward	3929	2.04	8	Karanam gari veedhi, near sai baba temple, main road	.06	Once in a Day	Tractor	--	--	--	--
33 rd Ward	4102	2.04	8	Near E Seve Centre, sriramapuram	.06	Once in a Day	Tractor	--	--	--	--
34 th Ward	4090	2.04	8	Near divya jyothi mess, Padmalaya Theatre road	.06	Once in a Day	Tractor	--	--	--	--
35 th ward	4400	2.04	8	Near RR Medical Stores at Addavanthena	.06	Once in a Day	Tractor	--	--	--	--

City Sanitation Plan for Bhimavaram Municipality

36 th Ward	4239	2.04	8	Near Bandi Krishna House, Rajulapeta	.06	Once in a Day	Tractor	--	--	--	--	--
37 th Ward	3421	2.04	8	Near TVS Show Room, PP Road	.06	Once in a Day	Auto	--	--	--	--	--
38 th Ward	3238	2.04	8	Near Maruthi Showroom, Garagaparru Road	.06	Once in a Day	Tractor	--	--	--	--	--
39 th ward	4429	2.04	8	Near Community Hall, Near B.V.Raju College	.06	Once in a Day	Tractor	--	--	--	--	--

- **Conveyance (Transportation) to Treatment facility –**

In Bhimavaram Municipality Solid Waste Management 2000 rules have been implemented strictly. Bhimavaram Town is divided into 39 wards and 7 sanitary divisions. Public health department in the bhimavaram municipality has a man power of 7 sanitary inspectors, 4 health assistants, 10 sanitary maistries, 11 driver, 168 public health workers, 274 contract workers and 20 contract drivers.

Collection of solid wastes:-

There a total of 16 no.of tractors, 13 auto-rikshaws and 75 pushcarts engaging daily in the door-to-door collection of the solid wastes. Bhimavaram city has achieved the goal of 100% door-to-door solid waste collection and actions are taken to achieve to implement the segregation of the solid waste which is the next objective of the action plan.

- **Processing (Treatment) of Solid wastes –**

- improper processing of biodegradable,
- non-biodegradable & hazardous waste,
- Inadequacy of treatment facility etc.

- **Disposal of Solid wastes**—Bhimavaram Municipality does not have any composite yard to dispose the solid wastes collected from the individuals.

- lack of scientific landfill facility,
- Non-conformity to solid waste management rules and ill effects (along with location) of open dumping of solid waste.

Main issues of Solid Waste Management:

- Bhimavaram Municipality does not have any compost yard which is alarming issue in collection and disposing of the solid wastes collected in the town.
- Capacity building training is needed at institutional and individual level.
- Solid waste management (or the lack thereof) has a direct bearing on the effectiveness of existing drainage systems in any town as also on the overall sanitary conditions and the potential for providing breeding grounds for vectors that have a bearing on human health and the environment in general.
- The current practices of SWM are inadequate and in urgent need of systemic improvement. In this regard, the step to prepare Detailed Project Report to address the requirements in a holistic manner is a welcome step, but needs to be reviewed in the context of modern practices including bin-less door-to-door approaches and scope for private participation.

8. Storm water management

8.1 Baseline status

Collection and conveyance

The key issues and constraints with respect to the storm drain network are summarized below:

1. Open drains are not lined at all places
2. Drains are poorly maintained. Dumping of solid waste in some of the drains are chocking/blockages is prevalent
3. There is improper provision for water flow and there is stagnation of water at many places.
4. There is need for an integrated drainage plan for the study to be planned in coordination with institutional arrangements for systematic cleaning and involvement /awareness programs among communities to prevent solid waste dumping and upkeep through community level ownership and maintenance
5. Majority storm water drains width is nearly 0.5m
6. Apart from storm water the drains carry the grey water (like kitchen, both room and washing waste) leading to the unsanitary conditions
7. The Storm water drainage uncovered in most of the commercial areas across the town. Which is leading to dumping of all kinds of waste?
8. Many places along with nallas, septage water directly connected with storm water drains.

In Bhimavaram Municipality the length of the Road is 189.64 Kms and length of Drain is around 141 Kms. Some of the Drains are dilapidated due to poor maintenance which are remodeling and reconstruction is need.

Water logging and Flooding

Certain areas of this Municipality are being effected with water logging and flooding when the heavy rains is fallen due to cyclone

Disposals:

De-silting is being done Periodcally.

O&M :-

Operation and maintenance is the part and parcel of Solid Waste management which is cleaned daily. public health workers periodically removing the slit from the drains.

Proposed Storm water projects:-

Elected Representatives like Member of Parliament (MP) Member of Legislative Assembly (MLA), District-in-Charge Minister and other visiting Dignitaries who witnessed the plight of the public in person and pleased to consider the need of Storm Water Drainage Scheme on priority bases and assured the public that this grievance will be redressed at the earliest possible. That is how the concept of the project has come to the light and the follow up of action was initiated by the civic body for preparation of the Detailed Project Report.

The Detailed Project Report for Comprehensive Storm Water Drainage System was prepared for **Rs. 143 crores.** The DPR was submitted to the Government of Andhra Pradesh for approval and sanction. The proposed project is incompliance to the policy of Government of India, Government of Andhra Pradesh and District Development Authority whose policy is to upgrade the civic amenities, improve the Health and

8.2 Gaps & Issues

At present the existing drainage is covering 60% of the area in the town on completion of the 13th finance commission grant projects the network coverage increases and eliminate the choekage of drain and water stagnation problem in that zone. the town reuires to improve the service by coverage of strom water drainage network and rehabilitation of the existing network.

Table 14: Storm water drainage system

Drains	In Kms
Pucca Drains Length	132.32
Kutcha Drains Length	6.08
Storm water Drains Length	2.4
Proposed Drain Length	8

Table 15: Water logging / Flooding

Zone	Location / wards	Frequency (No. per year)	Reasons	Remarks
1	Wednesday Market Area	5 to 10 times	Due to Dumping of Vegetable waste by venders and insufficient drains	
2	Gangalamma Temple wholesale fish market	3 to 4 times	Dumping of Aqua waste and insufficient drains.	
3	RH Road Fish Market	3 to 4 times	Due to old and broken drains that need to be renovated.	
4	Rythu Bazar Area	3 to 4 times	Due to Small Drains.	
5	Undi Road Fish Market	3 to 4 times	Insufficient Drains.	
6	Wednesday Market at 2 Town Police Station	2 to 3 times	Inadequate Drain Facility	

9.Receiving water bodies management

Baseline status – As per Status Report

9.1Gaps & Issues

1. There are five water sources for the Bhimavaram municipality. G & V Canal flows for about 9 months only. The Capacity of S.S tanks are not Adequate
2. Treatment plants are not sufficient for present demands
3. Storages are not sufficient for present demands
4. Distribution System is not sufficient for present demands

Main issues of Water Bodies (including river, lakes, ponds, etc.) in the city:

