

# **KADIRI MUNICIPALITY**



## **CITY SANITATION PLAN**

**City Sanitation Plan (CSP):**A City Sanitation Plan is a strategic plan for citywide sanitation sector development.A CSP basically comprises of baseline information, key issues and recommendations related to sanitation and sanitation related services in the city. Various standards / benchmarks (CPHEEO Manual, IS codes, Service Level Benchmarks, Best Practices and etc.) should be referred for identification of key issues and formulating recommendations.

A CSP for a city identifies specific targets / actions that a city plans to achieve in a given timeframe.

This ‘Template for preparation of CSP’ is expected to serve as a framework for CSP preparation. The entire template has been structured in different chapters making it very easy to understand for any reader. Various formats / tables have been provided in this template, for data collection and understanding the gaps and issues in each sector in a simplified manner. However, the formats / tables provided in the template can be modified to as per city requirements.

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## **1. Introduction & 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 Kadiri 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 Kadiri 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 liveable 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:

# KADIRI MUNICIPALITY - TOWN MAP

Notified Slum



11. Baba Colony  
12. New Harega Wada  
13. Gandhi Nagar  
14. Old Kummars Street  
15. Mashanampeta  
16. Gajalata Palli  
17. Beri Palli  
18. Nagreddy Hill  
19. Behind Hanudaga  
20. Behind Hanudaga  
21. Thummala Road  
22. Jadalath Matam  
23. 200ft. Hanudaga Masjid Back Side Area  
24. Gajalata Street  
25. Shahameeraya Majid Area  
26.

6  
8  
9 & 10  
9  
13 & 12  
13, 14 & 15  
16  
17  
18 & 19  
19 & 20  
21  
22  
23  
24, 25 & 26

NO. OF WARD'S :

NO. OF P.S. :

BOUNDARY  
OF WARD'S :

The principal components of town-wide approach include:

- (a) Collection and sanitary disposal of wastes, including solid wastes, liquid wastes, excreta, industrial wastes, clinical and other hazardous wastes;
- (b) Storm water drainage;
- (c) Cleansing of thoroughfares, markets and other public spaces;
- (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 Town Sanitation Plan (CSP) for Kadiri Town.

The Town 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 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
3. **Support in Awareness Generation and launch of 100 percent Sanitation Campaign** - Formulating the components of awareness programme at the supply and demand level.
4. **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. 222, Dated: 27.10.2015

Sl. No	Name	Designation
1	Smt. Shaik Suriya Banu	Chairperson ( Head of the CSTF)
2	Sri. B. Nageswar Rao	Commissioner ( Convener)
3	Sri. D. Sankar	Ward Member of W. No. 28
4	Sri. K.S. Shabbir	Ward Member of W. No. 29
5	Sri. K. Kalyan Kumar	Ward Member of W.No. 07
6	Smt. S. Shahanaz	TLF President (Member)
7	Sri. T. Ranjith Kumar	Sanitary Inspector (i/c) Member
8	Sri. M. Venugopal	Sanitary Inspector (i/c) Member
9	Sri. P. Venkataramana	Municipal Engineer (Member)
10	Sri. B. Narasimhulu	Municipal Assistant Engineer (Member)
11	Dr. Sri. Mahaboob Basha	Superintendent of Government Hospital (Member)
12	Sri. Wilson	NGO Mytri (Member)
13	Sri. M. Rafiq	Public Health Maistry, Kadiri Municipality (Member)
14	Sri. Nagaraju	Control Worker President (Member)

### **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. Town Profile:**

Kadiri is a 2<sup>nd</sup> grade Municipality in Anantapur District of Andhra Pradesh State. The Kadiri Panchayat is constituted as 3<sup>rd</sup> grade Municipality from 01-10-1964 with Eleven Revenue Villages. Further the Government vide G.O.Ms.No. 177, Dated. 16-04-1999 have Upgraded the Municipality from 3<sup>rd</sup> grade to 2<sup>nd</sup> grade. The Town is Prosperous both commercially and agriculturally by virtue of the Taluk Head Quarters as number of villages are being situated with in a radius of 48 Kms from Kadiri town. The Municipal Town is divided in to 17 Revenue Wards. There are more Beedi workers and economically poor people below poverty line. The Kadiri Town is an important Pilgrim place of Sri Lakshmi Narasimha Swamy Temple and thousands of Pilgrims attending for darsanam of Sri Lakshmi Narasimha Swamy being powerful deity.

The World biggest Banyan Trees “Thimmamma Marrimanu” which take place in World of “Gunnies Book Record” is nearer to the Kadiri town about 27 Kms. The visitors of Thimmamma Marrimanu pass through the Kadiri town.

The Yogi Vemana Birth Place “Katarupalli” is also nearer to the Kadiri Municipal Town which is about 20 Kms. The Town is connected with Railway facilities having Railway station situated in Dharmavaram-Pakala junction under South Central Railway.

The NH 205 linking NH7 at Anantapur to Chennai passes through Kadiri Town. Major High way roads linking with Bangalore, Bombay and Madras and also Tirupathi are passing through this town. Kadiri Municipality is grade – II with a population of 89,240 as per 2011 Census. The source of water supply is by Chitravathi Balancing Reservoir. (Surface Water)

## **CLIMATE AND RAINFALL**

The Climate is a tropical in Kadiri. In winter there is much more Rainfall in Kadiri than in summer. In December, the temperature is 23.60 C during day time. The night temperature will be 160C and is the lowest temperature of the whole year. During summer from March to May when the Max Temperature in the hottest month of May rises to 480C.

In cools down as soon as the South – West Monsoon breaks out in the month of June. The annual average rainfall in the town is around 700mm from both North-East & South-West Monsoons. The rainfall mainly occurs during the rainy season i.e., from June to September due to South – West Monsoons. Rains during the month October, November and also December occur due to North-East monsoon is about twenty percent of the total annual rainfall.