Sr. No.	Name of the water body	Location	Ward No.
1	G & V Canal	PP Road, Vissakoderu Bridge	6,7,8,11,12
2	Edward Tank	Head Post Office	21
3	Veeramma Pond	Nachu Vari Centre	19
4	Somagundam Pond	Near Someswar Swamy Temple	17
5	Rajakula Cheruvu	Near Head Post Office	21
6	Perantala Cheruvu	Veterinary Hospital	2



Edward tank



B.V.Raju Veeramma Pond

10. Institutional & Governance

10.1 Baseline status

Bhimavaram Municipality, like other urban local bodies in Andhra Pradesh, is primarily responsible for providing basic infrastructure services and other civic services within its jurisdiction. The municipality is responsible for the following functions:

- Construction and maintenance of roads, bridges, causeways and culverts
- Construction and maintenance of storm water and sullage water drains
- Supply of protected water
- Cleaning of streets, drains, removal of rubbish and scavenging
- Lighting of public streets
- Maintenance of burial grounds
- Maintenance of hospitals and dispensaries for the treatment of the poor
- Maintenance of elementary schools
- Registration of births and deaths
- Vaccination
- Provision of slaughter houses and markets
- Maintenance of parks and play grounds

In addition, to this municipality implements a number of plan and non-plan schemes, funds for which are received from state and central governments. They include

- MEPMA
- APMDP
- Individual House Hold Toilets (IHHT)
- Housing for all and AMRUTH

The functional domain of the Bhimavaram Municipality, as with other urban local bodies in the state, was expanded in 1994, when the Andhra Pradesh Municipalities Act was amended incorporating the functions included in the 12th Schedule of the 74th Constitution Amendment Act. In Andhra Pradesh, the Municipalities Act provides for a majority of the functions listed in the 12th Schedule of the Constitution. They include:

- Urban Planning including Town Planning
- Regulation of land use and construction of buildings

- Roads and bridges
- Water supply for domestic, industrial and commercial purposes
- Public health, sanitation, conservancy and solid waste management
- Slum improvement and upgrade.
- Provision of urban amenities and facilities such as parks, gardens, play grounds
- Burials and burial ground; cremations, cremation grounds and electric crematoriums
- Cattle ponds; prevention of cruelty to animals
- Vital statistics including registration of births and death
- Public amenities including street lighting, parking lots, bus stops and public conveniences.
- Regulation of slaughter houses and tanneries

In 2004, the Government of Andhra Pradesh after a review of functions of urban local bodies, transferred five more functions to the urban local bodies through government orders. They are:

- a. Planning for economic and social development
- b. Urban forestry, protection of the environment and promotion of ecological aspects
- c. Urban Poverty alleviation
- d. Safeguarding the interest of weaker sections including the handicapped and mentally retarded
- e. Promotion of cultural and aesthetic aspects.

The Government decided that the remaining function i.e. Fire Services, should continue to remain with the state government and will be transferred after a review later. Though the five functions were transferred, they have no statutory basis as they were transferred through government orders.

Organisation structure:

The organizational structure of Bhimavaram Municipality consists of an elected body – the Municipal Council - and an executive body. The elected body is headed by a Chairperson and has 39 Ward Members each representing a ward - one of the 39 wards into which the town is divided. The Chairperson is elected directly by all the elected ward members of the town. Based on the 74th Constitution Amendment Act, 1992, the constitution and composition of the urban local bodies in the state was changed. All the mandatory provisions like reservations to SCs and STs, fixed tenure to the local body, constitution of State Election Commission with responsibility to hold elections to the local

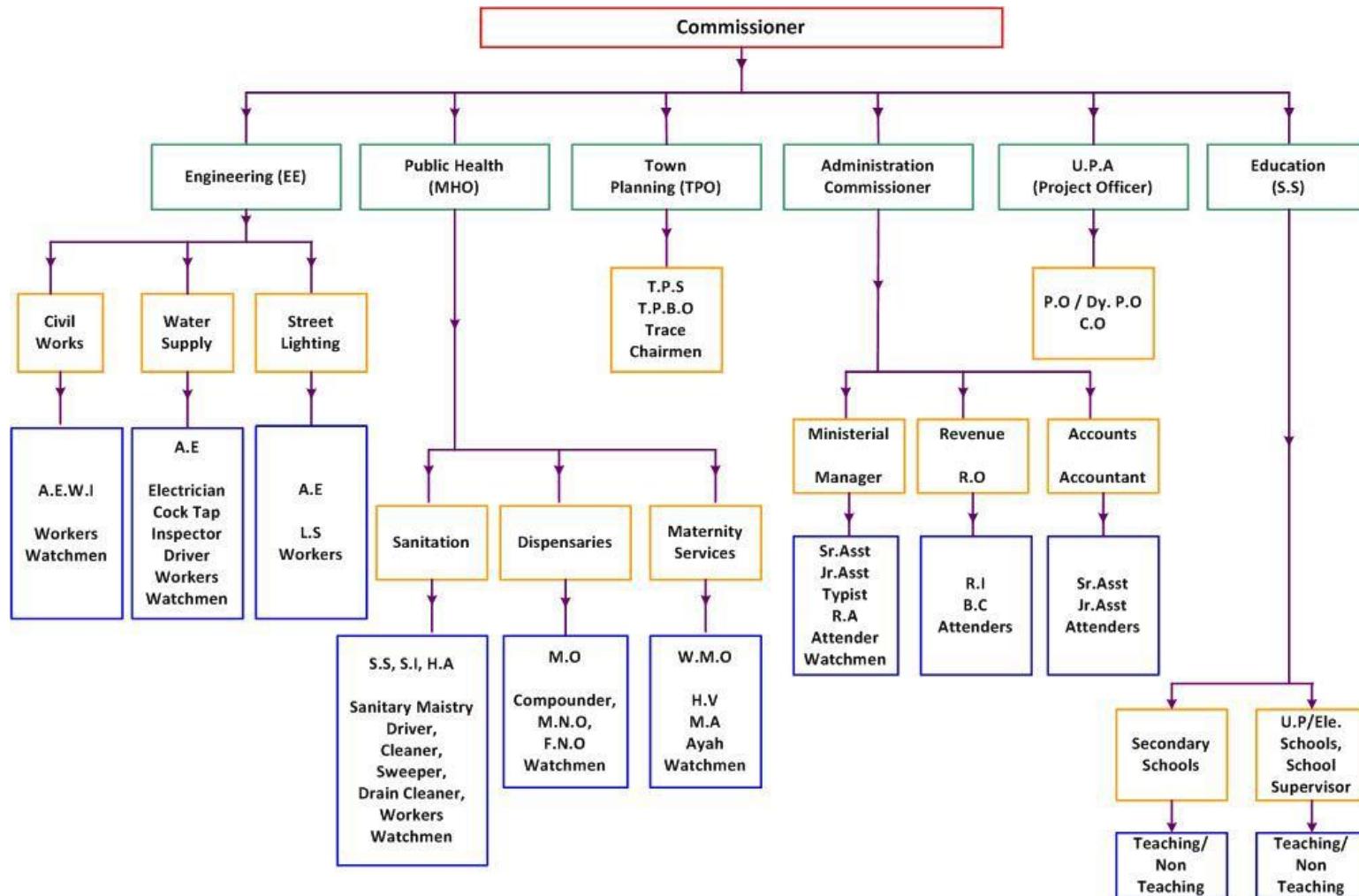
bodies in the state, etc., have been incorporated in the Act. After 1995, elections to the urban local bodies were conducted thrice based on these amended provisions.

The civic administration is headed by Municipal Commissioner belonging to the cadre of state municipal commissioners. The Commissioner is assisted by officials in the areas of public health, engineering, town planning, health, poverty, etc. Technical officials head each of these areas and in administration, the Manager assists the Commissioner.

A summary of positions in various departments and the organization of Bhimavaram Municipality is given below.

Sanctioned, filled and vacant posts – departmentwise

Category of posts	Sanctioned Posts
General Administration, Accounts Department, Revenue Section, Town Planning	
Engineering Wing, Street Lighting Water Supply	
Public Health Section (including PH Workers)	468
TOTAL	521



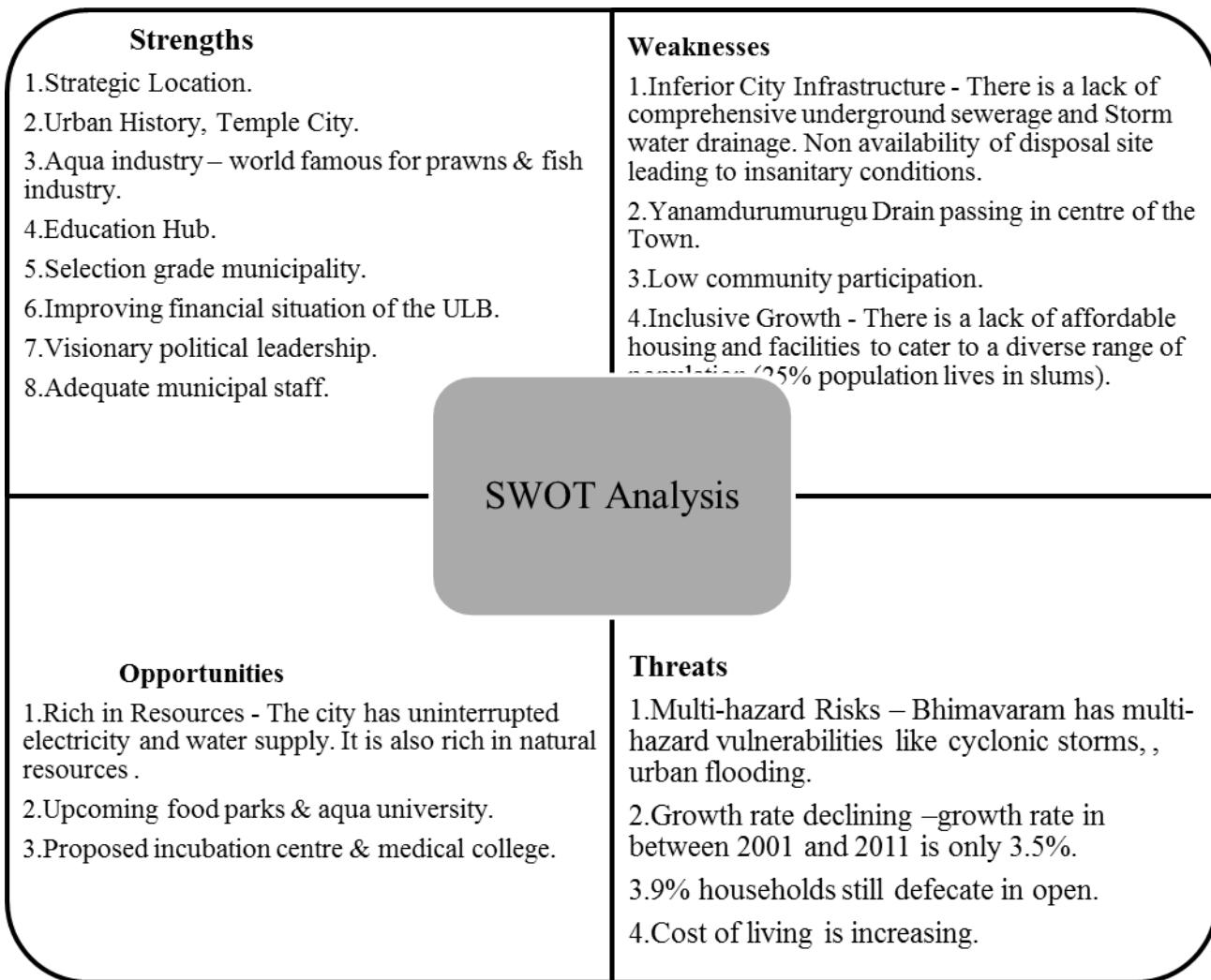
Organization Chart of Bhimavaram Municipality

10.2 Gaps & Issues

This section will identify gaps and issues related to Institution and Governance with relevance to sanitation related sector:

- **Institutional arrangement –**

(Strengths, Weaknesses, Opportunities, Threats) Analysis Bhimavaram
Municipality



11. Municipal Finance

11.1 Baseline status

The opening balance for the year 2015-16 is Rs.3038.84 (Lakhs) Receipt is Rs.1267.35 (Lakhs) And Expenditure is Rs.1081.75 (Lakhs).The funds received under various schemes such as non plan grants internal roads development grant and 13th finance commission grant etc., and collection of Taxes and Non Taxes shall be kept in separate bank accounts and P.D. accounts. The Accounts was maintained by One Accountant, Two Sr. Accountants and Three Jr. Accountants. The accounts up to the year 2014-15 have been prepared and furnished to the Audit department. The fixed Assets register was also maintained. The Audit for the year 2013-14 was also completed. At present the finance position of Bhimavaram Municipality was sound. There are no dues to be paid to the contractors and government loans. The water supply charges were also enhanced last year. No charges were collected from public toilets, waste water and solid waste management. No service charges was recovered from the public. Sufficient budget provision was made for efficient O&M of existing assets. Necessary arrangements were made for improving sanitation services from the 12th finance grant which was already released by the central government. No excess expenditure was incurred under solid waste management. An amount of Rs. 40.00 lakhs was paid towards salaries to the contract workers under sanitation services every month in addition to the regular sanitary staff salaries.

At present all accounts in Bhimavaram Municipality was maintained under double entry accounting system and with transparency. All necessary steps are being taken for improvement of finance position every year. Special teams were also appointed to conduct survey on under assessments and unassessment houses to improve the financial position of this municipality. An amount of Rs.80.00 lakhs was raised during the survey.

The following statement provides a snapshot of the revenue income of Bhimavaram Municipality during the last three years.