## **POPULATION**

Kadiri is Municipal town in Anantapur district of Andhra Pradesh. As per 2011 Census the population in 89,240. Kadiri renowned for its yield in variety of groundnut products. Beedi works is another major field on which many people survive in Kadiri. There has been a rapid growth in development of Mango orchards and plantations in this region since 2005. It also houses a vast number of textile shops.

## **TOPOGRAPHY**

The Kadiri town is located at 78.170 East Longitude and 14.120 North Latitude and has an average elevation of 504.00 meters (1653 feet) above MSL. Kadiri is surrounded by hill and hillocks on two sides on the North and East.

The terrain of the town is generally sloping from North and Central area, East to West and South to Central area. The Highest contour is + 546.000 m (South West) and lowest contour is + 496.000m (west).

The town is situated in the center of the Kadiri Taluk between Anantapur, Madanapalli towns and it is situated in Anantapur District and which is 90Kms distance from Anantapur. The Municipality is divided into 36 Election Wards. It is surrounded on two sides while the Sudda Vagu River Flows to its West.

## **SOIL & GEOLOGY**

Black cotton and red Soil. The depth to water level ranges from 2-5m.

## SLUM PROFILE OF THE TOWN

There are 35 notified slums in the town. Slum Population in this town is around 51,458 while BPL Population is around 78,856 and the Percentage of BPL Population comes to 85.65%.

### DETAILS OF SURVEYS

Kadiri Town as existing was surveyed with Total Station during July - October 2012 to have accurate levels and measurements to prepare the precise Base maps, Contour maps and Key maps showing the project proposals and is developed from the said surveys.

Refer to following tables for depicting ward details and slum data respectively.

**Table 1: Ward data**

Ward. No.	Name	Area (Hectare)	No. of Households	Population			Density (persons / Hectare)
				Total	Male	Female	
1	Kutagulla		650	2469	1236	1233	
2	Kutagulla		680	2764	1378	1386	
3	Sydapuram		635	2329	1160	1169	
4	Sydapuram		455	1341	665	676	
5	Adapala Street		620	5327	2662	2665	
6	Harijanawada		655	3540	1779	1761	
7	Adapala Street		509	2283	1141	1142	
8	Water Tank Road		450	2045	1023	1022	
9	Gandhi Nagar		635	2753	1376	1377	
10	Near Mounika Talkies		695	2927	1460	1467	
11	Masanampeta		585	1657	830	825	
12	Masanampeta		630	2187	1090	988	
13	Nizamvali Colony		705	3129	1670	1459	
14	Gajjalareddy Palli		660	1873	945	928	
15	Gajjalareddy Palli		630	2683	1345	1130	
16	Nagireddypalli		670	2369	1190	1179	
17	Bellari Compound		670	2352	1185	1167	
18	Bilal Masque Street		680	2542	1280	1262	
19	Jouckpalyam Street		650	2264	1138	1126	

20	Sivalayam Street		620	2198	1110	1088	
21	Jouckpalyam Street		496	1844	930	914	
22	Tippusulthan Street		565	1888	955	933	
23	Gajula Street		645	2589	1300	1288	
24	Old Medara Street		620	2243	1130	1113	
25	Valisab Road		595	2333	1175	1158	
26	MN Peer Khan Street		535	2541	1278	1263	
27	Raja Naik Street		495	1853	935	1918	
28	Nallagutta Street		535	1597	815	782	
29	Main Road		615	2403	1280	968	
30	Ansar Basha Street		550	2041	1042	1000	
31	Jandaman Street		585	2362	1046	1058	
32	Maruthi Nagar		685	3893	1670	1158	
33	Balaji Street		585	2925	1510	1410	
34	Murthypalli		650	3379	2016	1178	
35	Vema Reddy Circle		535	1823	1157	995	
36	SC Colony Kutagulla		685	2500	1517	1473	

**Table 2: Slum data**

S. No.	Slum Name	Location / Ward	Category (Notified, Recognized, Identified)	Area (Hectare)	No. of Households	Population			Density (persons / Hectare)
						Total	Male	Female	
1	Old Hairjanawada	29	Notified		291	1455	726	729	
2	Masanampeta	10, 11	Notified		490	2942	1481	1461	
3	Golladhani Mandapam	28, 33	Notified		365	2195	1101	1094	
4	Gajjalareddypalli	14, 15	Notified		1376	5200	4758	442	
5	10 <sup>th</sup> Ward	22, 23	Notified		997	5874	2941	2933	
6	Beripalli	16	Notified		303	2015	1010	1005	
7	Kutagulla	1, 2, 36	Notified		842	4452	2231	2221	
8	Kutagulla SCST Colony	36	Notified		394	2248	1131	1117	

9	New Harijanawada	6, 8	Notified		431	2589	1300	1289	
10	Nallagutta	27, 28, 32	Notified		382	2679	1344	1335	
11	Murthypalli	34	Notified		290	1454	726	728	
12	T.B. Backside	7	Notified		280	1404	701	703	
13	Gandhi Nagar	9, 11	Notified		380	2654	1329	1325	
14	Nagireddypalli	16	Notified		650	3590	1796	1794	
15	Tummala Road	18, 19	Notified		380	1504	754	750	
16	Sydapuram	14	Notified		509	2455	1231	1224	
17	Yerraguntlapalli / Kummaravandlapalli	35	Notified		380	1900	952	948	
18	Behind Nana Dargah	17	Notified		81	591	290	301	
19	Gajual Street	23	Notified		101	714	360	354	
20	Ramireddy Colony	17	Notified		69	477	239	238	
21	Boyaramannagaripalli	1	Notified		51	403	200	203	
22	Kotannagaripalli	1	Notified		61	461	232	229	
23	Ayyavari Palli	1	Notified		39	429	210	219	
24	Vaddivaripalli	1	Notified		39	311	152	159	
25	Khaja Nagar	31	Notified		101	1041	520	521	
26	Old Kummara Street	26	Notified		51	317	155	162	
27	Weavers Colony	34	Notified		91	712	350	362	
28	Pillavanka Colony	34	Notified		71	455	220	235	
29	Parthasaradi Colony	34	Notified		69	403	200	203	
30	Baba Colony	3	Notified		48	325	160	165	
31	Jadalaiah Matam	20	Notified		31	185	90	95	
32	Nallagutta Street, Sydapuram	3	Notified		65	461	232	229	
33	Arunodaya Colony	35	Notified		35	311	152	159	
34	Shamiriya Masque area	24	Notified		30	278	135	143	

Population forecasting –ULB should mention city population for current year and population projection for short term (5 years), intermediate term (15 years) and long term (30 years). While projecting the population, the ULB needs to account for density & distribution of population within several areas of the city.