Revenue Income of Bhimavaram Municipality

Income & Expenditure	2012-13	2013-14	2014-15	CAGR %
OWN INCOME – TAXES				
Property Tax & Vacant land Tax	618.54	613.04	1074.84	
TOTAL TAXES	618.54	613.04	1074.84	
OWN INCOME – NON TAX				

D & O Trades, Market Fees, Encroachment	91.02	53.06	103.92	
Betterment Charges and Building Perm Fees	149.19	150.39	225.7	
Miscellaneous receipts	182.02	219.57	110.03	
Water Supply and other Charges	180.63	127.11	235.61	
Total Non-Taxes	602.86	550.13	675.26	
ASSIGNED REVENUES				
Entertainment Tax	71.35	23.28	101.52	
Surcharge on Stamp duty	483.69	278.33	533.43	
Assigned Revenue Total	555.04	301.61	634.95	
Total Revenue income	1776.44	1464.78	2385.05	
Other Non Plan & Plan Grants	127.80	371.93	288.37	
Total Revenue Income (including Grants)	1904.24	1836.71	2673.42	

Revenue Expenditure

The following statement provides the details of revenue expenditure.

Revenue Expenditure of Bhimavaram Municipality

	2012-13	2013-14	2014-15
Salaries including pensions	245.24	236.33	376.62
Electricity Expenses(Water supply, street lighting)	161.80	248.70	230.39
Operations and Maintenance	252.47	305.65	156.60
Other expenditure	139.66	142.35	169.69
Revenue Expenditure	799.17	933.03	933.30

Property tax DCB

Property tax	2011-12	2012-13	2013-14	2014-15
No of Assessments	25241	26209	26486	27581
Demand				
Arrears	20.05	14.83	21.81	196.46
Current	704.64	755.26	796.92	819.81
Total	724.64	770.09	818.73	1016.27
Collection				
Arrears	13.95	10.18	18.04	107.31
Current	691.53	752.33	784.79	694.66
Total	705.48	762.51	802.83	801.97

Balance				
Arrears	6.10	4.65	3.77	89.15
Current	13.11	2.93	12.13	125.15
Total	19.21	7.58	15.90	214.30

Water Supply DCB

Water Supply	2011-12	2012-13	2013-14	2014-15
No of Assessments	10264	11236	13264	15702
Demand				
Arrears	8.89	18.07	18.30	67.12
Current	95.00	109.00	125.00	187.12
Total	103.89	127.07	143.30	254.24
Collection				
Arrears	4.26	16.7	2.46	50.62
Current	81.56	92.70	73.72	177.50
Total	85.82	108.77	76.18	228.12
Balance				
Arrears	4.63	2.00	15.84	16.5
Current	13.44	16.30	51.28	9.62
Total	18.07	18.30	67.12	26.12

11.2 Gaps & Issues

Main issues of Municipal Finance:

1. A survey should be held to find and collect the taxes from the non-revenue water and house taxes.

12. Capacity Enhancement

12.1 Baseline status

There is a great need for capacity building for the implementation of the ongoing programs in the Bhimavaram municipality. Under Swach Andhra Pradesh scheme awareness programs are created among the public but there is a great need for training programs to aware the staff regarding proper execution, implementation & maintenance of the public & community toilets. Innovative methods should be adopted regarding the collection and disposing of the solid wastes collected from households.

12.2 Gaps & Issues

Capacity Enhancement of Institution / Human resources for improving the sanitation services. The issues may include

- lack of sufficient staff in various categories,
- lack of capacities (technical & managerial)
- lack of capacities for new technologies and innovative projects
- lack of planned capacity building strategy for improving sanitation services

The ULB identifies gaps and issues related to capacities with relevance to sanitation related sector following the table below:

Table 17: Capacity assessment

Institution/Department (Engineering, Sanitation, Poverty Alleviation, etc)	Tasks to be performed	Permanent Staff	Contractual Staff	Gaps in Number	Gaps in Skills
Engineering department		63	43	-	Need technical skilled manpower
Health Department		174	294		Need Capacity Building Training Programs

Poverty Alleviation		1	4		Need technical skilled manpower
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13. Health and Hygiene

13.1 Baseline status

This Municipality has taken care of precautionary measures to prevent epidemic related diseases and for which this office is implementing awareness camp distribution of pamphlets, spreading of Bye Tex, Pyrosine Oil E and other chemicals to control Mosquito Larva and using Malathion in Fogging Machine to eradicate Adult Mosquito. As such since more than five years there is no hazardous diseases are noticed in Bhimavaram Municipality.

However seasonal measures are being adopted for preventing health hazardous diseases by way of spreading of Gambosiya fish in water stagnant ponds laying of oil balls on the surface of water, special sanitation drives are also taken up as and when required.

13.2 Gaps & Issues

- prevalence of water borne diseases,
- epidemics (related to sanitation & hygiene practices) especially during monsoon,
- lack of public awareness on health & hygiene in low income groups,
- Lack of coordination with existing NGOs, SHGs working on health & sanitation related issues.

Main issues for Health and Hygiene:

1. Stagnation of water in open spaces leads to the water borne diseases like dengue and chicken guinea
2. A drain passing through the city which is polluted by chemicals is concern for the health.

14. City-wide Key Issues

Key Issue 1	No Compost Dumping Site
Rationale for this key issue	Bhimavaram Municipality does not have any dump yard. Municipality purchased 20 acres outside the city premises. Due to the legal issues going on

	the Bhimavaram municipality could not able to utilize it.
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Key Issue 2	Lack of technical skills in the municipal administration.
Rationale for this key issue	<p>There is a great need to learn and adopt the innovative techniques to solve the issues in the city. Training programmes play a key role in solving these problems.</p>

Key Issue 3	Open Defecation and water borne diseases.
Rationale for this key issue	<ol style="list-style-type: none"> 1) Only 9 out of 39 wards have the public and community toilets. 1) There is improper provision for water flow and there is stagnation of water at many places. Stagnation of water in open spaces leads to the water borne diseases like dengue and chicken guinea 2) A drain passing through the city which is polluted by chemicals is concern for the health. 3) There is great need to implement the Swach Bharat programme.

Key Issue 4	Improper Storm Water Drainage system
Rationale for this key issue	<ol style="list-style-type: none"> 1) There is need for an integrated drainage plan for the study to be planned in coordination with institutional arrangements for systematic cleaning and involvement /awareness programs among communities to prevent solid waste dumping and upkeep through community level ownership and maintenance 2) Majority storm water drains width is nearly 0.5m

	<p>3) Apart from storm water the drains carry the grey water (like kitchen, both room and washing waste) leading to the unsanitary conditions</p> <p>4) The Storm water drainage uncovered in most of the commercial areas across the town. Which is leading to dumping of all kinds of waste</p>
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Key Issue 4	Lack of Public Awareness
Rationale for this key issue	<p>1) A comprehensive awareness drive should be conducted to explain the importance of the Storm Water Drainage.</p>

15. City-wide Sanitation Vision

Annex 1: List of on-going or planned projects (DPRs) in the city

Name of project/DPR	Status of project/DPR	Sector of DPR (water supply, wastewater management, septage management, SWM, storm water draining, toilets)
Bhimavaram Municipality Water Supply scheme with G&V canal	Technichenal sanctions has been done and tender Have been Called.	As per DPR under AMRUT scheme.
Bhimavaram Municipality Sewerage System	Under AMRUT scheme sewerage system project has been taken.DPR is geeting Prepared.	Funds aree allocated AMRUT Scheme and 13&14th Finance commission.
Bhimavaram Municipality Comprehensive Storm water Drainage	Under AMRUT Scheme and Also under 14th finance commission.	
Bhimavaram Municipality	Under AMRUT scheme a childrens	DPR is prepared by

Green Spaces and Parks	park is yet be built.site selction has been done and tenders yet be called.	APU&GBC
Bhimavaram Municipality website	Website is running and notifications are uploaded.	
STP	Under AMRUT Scheme a STP has been proposed with a capacity of 5MLD.Techincal Sanctions has been done.	AMRUT Scheme

6 Action Plan for Bhimavaram Municipality:-

Action Plan for City Sanitation Plan is Strategy or a process for to address the present and future need of the citywide sanitation. Action plan address both technical and non-technical aspects of the CSP, services, vision and goals of a municipality. Specific action plans are designed across the five plan components (access to toilets, wastewater management, river pollution and storm water management, water supply, solid waste management), and major strategic support components (governance and institutional frame work and financial sustainability). These action plans are packaged around five pillars of intervention.



Door to Door Segregation:-

One of the most pressing issue in Bhimavaram Town today is Solid waste management. According to an estimate done by the Municipality on an average about 56.31 MT of solid waste is generated in the town in each day which is disposed by the Municipality. The major sources of solid waste generation in the town are domestic waste, commercial establishments, markets, hotels and restaurants, etc. A majority of the households use garbage bins for the disposal of the domestic waste. The Training Program is conducted for two stakeholders; they are waste generators and waste managers from Bhimavaram Municipality. The Waste managers include Public health workers, Municipal Staff and council members. The Waste generators include individual householders and commercial business. The training program for the waste managers is ongoing and include the training in segregating and disposing the organic and inorganic waste.



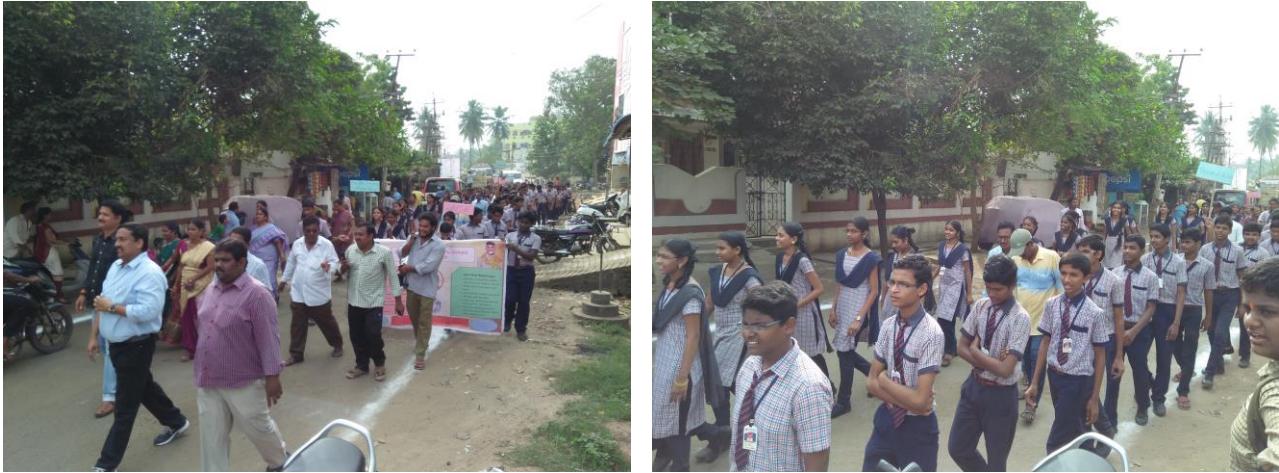
Figure 17 Training program for Municipal Employees on Solid waste segregation

A separate meeting has been held for the hotels & Restaurant Owners on the issues of solid waste segregation and organic waste composter. Bhimavaram Municipality is working hard to enlighten the hotel & Restaurant owners to compost the organic waste on their own backyard by the using the techniques like organic waste composter. A training program has been held to explain the process and steps involved in composting the organic wastes generated.

Addressing the issue of bringing the awareness in the public about solid waste segregation

 <p>శ్రీ వెంకట భూషణ</p> <p>శీర్షమంగళం ప్రమాణ కుంటలు</p> <ul style="list-style-type: none"> • వెత్తమ లోడ్పులాగి, లైఫ్స్ లాగి వేయలాదు • వెత్తమ తిచ్చత, పొత్తులూ వేలచి మాస్యమ్. • వాహనమునకు ఇష్టవానినికిగా కొరుచున్నాము. • వెత్తమ పరిపూర్వ పరిపూర్వ లాలలో పొరచేసినప్పుడు పంచందిక వ్యక్తికై కిల వర్గాలు తీసుకొనుటాను. • వట్టు పరిపూర్వ మందంది వార్గుక 	 <p>శ్రీ వెంకట భూషణ</p> <p>శీర్షమంగళం ప్రమాణ కుంటలు</p> <ul style="list-style-type: none"> • వెత్తమ పరిపూర్వ లాలలో పొరచేసినప్పుడు పంచందిక వ్యక్తికై కిల వర్గాలు తీసుకొనుటాను. • వెత్తమ తిచ్చత, పొత్తులూ వేలచి మాస్యమ్. • వాహనమునకు ఇష్టవానినికిగా కొరుచున్నాము. • వట్టు పరిపూర్వ మందంది వార్గుక
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Figure 18 pamphlets explain the solid waste segregation methods to the citizens



Student's involvement on the importance of Clean & Green

Compost Yard:-

On an average 75 Mt of solid waste is generated in the town which is disposed by the Bhimavaram municipality. The major problem for solid waste management in the Bhimavaram municipality is that it did not have any compost yard. Waste to Energy plant has been proposed to address this problem under which all the waste generated in the premises of Bhimavaram municipality will be transported to the plant.

Individual Household Toilets:-

Under Swatch Bharat mission Bhimavaram municipality has identified Households without toilets. Under this program every household without toilet will get a fund of 15000/- rs from the government. A total of 444 individual toilets have been constructed under this program.

Awareness Programs:-

Mode of IEC/BCC	Number
Installed banners/ hoardings	10
Campaign in local newspapers	All Regional Newspapers
House to house campaign	39
Street plays	15
any other (provide details) Mike Announcement Rallies	20(Mike Announcements) 50(Rallies)

Water Supply:-

Under Amrut scheme major priority has been given to the water supply network for Bhimavaram. As per the DPR under Amrut Scheme 2015-16 Bhimavaram Municipality Water Supply scheme with G&V canal has been proposed and sanctioned. Technical sanctions have been done and tenders have been called for this project.

Bhimavaram Municipality Comprehensive Storm water Drainage:-

Under Amrut scheme and 13& 14th Finance commission funds has been granted for the construction of strom water drainage system in the Bhimavaram town. Construction has been started along the Wednesday market and Kodavali Road.