## 4 Water supply

### Baseline status

Kadiri Town is a 2<sup>nd</sup> Grade Municipality having population of 89,240 as per 2011 census and Present Population is 1,00,223. The Area of the town is 25.28 Sq.km. The main source of drinking water is Chitravathi Balancing Reservoir Daily 8.00 MLD of protected drinking water is being supplied in the town @ 90 LPCD.

#### 4.1.1 Water Treatment plant & clear water mains:

The Municipality is being served by One Filtration plants of Capacity of 15.60 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 7 No's Elevated Level Service Reservoirs of combined Capacity of 4.55 MLD 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 36 Years and is outlived. Further the existing distribution network is extended for a length of 72.48 Kms only as against the total road network of 91.33 Kms thus falls short 18.15%. This shortage is in addition 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. Total road lengths in the town 91.33 Kms and all the streets are not provided with pipe lines.

**Distribution Zones:** - Kadiri Town divided in to 7 Zones at present.

**Table 3: 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	Office premises	ELSR	0.45 MLD	8	8380	499	Portable	Adequate	Once in a day	1 Hour	Adequate	-
2	Defloridation Plant	ELSR	0.80 MLD	8	14150	568	Portable	Adequate	Once in a day	1 Hour	Adequate	-

3	Defloridation Plant	ELSR	0.50 MLD	3	12960	980	Portable	Adequate	Once in a day	1 Hour	Adequate	-
4	Kutagulla	ELSR	0.50 MLD	3	13750	1440	Portable	Adequate	Once in a day	1 Hour	Adequate	-
5	Sydapuram	ELSR	0.60 MLD	3	13900	1195	Portable	Adequate	Once in a day	1 Hour	Adequate	-
6	Nizamvali Colony	ELSR	0.50 MLD	4	12600	1195	Portable	Adequate	Once in a day	1 Hour	Adequate	-
7	Tummalal Road	ELSR	1.20 MLD	7	13500	1050	Portable	Adequate	Once in a day	1 Hour	Adequate	-

## 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 Kadiri. The Existing total length of distribution system is about 72.48 Km out of which are considered in the distribution system design and 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 91.33 Kms. These distribution & storage facilities cannot meet with the future demand of water.

**Table 4: Water demand forecasting**

No.	Parameter	Calculation	Remarks
A	Current population of city with piped water supply	assume 1 lac	(A)
B	Current Treatment Capacity of WTP / Treated water supplied to the city	assume 10 MLD	(B)
C	Current technical / distribution losses	assume 20 %	(C)
D	Hence actual treated water supplied	8 MLD	(D=B-B*C)
<b>E</b>	<b>Hence per capita water supply</b>	<b>approx. 90 lpcd</b>	<b>(E=D/A)</b>
F	Water requirement of the city <sup>#</sup>	e.g. 100 lpcd	(F)
<b>G</b>	<b>Hence current required treatment capacity / water demand</b>	<b>15.60 MLD</b>	<b>(G=F*A/(1-C))</b>

- **Zonal level water supply** – Herein the ULB identifies gaps and issues at sub-city level (zonal / divisional / other) with respect to water supply. The issues may include

- insufficient water supply connections,
- poor water quality,
- less per capita water supply,
- infrequent water supply,
- odd hours of supply,
- inadequate pressure,
- poor complaint redressal system

Table 3 (Zonal level water supply) may prove useful for identifying the above gaps & issues.

- **Non-Revenue Water (NRW)** – Herein the ULB identifies gaps and issues related to NRW. The ULB would identify reasons for high NRW i.e. real losses (eg. leakages in the transmission & distribution networks), apparent water losses (eg. illegal water connections, water theft, metering inaccuracies) and consumption which is authorized but not billed (eg stand-posts).

Following format (Table 5) may prove useful for mentioning the cost recovery in water supply.

**Table 5: Non-Revenue Water**

Cost Recovery	2014	2013	2012	2011	2010
Operating Expenses (Rs.)	7.92	8.67	8.94	9.14	9.36
Operating Revenues (Rs.)	438.36	409.14	402.15	294.10	274.54
Cost Recovery (%)	1.87%	2.12%	2.22%	3.11%	3.14%

## Main issues of Water Supply:

- Systematic Survey should be held in order to cover all the loop holes.
- Revenue generation should be increased from water supply by covering and collecting the water taxes.
- Treatment plant are sufficient for present demands.
- Distribution System are sufficient for present demand.

## 5 Access to Toilet

### Baseline Status

- **Individual Household Toilets:** - Pour flush type toilets - 18,630 as against 20240 Households
- **Community Toilets** : -This municipality is having 04 No. of Community toilets.
- **Public Toilets** : - No public toilets in this Municipality
- **School Sanitation** : -This Municipality having 33 No. of Municipal schools
- **Open defecation** : -There is open defecation in certain slums in Kadiri 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.