Public Participation in Governance:-

A Continuous effort is going on in involving various stakeholders in programs such as “plastic free Bhimavaram”.in order to Achieve the “Plastic Free Bhimavaram” concept meetings has been conducted for various stakeholders such as Restaurant owners, commercial shop owners, NGO’s, Social activists.



19 Chairperson Explaining the functioning of Different Municipal Departments to the school Students

Pura Seva App:-

Pura Seva is designed by the Andhra Pradesh State government for the citizen grievance redressal. This application automatically captures the exact location of the issue and routes it to the concerned municipal official for early resolution. Citizen can track the status of the application from his smart phone as well. It provides a platform where a Citizen can report issues from their smart phone.

Training Programs have been conducted for the Public Health &

Children's Park:-

To increase the recreational spaces in Bhimavaram town under Amruth every year one children's park is constructed with a fund of 50 lakh rs. Under this program two parks have granted to construct children's park.

Administrative departments to train them how to address the problems of citizens through Pura Seva App.



Key Issue 1 :		Waste-water is not properly managed (i.e. there is no proper collection, conveyance & treatment of waste-water), leading to unhygienic conditions & pollution of water bodies					
Goal :		Ensure proper waste-water (sewage & septage) management (collection, conveyance, treatment & disposal) by 2020					
S. No.	Action Points		Year 1 (by Dec 17)	Year 2 (by Dec 18)	Year 3 (by Dec 19)	Year 4-5 (by Dec 21)	Year 5-10
1	Explore (through study) if UGD system is feasible & practical for the city. If Not feasible until when ?					✓	
2	Explore possibility of refurbishment of existing defunct STPs & Sewer network (if any)		✓				
3	Repair & Restoration of existing defunct STPs & Sewer network (if any)		✓	✓			
4	Ensure fully segregated municipal budget heads related to waste-water services		✓	✓		✓	
5	Identification and nomination of Nodal department for Septage Management in the ULB		✓				
6	Explore feasibility for setting up a Septage Treatment Plant including identification of land & project design		✓				
7	Building capacities within ULB for Septage management		✓	✓			

8	Construction & Commissioning of Septage Treatment Plant (if applicable)		✓	✓			
9	Organize a registry / association of informal / private desludging operators	✓	✓				
10	Prepare SOP / Operation Manual for septic tank emptying private operators	✓					

Key Issue 1 :	Waste-water is not properly managed (i.e. there is no proper collection, conveyance & treatment of waste-water), leading to unhygienic conditions & pollution of water bodies					
	Goal :	Ensure proper waste-water (sewage & septage) management (collection, conveyance, treatment & disposal) by 2020				
	Action Points	Year 1 (by Dec 17)	Year 2 (by Dec 18)	Year 3 (by Dec 19)	Year 4-5 (by Dec 21)	Year 5-10
11	Prepare bye-laws for controlling illegal open disposal of septage by private desludging operators	✓				
12	Regularize user charges for emptying of septic tanks	✓	✓			
13	Explore options (study) for treatment of grey water & overflow (effluent) from septic tanks		✓			
14	Initiate project for treatment for grey water & overflow (effluent)		✓	✓		

	from septic tanks in selected areas					
15	Initiate project for treatment for grey water & overflow (effluent) from septic tanks in entire town (in phased manner)			✓		✓
16	Explore reuse and recycle opportunities	✓				
17	Ensure reuse and recycle of atleast 20% of waste-water				✓	✓
18	Ensure no untreated waste-water enters the environment (water bodies / land) – 100% safe management of waste-water				✓	✓
19	Organize rigorous IEC activities for all stakeholders	✓	✓			
20	Organize citizen care unit for septage management within the ULB	✓				

Key Issue 2 :		Prevalence of insanitary toilets and improper maintenance of Public and Community Toilets, leading to detrimental environmental and health hazards					
Goal :		Ensure all existing and new toilets (IHHT, PT & CT) are sanitary and properly maintained (to cover the current and future demand) by 2019					
S. No.	Action Points		Year 1 (by Dec 17)	Year 2 (by Dec 18)	Year 3 (by Dec 19)	Year 4-5 (by Dec 21)	Year 5-10

1	Carryout out an independent study to understand the environment and health hazards to the city due to improper waste-water management	✓				
2	Ensure 100% enforcement of 'The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013	✓				
3	Ensure provision of safe sanitation services for labourers as per 'The Andhra Pradesh Municipalities Act, 1965'	✓	✓			
4	Prepare bye-laws for ensuring all upcoming Gated colonies, Apartments, Commercial establishments, Institutions and Bus & Taxi stands plan for independent safe sanitation systems	✓				
5	Ensure ULB to give building permission only for all upcoming Gated colonies, Apartments, Commercial establishments, Institutions and Bus & Taxi stands with plans for independent safe sanitation systems.	✓	✓			
6	Ensure all existing Gated colonies, Apartments, Commercial establishments, Institutions and Bus & Taxi stands upgrade to safe sanitation systems.	✓	✓	✓		
7	Try and test alternate safe sanitation systems (DRDO Bio-digester, Aerobic Bio-tanks, Decentralized Treatment units, etc.) in Govt. institutions	✓	✓	✓		
8	Plan for upscaling of alternate safe sanitation systems in Public / Community Toilets, Gated Colonies, Apartments, Commercial establishments, Institutions		✓	✓		
9	Plan & Initiate steps for reuse / recycle of treated waste-water in Public / Community Toilets, Apartments, Commercial establishments, Institutions, etc			✓	✓	✓

10	Formation of committee / task force for ensuring proper operation & maintenance of public and community toilets	✓			
11	Ensure all community and public toilets have safe sanitation systems	✓	✓		
12	Ensure dedicated Municipal budget for proper O&M of Public and Community Toilets	✓	✓		
13	Procurement of mobile toilets by ULB for public during open public gatherings	✓			
14	Plan and initiate steps (eg. spot fines) for controlling / discoursing open urination especially in public areas	✓			

Key Issue 2 :	Prevalence of insanitary toilets and improper maintenance of Public and Community Toilets, leading to detrimental environmental and health hazards
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Goal :	Ensure all existing and new toilets (IHHT, PT & CT) are sanitary and properly maintained (to cover the current and future demand) by 2019
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S. No.	Action Points	Year 1 (by Dec 17)	Year 2 (by Dec 18)	Year 3 (by Dec 19)	Year 4-5 (by Dec 21)	Year 5-10
15	Prepare bye-laws for standardization & design of septic tanks (as per AP Building rules, 2012) for upcoming new constructions.	✓				
	Ensure septic tanks are planned & constructed as per bye-laws					

	before allocating building permission by the ULB					
16	Prepare registry (at ULB) of plumbers & masons skilled for construction of septic tanks	✓	✓			
17	Conduct training programmes for plumbers and masons regarding scientific designing of septic tanks	✓	✓			
18	Formation of dedicated committee / task force for ensuring safe sanitation in slum areas	✓				
19	Identification of all insanitary sanitation systems (single pit latrines, damaged / defunct / ill constructed septic tanks, pit latrines / soak pits in high ground water table areas etc.) in the city	✓	✓			
20	Explore possibility (through study) of upgradation of all insanitary sanitation systems to sanitary sanitation systems		✓			
21	Upgradation of all insanitary sanitation systems to sanitary sanitation systems		✓	✓		
22	Explore CSR funding possibilities from Industry and Trade & Commerce associations for conversion of insanitary sanitation systems to safe sanitation systems		✓			

23	Involve Police department for lawful exercise / enforcement of bye-laws / Municipal Act	✓	✓	✓		
24	Organize rigorous IEC activities for all stakeholders.	✓	✓			
25	Take support from NGOs / CBOs/ SLFs, Ward Sabhas / Area Sabhas, RWAs, SLFs / TLFs, Industry and Trade & Commerce associations, NCC / NSS, Schools, town clubs and local Eminent personalities for IEC activities and regular monitoring	✓	✓			
26	Formalize partnership with local academic and professional institutes (Colleges, ITIs, etc.) for supporting the ULBs in achieving improved sanitation (waste-water & solid waste management)	✓	✓			

Key Issue 3 :	Insufficient and inefficient Storm water management leading to unhealthy towns
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Goal :	Ensure comprehensive and efficient Storm water management by 2019
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S. No.	Action Points	Year 1 (by Dec 17)	Year 2 (by Dec 18)	Year 3 (by Dec 19)	Year 4-5 (by Dec 21)	Year 5-10
1	Prepare Master Plan for Storm water management	Done				
2	Mapping of existing Storm water drainage network	Done				
3	Identification of funds for retrofitting & augmentation of storm water drainage network	Done				

4	Prepare DPR for retrofitting & augmentation of storm water drainage network	Done				
5	Retrofitting of major drains	Done	✓			
6	Augmentation of storm water drainage network	Done	✓	✓		
7	Identification & Mapping of illegal Encroachment areas near drains	✓				
8	Plan and initiate steps for clearing of illegal Encroachment areas near drains	✓	✓			
9	Frame bye-laws for controlling littering in drains	✓				
10	In order to ensure that sweepers do not dispose solid waste into drains, same staff that is responsible for cleaning street to be made responsible for cleaning adjacent surface drains (upto a depth of 45-60 cm)	✓				
11	Establish a monitoring system for cleaning & desilting of storm water drains (especially pre-monsoon) Ensure regular de-clogging of bottleneck points	✓	✓			
12	Procurement of additional equipments / tools / vehicles (only if required) for desilting & de-clogging of storm water drains	✓	✓			
13	Ensure fully segregated Municipal budget for proper maintenance of Storm water drainage network	Done				

Key Issue 3 :		Insufficient and inefficient Storm water management leading to unhealthy towns				
Goal :		Ensure comprehensive and efficient Storm water management by 2019				
S. No.	Action Points	Year 1 (by Dec 17)	Year 2 (by Dec 18)	Year 3 (by Dec 19)	Year 4-5 (by Dec 21)	Year 5-10
14	Identification & Mapping of water-logging areas in the entire town	Done				
15	Plan and initiate steps for eliminating incidences of water-logging in the entire town	Done	✓			
16	Ensure zero incidences of water logging in the town	Done		✓	✓	
17	Initiate ground water recharge measures (eg. rainwater harvesting) in Govt. Institutions	Done				
18	Upscale ground water recharge systems in Gated Colonies, Apartments, Commercial establishments, Institutions, etc.	✓	✓	✓		
19	Explore (through study) options for ground water recharge (Source control options, Rain water harvesting, permeable pavements, retention & detention zones, etc)	✓				
20	Initiate steps for ground water recharge at town level (i.e. roads	✓	✓			

	& streets)					
21	Identification of illegal untreated effluent outflows from local industries in storm water drains	✓				
22	Eliminate illegal untreated effluent outflows from local industries in storm water drains with support from PCB	✓	✓	✓	✓	
23	Ensure all surface water bodies (Cheruvus, streams , rivers) are pollution free		✓	✓		
Key Issue 4 :	Poor cost recovery and collection efficiency in water supply related services leading to poor services to the citizens / users					
Goal :	Achieve atleast 90% cost recovery and 90% collection efficiency in water supply related services by 2020					
S. No.	Action Points	Year1 (by Dec 17)	Year 2 (by Dec 18)	Year 3 (by Dec 19)	Year 4-5 (by Dec 21)	Year 5-10
14	Plan and initiate punitive measures for non-cooperation for water supply related services	✓	✓	✓		
15	Mandatory installation of water meters for all non-residential users (Commercial establishments, Institutions and Industries)	✓	✓			
16	Explore feasibility and acceptability for water meters in residential areas (except slums)		✓	✓	✓	

17	Installation of water meters in residential areas (except slums) in phased manner (if possible)			✓	✓	
18	Ensure volumetric rate is charged for water supply services to all non-residential users (Commercials establishments, Institutions and Industries)	Done				
19	Prepare bye-law for differential rate for water usage and ensure adequate safeguards are included to take care of the interests of the vulnerable	Done	✓			
20	Explore need for revision of user charges for all users (non-residential and residential)	Done	✓			
21	Incrementally revise water supply user charges to improve cost recovery to 60%	Done		✓		
22	Incrementally revise water supply user charges to improve cost recovery to 90%	Done			✓	
23	Ensure atleast 60% collection efficiency	Done	✓			
24	Achieve atleast 90 % collection efficiency from residential users	Done	✓	✓		
25	Achieve nearly 100 % collection efficiency from non-residential users (Commercial establishments, Institutions and Industries)	Done	✓	✓		
26	If Municipal staff is insufficient for collection, explore possibility of outsourcing the activity of collecting water supply related charges to private operator through appropriate business model	Done	✓			
27	If possible & viable, outsource the activity of collecting water supply related charges to private operator for entire town in phased manner	✓	✓	✓	✓	

28	Organize IEC campaign requesting cooperation from citizens for reducing wastage of water and payment of user charges	✓	✓				
Key Issue 5 :	Lack of skills / capacities (technical and managerial) with the Municipal staff in all departments makes it challenging for the Municipality to perform day to day functions and keep pace with the increasing demand in services and developments in sanitation sector.						
Goal :	Take-up upgradation of skills of all municipal staff as mainstream and regular activity, aimed at achieving better competency and efficiency						
S. No.	Action Points	Year 1 (by 17)	Year 2 (by 18)	Year 3 (by 19)	Year 4-5 (by 21)	Year 5-10	
1	Establish a system for inventory (Documentation) of capacity building activities (trainings, workshops, conferences, exposure visit, etc.) undertaken / planned for all municipal staff including elected representatives Identification & nomination of Nodal officer for maintaining and regularly updating the above system	✓					
2	Identify staff members responsible for filing&updating all data sets collected under CSP, SLIP, Swachh Survekshan, GO 279, DPR	✓					
3	Conduct Training Needs Assessment for the Municipal staff	✓	✓				
4	Explore avenues for capacity building with State under various programmes	✓					