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

Sl. No.	Name of the slum/ slum like settlement	Ward No.	No. of households	No. of households with individual toilets	No. of community toilets/ public toilets
1	Kuttagulla, Ayyavari Palli, Boyarammanna Palli, Kotannagari Palli & Vadevari Palli	1	369	308	0
2	Kuttagulla	2	908	870	0
3	T.B Back Side, Adapala Street	5	472	460	0
4	Gandhi Nagar, Old Kummar Street	9	426	418	0
5	Gandhi Nagar	10	624	619	0
6	Mashanam Peta, Behind Nana Darga	11	460	442	0
7	Mashanam Peta	12	594	546	0
8	Gajjalareddy Palli	13	801	768	0
9	Gajjalareddy Palli, Nizam Vali Colony	14	444	432	0
10	Gajjalareddy Palli, Nizam Vali Colony & Ramireddy Palli	15	593	571	0
11	Behind Nana Darga	17	310	288	0
12	Kanchukota, Gajula Street	18	591	571	0
13	Thummala Road	19	488	474	0
14	Sivalayam Street & Thummala Road	20	547	533	0

15	10 <sup>th</sup> Ward, Thummala Road	22	399	389	1
16	Gajula Street	23	811	786	0
17	Shahamiriya Street & Medar Street	24	475	471	0
18	Nagaraj Street, Valisab Road	25	484	468	0
19	Alam Khan Street, Valisab Road	26	540	527	0
20	Nallagutta Street	27	539	528	0
21	Golladani Mandapam & Jadalaya Matam	28	802	789	0
22	Old Harijana Wada & Valisab Road	29	510	499	0
23	Kasturi Bai Street	30	561	553	2
24	Khaja Nagar & Police Line	31	591	579	0
25	Vani Street, Somagutta Street	32	819	803	0
26	Nallagutta Street	33	1001	985	0
27	Murti Palli, Parthasaradhi Colony, Pillavanka Colony & Weavers Colony	34	1030	903	1
28	Kummararolla Palli & Yarragutla Palli	35	542	489	0

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

Sr. No.	Name of the slum/ slum like settlement <u>near Railway Station/Tracks</u>	Ward No.	No. of households	No. of households with individual toilets	No. of community toilets/ public toilets
1	Ameen Nagar	6	523	469	0
2	Rajeev Gandhi Nagar	8	318	294	0
3	Sydapuram S.C Colony	3	346	302	0
4	Nagireddy Palli	16	271	206	0
5	Indra Colony S.C, S.T Colony	36	433	389	0

**2. 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	No. of community toilets/ public toilets
1	Adapala Street	7	693	685	1
2	Brahim Street	21	389	378	0
3	Chairman Street	4	402	391	1

3. 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 <u>Near Railway Station / tracks</u>	Ward No.	No. of households	No. of households with individual toilets	No. of community toilets/ public toilets
	Nil	Nil	Nil	Nil	0

4. No. of pavement dwellers/ homeless people: \_\_\_\_\_ (year of survey) \_\_\_\_\_

Major locations where they reside

Sr.	Location	Ward No.	Approximate No. of Dwellers
1	Sydapuram	3	15
2	Hindupur Road	34	10
3	Railway Station Area	6	12

5. DETAILS OF FUNCTIONAL (IN-USE) COMMUNITY / PUBLIC TOILETS:

Sr.	Location of Toilet Block	Community Toilet	Tick appropriate one		Ward No.	No. of Functional Toilet seats (both men and women seats)	Operated and Maintenance by		
			Ward No.	Pay& use toilet			ULB	PPP	Community
1	Court Road	1	30	1	30	11		PPP	
2	RTC Bus Stand	Nil	Nil	1	7	7		PPP	
3	Market	Nil	Nil	1	22	7		PPP	
4	Vema Reddy Circle	Nil	Nil	1	4	10		PPP	

**6. Provide a list of Vegetable Markets in the city:**

Sr.	Name	Location	Ward No.	No. which have public toilets within 1 km
1	Main Vegetable Market	Near Kolimi Bazar	22	1
2	Raitu Bazar	Near Jeeman Road	23	1

**7. Provide a list of Major Commercial Areas in the city:**

Sl. No	Name	Location	Ward No.	No. which have public toilets within 1 km
1	Temple Street	Teru Bazar	21	1
2	Valisab Road	Near Shalimar Function Hall	26 & 29	1
3	RTC Bustand Road	ATP Road	7	1
4	College Circle	ATP Road	4	1
5	Tower Clock	HDP Road	33	1

**8. Provide a list of Major Commercial Areas(Near Railway Station/Tracks in the city):**

Sr.	Name	Location: _____ ( <u>Near Railway Station/Tracks</u> )	Ward No.	No. which have public toilets within 1 km
	Nil	Nil	Nil	

**9. Provide a list of Bus Stations/Bus Stands in the city:**

Sr.	Name	Location	Ward No.	No. which have public toilets within 1 km
1	Kadiri RTC Bustand	ATP Road	7	1

**10. Provide a list of Railway Stations in the city:**

Sr.	Name	Location	Ward No.	No. which have public toilets within 1 km
1	Kadiri Railway Station	Near S.C Colony	6,8 & 9	1

**11. Provide a list of Places of Religious Importance in the city:**

Sr.	Name	Location	Ward No.	No. which have public toilets within 1 km
1	Sri Lakshmi Narasimha Swamy Temple	Near Teru Bazar	27	1
2	Sri Shirdi Sai Baba Temple	Vani Street	32	1
3	C & IG Church	Near Tower Clock	30	1
4	Akbariya Masjid	Near College Road	31	1

**12. Provide a list of Recreational Places (Parks/Playgrounds/Exhibition Grounds) in the city:**

Sr.	Name	Location	Ward No.	No. which have public toilets within 1 km
	Nil	Nil		

**13. Provide a list of water bodies including river, lakes, ponds, etc. in the city:**

Sr. No.	Name of the water body	Location	Ward No.	No. which have public toilets within 1 km
	Nil	Nil		