	SBM, AMRUT, etc.					
5	Conduct regular review meetings with new sanitary workers on their challenges and achievements every 3 months	✓				
6	Identify all new skills required of ULB staff members for new DPRs to be implemented	✓	✓			
7	Identify local NGO to conduct training programme on community participation for ULB staff members	✓				
8	Establish an internship/trainee programme for local Youth in the municipality.	✓				
9	Introduce incentives for municipal staff to achieve implementation of CSP action points (award, participation in training, newspaper article)	Done				
10	Launch a competition for local Youth/IT College/Start-up to design online application for ULB and train municipal staff	✓	✓			
11	Monitor the progress with respect to capacity building & take appropriate actions as required	✓	✓	✓		

Key Issue 6 :	Lack of inefficient and unscientific solid waste management leading to unclean and unhealthy city
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Goal :	Achieve Service Level Benchmarks (as defined by MoUD) in Solid waste management by 2020
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S. No.	Action Points	Year 1 (by Dec)	Year 2 (by Dec)	Year 3 (by	Year 4-5	Year 5-10
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		17)	18)	Dec 19)	(by Dec 21)	
1	Prepare Action Plan for timely implementation of GO 279 <ul style="list-style-type: none"> - Definition of micro pockets - Identification of works to be carried out by municipal health workers and works which need to be outsourced - Tendering & selection of private parties for collection and transportation 	✓				
2	Identification & possession of land for landfill facility, processing facility and material recovery facility (if applicable)	Not Possible (But Waste to Energy Plan is proposed)				
3	Provide bins for source segregation to poor households	✓				
4	Ensure 100% source segregation in phased manner	✓	✓	✓		
5	Eliminate open dumping points in a phased manner	✓	✓			
6	Ensure personal protection equipments (uniforms, hand gloves, boots, masks, etc.) to	✓				

	workers handling solid waste				
7	<p>Frame bye-laws for</p> <ul style="list-style-type: none"> - controlling littering & open dumping (spot fines) - banning of plastic carry bags as per the provision of plastic waste management rules 2016 - banning burning of solid waste - managing waste generated in public gatherings (marriages,etc.) - implementation of SWM rules, 2016 	Done			
8	Involve Police Dept. for exercise/enforcement of bye-laws/Municipal Act	✓	✓	✓	
9	Plan for material recovery facility for sorting of recyclable material	✓	✓		
10	Ensure proper management of plastic waste	✓	✓	✓	
11	Set up E-waste collection centres	✓	✓		
12	Set up C&D waste collection centres	✓	✓		
13	Prepare strategy for managing disposable waste (eg. discouraging disposal waste, involve disposable waste generators, etc.)	✓	✓		

Key Issue 6 :		Lack of inefficient and unscientific solid waste management leading to unclean and unhealthy city					
Goal :		Achieve Service Level Benchmarks (as defined by MoUD) in Solid waste management by 2020					
S. No.	Action Points	Year 1 (by Dec 17)	Year 2 (by Dec 18)	Year 3 (by Dec 19)	Year 4-5 (by Dec 21)	Year 5-10	
14	Initiate steps for extended responsibility of manufacturers of disposal products		✓	✓			
15	Initiate steps to make unused / inefficient compost plant fully functional	✓					
16	Try and test decentralized management of organic waste within premises of Govt. institutions	✓					
17	Plan for upscaling of decentralized organic waste management for Gated Colonies, Apartments, Commercial establishments and Institutions, etc.		✓	✓			
18	Explore support from NBCC (as per the request from SBM-MoUD) for Bio-mining / Bio-remediation or capping of old and abandoned dump site	✓					
19	Explore possibility of cooperation between ULBs & BSNL as per MoU between BSNL & MoUD for providing eSBM platform for SWM in ULBs.	✓					
20	Ensure revised master plan has land provisions for setting up processing facility &	✓					

	landfill site					
21	Establish a system to recognize organizations of waste pickers & waste dealers & facilitate their participation in effective SWM Initiate registration of waste pickers & waste dealers	✓				
22	Fix user charges for all non-residential users (Commercial establishments, Institutions and Industries)	✓				
23	Fix user charges for residential users		✓			
24	Initiate steps for improving the cost recovery & collection efficiency for SWM services		✓	✓	✓	
25	Organize rigorous IEC activities for all stakeholders.	✓	✓			
26	Take support from NGOs / CBOs/ SLFs, Ward Sabhas / Area Sabhas, RWAs, SLFs / TLFs, Industry and Commerce associations, NCC / NSS, Schools, town clubs and local Eminent personalities for IEC activities and regular monitoring	✓	✓			
27	Formalize partnership with local academic and professional institutes (Colleges, ITIs, etc.) for supporting the ULBs in achieving improved sanitation (WW&SWM)	✓	✓			
28	Ensure consistent improvement in all subsequent Swachh Sarvekshan ranking exercises. Bottom line being to be in the first 150 towns in the upcoming round.	✓	✓			
29	Mainstream Swachhata App rolled out by SBM, MoUD in the ULB / city	✓				

అర.చి.ని.నె.0.643/2015/యిం

కాన్సిల్‌వారి అంశము

జ.చ.అర.చి.నె.0.243 యం.ఎ.ఆండ్ యు.డి కిపార్యుమెంటు, తేదీ 18.04.2015 నంచాలకులు పురపరిపాలనాశాఖ వారి ప్రోసెడింగ్స్ నెం. 8807/2014 మరియు సర్క్యులర్ నెం.2708/2015/యం3 వారి ఉత్తర్వుల ప్రకారం భీమవరం పురపాలక సంఘం నకు సిటీ శానిటేషన్ ప్లాన్ తయారుచేసి పంచ వలసినదిగా తెలియజేసియున్నారు.

సిటీ శానిటేషన్ ప్లాన్ తయారుచేయుటకు జర్మన్ కో-ఆపరేషన్ (GIZ) మరియు సెంటర్ ఫర్ సైన్స్ అండ్ ఎన్విరాన్మెంట్ (CSE) న్యూఫీల్డ్ వారి సహకారముతో భీమవరం పట్టణమునకు సిటీ శానిటేషన్ ప్లాన్ తయారుచేయుట జరిగినది. ఈ ప్లాన్ రి.22.10.2016వ తేదీన జరిగిన సిటీ శానిటేషన్ టాస్క్‌పార్స్ సమావేశములో ఆమోదించుట జరిగినది. సిటీ శానిటేషన్ ప్లాన్ ప్రభుత్వమువారికి పంచ టకు గాను కాన్సిల్‌వారి ఆమోదమునకు కాన్సిల్‌వారి ముందుచడమైనది.

25/10/16
AC

కొమెన్ట్ కుమార్ విషయం
భీమవరం పురపాలకసంఘం.
25/10/16

ట్రెక్స్ — CRNU 244 ను 29-10-2016
— Accepted —

సం/ - కె. గోవందరావు

చైర్మాన్

భీమవరం పురపాలక సంఘం

“అముమతితో”

Abdul
మెజీద
25/10/16