**14. Has the city conducted any OD site surveys in the past 5 years? If yes, then provide details:**

Survey Location Name	Ward No.	Survey conducted in the Year	No. of OD Spots
PULOLAMARAVA, DARGA VEEDHI	2	2016	2
BESIDES PETROL BUNK, NEAR SADANA SCHOOL	3	2016	2
AMEEN NAGAR RAILWAY STATION, SC BAREL GROUND	6	2016	2
NEAR MOUNIKA HALL	9	2016	1
SIDDAYYIAH MACHINE BACK SIDE, GANGAMMA TEMPLE	10	2016	2
MASHANAMPETA VANKA	11	2016	1
MASHANAMPETA VANKA	12	2016	1
ABUBAKR MASJID	13	2016	1
NEAR NARAYANAREDDY HOUSE	15	2016	1
WATER TANK, BABA TEMPLE	16	2016	2
PILAVANKA COLONY, VELUGU OFFICE BACK SIDE	34	2016	2
BESIDES STSN COLLEGE, KUMMARAVANDLA PALLI ROAD, YARGUNTLA PALLI	35	2016	3
RAILWAY TRACK, ANANTAPUR ROAD	36	2016	2

**15. Has the city conducted any IEC/ BCC campaign on ODF? If yes, then pls. provide details:**

Mode of IEC/BCC	Number
Installed banners/ hoardings	11
Campaign in local newspapers	02
Campaign on radio channels	00
House to house campaign	36
Street plays	02
<b>any other (provide details)</b>	Huge Campaigning Conducted Municipal Schools and also aware the School Children's about ODF and Conducted Competition and distribute prizes to the Students in the prayer time.

**16. Details of IHHL construction in the city:**

Year	No. of IHHL toilets constructed
2016	658
2015	321

**17. List of schools within the jurisdiction of ULB:**

Name of the School	Ward No.	Number of Students
<b><u>High Schools</u></b>		
Municipal High School , Kadiri	34	382
Municipal High School Urdu Main, Kadiri	29	145
Municipal High School, Kuttagulla	36	314

<u>Upper Primary Schools</u>		
<b>Municipal Jamiya Masque Urdu,</b>	<b>23</b>	<b>75</b>
<b>Municipal Urdu Girls</b>	<b>28</b>	<b>43</b>
<b>Municipal Upper Primary School, Chairman Street</b>	<b>17</b>	<b>72</b>
<b>Municipal Upper Primary School 1<sup>st</sup> Ward Boys</b>	<b>28</b>	<b>55</b>
<b>Municipal Upper Primary School, Ranipeta</b>	<b>29</b>	<b>37</b>
<b>Municipal Upper Primary School, Nulubanda</b>	<b>23</b>	<b>52</b>
<b>Municipal Upper Primary School, Nizam vali Colony</b>	<b>13</b>	<b>115</b>
<b>Municipal Upper Primary School, Nagireddy Palli</b>	<b>16</b>	<b>56</b>
<b>Municipal Upper Primary School, 1<sup>st</sup> Ward Girls</b>	<b>5</b>	<b>81</b>
<b>Municipal Upper Primary School, Mashanam Peta</b>	<b>9</b>	<b>183</b>

Primary Schools

<b>Municipal Primary School, Sydapuram</b>	<b>3</b>	<b>45</b>
<b>Municipal Primary School, Kuttagulla Telugu</b>	<b>36</b>	<b>152</b>
<b>Municipal Primary School, Nizam Vali Colony</b>	<b>15</b>	<b>252</b>
<b>Municipal Primary School, Kottannagari Palli</b>	<b>1</b>	<b>2</b>
<b>Municipal Primary Urdu School, Kuttagulla</b>	<b>36</b>	<b>14</b>
<b>Municipal Primary School, Urdu Main</b>	<b>29</b>	<b>50</b>
<b>Municipal Primary School, Gangi Reddy Palli</b>	<b>31</b>	<b>88</b>
<b>Municipal Primary School, Murthi Palli</b>	<b>34</b>	<b>35</b>
<b>Municipal Primary School, Jowkpalyam</b>	<b>18</b>	<b>91</b>
<b>Municipal Primary School, Weavers Colony</b>	<b>34</b>	<b>63</b>
<b>Municipal Primary Urdu School, Gajjallareddy Palli</b>	<b>14</b>	<b>64</b>
<b>Municipal Primary School, Telugu Main</b>	<b>27</b>	<b>30</b>

<b>Municipal Primary Urdu School, Shaheepeta</b>	<b>12</b>	<b>56</b>
<b>Municipal Primary School, Boya Ramanna Palli</b>	<b>1</b>	<b>11</b>
<b>Municipal Primary School, Head Water Tank</b>	<b>8</b>	<b>35</b>
<b>Municipal Primary School, Velugu Colony</b>	<b>34</b>	<b>26</b>
<b>Municipal Primary School, Pillavanka Colony</b>	<b>34</b>	<b>29</b>
<b>Municipal Primary School, Kummaravandla Palli</b>	<b>35</b>	<b>19</b>
<b>Municipal Primary School, Yerraguntla Palli</b>	<b>35</b>	<b>13</b>
<b>Municipal Primary School, Baba Colony</b>	<b>6</b>	<b>40</b>

## **Gaps & Issues**

There are still number of wards that needs to be covered to decrease the open defecation. there are only two public toilets and 4 community toilets which covers the needs of only nine wards out of 36 wards in the Kadiri.

Awareness programmes should be conducted to explain the importce of the Swach Bharat -mission and its goals.

Under Swatch Bharat Mission Still public toilets with capacity of 200 seats to be constructed in the City.

Frequent Training programs should be conducted to the staff of municipality.

**Table 6: Coverage of Toilets (Individual & Community)**

S. No.	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	20240	4126	14756	1676	845	2210	1089	827	-

**Community Toilets & Public Toilets:** Include data on no. of households dependent on community toilets, floating population dependent on public toilets. Sex disaggregated on community / public toilets to be provided. Provide basic information like no. of toilet blocks, no. of toilets seats (gender wise) per block, no. of urinals, type of toilets, functional status, and disposal arrangements. Also confirm if the toilets are gender sensitive.

Information on user charges for community / public toilets, willingness to pay to be also captured. Data on which agency is responsible for O&M and are basic facilities such as water, electricity, cleanliness & hygiene, complaint redressal system are provided ?Maps depicting the location of existing & proposed toilets also to be provided.

**Table 7: Community Toilets Blocks**

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	Vemareddy Circle / 35 <sup>th</sup> Ward	80	3	3	3	3	Septic Tank	Yes	Yes	Yes	NGO Organization	2/-	-	-
2	Beside Municipal Office	90	4	4	4	4	Septic Tank	Yes	Yes	Yes	NGO Organization	2/-	-	-
3	Vegetable Market	75	3	3	3	3	Septic Tank	Yes	Yes	Yes	NGO Organization	2/-	-	-

**Table 8: Public Toilets Blocks**

Sr. No.	Location / Ward	No. of floating 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	Complaint redressal system available	Owned& Maintained by	User charges (Rs)	Cost Recovery (%)	Remarks
			Men	Women	Men	Women								
- NiL -														

## **1 Main issues of Access to toilets:**

**Inadequacy of land for construction.**

**Lack of awareness in public.**

**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 36	20240	Nil	89.25%	10.75%	72%	10.11%	3.42%	8.55%	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:

### **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

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

## 6.1 Sewerage management

A short description on departments responsible for planning, asset creation / construction, operation & maintenance, cost recovery & regulation will help in better institutional understanding of waste water scenario in the city.

Infrastructure information starting from waste water collection to its final safe disposal / reuse to be covered here i.e. household sewer connections, sewers, pumping stations, treatment plants, reuse etc. Include data on sewers including type of conveyance (gravity / pumping), functional status of sewers and pumping system. Information on treatment plant including its design capacity & actual loading, functional status, treatment efficiency, sludge management and reuse. Following format may prove useful for capturing data on Sewage Treatment Plants

**Table 10: Sewage Treatment Plants**

Sr. No.	Name of STP	Treatment process / technology	Installation year	Capacity (MLD)	Sludge Treatment facility available	Quantity of treated sewage / sludge reuse
<b>-NIL-</b>						

Financial information such as one time household sewer connection charges, sewer cess, cost recovery & collection efficiency for cost recovery to be collated for better understanding of financial sustainability.

- **Gaps & Issues**

This section will identify gaps and issues related to Sewerage management:

- **Waste water generation** –Based on population projection, ULB calculates the sewage generated by the city for current year and also forecasts the sewage generation for short term (5 years), intermediate term (15 years) and long term (30 years).

- **Sewer network & Pumping stations** – Herein the ULB identifies the gaps & issues with respect to sewer network & pumping stations. The issues may include

- poor coverage of sewer network,
- poor collection efficiency of the sewer network,
- poor condition (breakage, blockage and etc.) of sewer network in few areas,
- poor condition of pumping stations,
- poor complaint redressal system,
- insufficient cost recovery.

- **Sewage Treatment Plants (STPs)** – Herein the ULB identifies the gaps & issues with respect to STPs. The issues with respect to STPs may include

- inadequate design capacity of STPs to handle present / future sewage,
- use of inappropriate / outdated technology for treatment,
- sewage treatment not as per discharge norms,
- absence of sludge management facilities,

- no recycle / reuse of sewage / sludge and etc.

### **Main issues of Sewerage management:**

1. Nil
2. Nil
3. Nil

Brief information on the ongoing / upcoming sewerage projects along with their proposed improvement in sanitation after implementation of the project to be given.

Maps depicting the coverage of existing sewer network coverage, onsite system and areas not having any system also to be provided.

### **6.2 Septage management**

10.1 Baseline status - As per Status Report

A short description on departments responsible for planning, asset creation / construction, operation & maintenance (desludging), cost recovery & regulation will help in better institutional understanding of septage management scenario in the city.

Infrastructure information starting from waste water collection to its final safe disposal / reuse to be covered here i.e. households dependent on septic tanks, soak pits, method of desludging & conveyance, disposal sites etc. Are septic tanks designed as per standards ? How is effluent from septic tanks managed ? Data on method of desludging & conveyance, desludging frequency, septage treatment facility, and final disposal / reuse. Brief information on the septage desludging and transporting agencies to be provided. Are health & safety standards followed ? Data on user charges for desludging and willingness to pay.

Brief information on the ongoing / upcoming sanitation projects along with their proposed improvement in sanitation after implementation of the project to be given.

Maps depicting the coverage of existing sewer network coverage, onsite system and areas not having any system also to be provided.

- **Gaps & Issues**

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

**Septic Tanks** – Herein the ULB identifies gaps & issues with respect to Septic Tanks existing in the city. The issues may include

- non-conformity of the design of existing septic tanks in the city to IS 2470 (Part 1)-1985,
- septic tanks are single chambered and are not water tight,
- septic tanks are broken and are of inadequate size,
- grey water is entering the septic tanks,
- septic tanks are inaccessible for cleaning,
- design of septic tanks is not controlled through building / planning rules

- absence of secondary treatment systems (eg. soak pits) for disposal of grey water & septic tank effluent.

**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.

#### **Main issues of Septage management:**

1. Nil
2. Nil
3. Nil

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.

Underground drainage system is yet to be implemented.

#### **4.1.4 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.

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.

At present there is no Compost Yard. Allotted 20 Acres Compost Yard is under pending dispute in - Hon'ble Supreme Court, Delhi. Door to Door collection is implemented in all wards with 85 % 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.

## 1. Solid waste management

10.2 Baseline status - As per Status Report

This section includes detailed information regarding solid waste management in the city.

A short description on departments responsible for planning, asset creation / construction, operation & maintenance, cost recovery & regulation will help in better institutional understanding of solid waste management in the city.

Information starting from solid waste collection to its final safe disposal to be covered here i.e. solid waste generation, primary / door to door collection, secondary collection, conveyance to treatment facility, treatment facility and finally safe disposal.

**Primary collection** –Include number of households covered by door to door collection, segregation at source, collection frequency and equipments used for collection. Data on areas unserved by door to door collection & method, quantity and location of disposal to be collected.

**Table 11: 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	Kutagulla,	369	0.85	314	0.72	No	Daily	-	-	-	-	-	-	-
2	Kutagulla	913	1.20	776	1.02	No	Daily	-	-	-	-	-	-	-
3	Sydapuram	346	0.82	294	0.70	No	Daily	-	-	-	-	-	-	-
4	College Circle, Radha Krishna Street	422	0.92	359	0.78	No	Daily	-	-	-	-	-	-	-
5	Adapala Street, Round	472	0.93	401	0.79	No	Daily	-	-	-	-	-	-	-

	Building area														
6	New Harijanawada, Ameen Nagar	528	0.98	449	0.83	No	Daily	-	-	-	-	-	-	-	-
7	Girls College Backside, Old Samithi Office	698	1.12	593	0.95	No	Daily	-	-	-	-	-	-	-	-
8	Water Tank Road, Rajiv Gandhi Nagar	318	0.75	270	0.64	No	Daily	-	-	-	-	-	-	-	-
9	R.S. Road, Gandhi Nagar	445	0.85	378	0.72	No	Daily	-	-	-	-	-	-	-	-
10	Syed Street, Dildar Street	631	0.93	536	0.79	No	Daily	-	-	-	-	-	-	-	-
11	NR Function Hall area, Pottukottala	472	0.87	401	0.74	No	Daily	-	-	-	-	-	-	-	-
12	Budigi Khader Street, Masanampeta	662	1.21	563	1.03	No	Daily	-	-	-	-	-	-	-	-
13	Nizamvali Colony	815	1.45	693	1.23	No	Daily	-	-	-	-	-	-	-	-
14	Nizamvali Colony	449	0.98	382	0.83	No	Daily	-	-	-	-	-	-	-	-
15	Nizamvali Colony	610	1.18	519	1.00	No	Daily	-	-	-	-	-	-	-	-
16	Nagireddy Palli, Beripalli	271	0.95	230	0.81	No	Daily	-	-	-	-	-	-	-	-
17	Madar Sab Street, Ramireddy Colony	312	0.96	265	0.82	No	Daily	-	-	-	-	-	-	-	-

18	Kanchukota, Bilal Nagar	608	1.26	517	1.07	No	Daily	-	-	-	-	-	-	-	-
19	Jouckpalyam Street, Poola Bazar	505	0.83	429	0.71	No	Daily	-	-	-	-	-	-	-	-
20	Sivalayam Backside, Gayathri Nagar	581	0.86	494	0.73	No	Daily	-	-	-	-	-	-	-	-
21	MG Road, Puttaparthi Street	467	0.81	397	0.69	No	Daily	-	-	-	-	-	-	-	-
22	Gannumiya Street. Munwar Street	413	0.76	351	0.65	No	Daily	-	-	-	-	-	-	-	-
23	Slaughter House area, Gajula Street	823	1.18	700	1.00	No	Daily	-	-	-	-	-	-	-	-
24	Shamiriya Street, Old Medara Street	477	0.99	405	0.84	No	Daily	-	-	-	-	-	-	-	-
25	Nagaraju Street, Settysab Street	486	0.89	413	0.76	No	Daily	-	-	-	-	-	-	-	-
26	Alam Khan Street, Tyagaraju Street	544	0.85	462	0.72	No	Daily	-	-	-	-	-	-	-	-
27	Devalam Bazar, Koneru Street	554	0.88	471	0.75	No	Daily	-	-	-	-	-	-	-	-
28	Katlagal Street, Kallangadi Street	803	1.21	683	1.03	No	Daily	-	-	-	-	-	-	-	-
29	Old Harijanawada, Valisab Road	521	0.85	443	0.72	No	Daily	-	-	-	-	-	-	-	-
30	Kasturibai Street – 1,2,3	567	0.88	482	0.75	No	Daily	-	-	-	-	-	-	-	-

31	Gangireddypalli, Haroon Street	620	0.91	527	0.77	No	Daily	-	-	-	-	-	-	-	-
32	Vani Street, Mohiyar Nagar	865	1.02	735	0.87	No	Daily	-	-	-	-	-	-	-	-
33	Maruthi Nagar, Nallagutta Street	848	1.15	721	0.98	No	Daily	-	-	-	-	-	-	-	-
34	Murthypalli, Weavers Colony	846	1.02	719	0.87	No	Daily	-	-	-	-	-	-	-	-
35	NGO Colony, Yerraguntlapalli	546	0.88	464	0.75	No	Daily	-	-	-	-	-	-	-	-
36	Kutagulla SC Colony	433	0.82	368	0.70	No	Daily	-	-	-	-	-	-	-	-

**Household level composting** – Many states are promoting Household Level Composting for biodegradable waste. In this section the ULB identifies existing household level composting practices and potential for improvement.

- Number of households practicing household level composting
- Potential incentives and support to household to practices household level composting

Details on **street sweeping** also to be captured here.

**Secondary collection** – Include data on community bins available for secondary collection. Information regarding bins such as their numbers, location, and capacity needs to be collected. Data on areas unserved by community bins, disposal arrangements and location of disposal to be also covered here. Also include data on transfer stations, their numbers, location and capacity.

**Table 12: 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	
36	20240	35	-	-	-	Daily	Autos – 5 Nos Tractors – 6 Nos	-	-	-	-

**Conveyance (Transportation) to Treatment facility** – Data on conveyance to treatment facility such as number & type of vehicle deployed, capacity of vehicles including routing plan & travel distance to be captured.

**Processing (Treatment) of Solid wastes** –Information on solid waste treatment facility such as treatment technology, design capacity, current utilization and current functional status to be collected.

**Disposal of Solid wastes** – If no treatment facility exists what is the disposal method and location of disposal along with quantity of waste disposed. Details regarding scientific landfill facility i.e. location, land area allocated and quantity of waste disposed to be provided.

Financial information such as user charges for door to door collection, cost recovery & collection efficiency for cost recovery to be collated for better understanding of financial sustainability.

As far as possible data to presented also in tabular (Refer Table 11 & 12) and graphical format for ease in understanding and analysis at later stage. During data collection special focus to be given to slums.

Brief information on the ongoing / upcoming solid waste management projects along with the proposed improvement in solid waste management services after implementation of the project to be given.

Maps with wards depicting the door to door collection, unserved areas, community bins, transfer stations, areas of open dumping to be provided.

#### **4.1.2 Conveyance (Transportation) to Treatment facility –**

In Kadiri Municipality Solid Waste Management 2000 rules have been implemented strictly. Kadiri Town is divided into 36 wards and 2 sanitary divisions. Public health department in the Kadiri municipality has a man power of 2 sanitary inspectors, 1 health assistants, 4 sanitary maistries, 11 driver, 64 public health workers, 150 contract workers and 8 contract drivers.

#### **Collection of solid wastes:-**

There a total of 6 No . of tractors, 8 auto-rikshaws and 42 pushcarts engaging daily in the door-to-door collection of the solid wastes. Kadiri 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.

#### **4.1.3 Processing (Treatment) of Solid wastes –**

- improper processing of biodegradable,
- non-biodegradable & hazardous waste,

Inadequacy of treatment facility etc.

#### **4.1.5 Disposal of Solid wastes**—Kadiri 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:**

- Kadiri 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**

### **Collection and conveyance**

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

- Open drains are not lined at all places
- Drains are poorly maintained. Dumping of solid waste in some of the drains are chocking/blockages is prevalent
- There is improper provision for water flow and there is stagnation of water at many places.
- 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
- Majority storm water drains width is nearly 0.5m
- Apart from storm water the drains carry the grey water (like kitchen, both room and washing waste) leading to the unsanitary conditions
- The Storm water drainage uncovered in most of the commercial areas across the town. Which is leading to dumping of all kinds of waste?
- Many places along with nallas, septage water directly connected with storm water drains.

In Kadiri 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. 72.82 Lakhs.** 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 13<sup>th</sup> 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**

<b>Drains</b>	<b>In Kms</b>
<b>Pucca Drains Length</b>	<b>81.52</b>
<b>Kutcha Drains Length</b>	<b>12.16</b>
<b>Storm water Drains Length</b>	<b>5.50</b>
<b>Proposed Drain Length</b>	<b>10</b>

### **Gaps & Issues**

This section will identify gaps and issues related to Solid waste management:

**Solid waste generation** –ULB calculates the solid waste generated by the city for current year and also forecasts the solid waste generation for short term (5 years), intermediate term (15 years) and long term (30 years).

**Table 13: Calculation for Solid Waste Generation**

No.	Parameter	Calculation	Remarks
1	Current population of city	assume 1 lac	(A)
2	Total waste generated	assume 25 TPD	(B)
3	Hence, per capita waste generation	300 gm	(C=B/A)

**Primary collection** –Herein the ULB identifies gaps & issues with respect to primary collection of solid waste. Table 11 may prove useful for identification of issues.

The issues may include

- unavailability (partially & fully) of door to door collection system,
- no source segregation,
- poor complaint redressal system,
- lack of operational, health & safety standards.

Issues with respect to street sweeping and cleaning of surface drains also need to be identified here

**Secondary collection** –Herein the ULB identifies gaps & issues with respect to secondary collection of solid waste. Table 12 may prove useful for identification of issues. Issues (if any) with respect to transfer stations to be also included.

**Conveyance (Transportation) to Treatment facility** – Herein the ULB identifies gaps & issues with respect to transportation facility for solid waste. The issues may include

- inadequate vehicles,
- inadequate capacity of vehicles,
- Inefficient routing plan, etc.

**Processing (Treatment) of Solid wastes** – Herein the ULB identifies gaps & issues with respect to processing (treatment) of solid wastes. The issues may include

- improper processing of biodegradable waste,
- Improper handling non-biodegradable waste,
- inadequacy of treatment facility etc.

**Disposal of Solid wastes** –Herein the ULB identifies gaps & issues with respect to safe disposal of solid waste. The issues may include

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

**Main issues of Solid waste management:**

1. Proper Segregation and Treatment – Not done
2. Suitable Dump Yard Technical Land Fill not available

**2. Storm water management**

A short description on departments responsible for planning, asset creation, operation & maintenance will help in better institutional understanding of storm water in the city.

Information on constructed & natural drains including their length, percentage coverage, type (open / closed) and functional status to be captured.

**Table 14: Storm water drainage system**

Zone / Catchment	Length of roads (km)	Constructed Drains				Natural Drains			Remarks
		Length (km)	Type (Surface, covered, etc.)	Functional status	Disposal arrangement	Length (km)	Functional status	Disposal arrangement	
	76.40	-	-	Good Level Flowing gravity levels	Maddileru Vanka	81.52	Good Level Flowing gravity levels	Maddileru Vanka	-

Also provide information on storm water pumping stations.

Data on areas prone to water logging / flooding and frequency of flooding and disposal arrangements.

**Table 15: Water logging / Flooding**

Zone	Location / wards	Frequency (No. per year)	Reasons	Remarks
	Masanampeta, Aravagudiselu, Poola Bazar, , Bilal Nagar, Basireddy College Backside	Yearly Once	Low-lying areas	-

As far as possible data to presented also in tabular (Refer Table 14 & 15) and graphical format for ease in understanding and analysis at later stage. During data collection special focus to be given to slums.

Brief information on the ongoing / upcoming storm water projects along with the proposed improvement in storm water management after implementation of the project to be given.

Maps depicting constructed and natural drain network, location of flooding / water logging areas also to be provided.

## 2.1 Gaps & Issues

This section will identify gaps and issues related to Storm water management in broadly two areas:

**Storm water drainage system** –Herein the ULB identifies gaps & issues with respect to storm water drainage system. Table 14 may be useful for analysing the issues. The issues may include

- poor functional status of storm water drains (eg. broken),
- clogging of storm water drains due to solid waste dumping,
- waste water discharged into storm water drains and etc.

**Water logging / flooding**–Herein the ULB identifies gaps & issues with respect to water logging. Table 15 may be useful for identifying the issues.

### **Main issues of Storm water management:**

1. No Proper connecting drains
2. Lack of UGD scheme

## **3. Environmental management of water bodies**

10.3 Baseline status - As per Status Report

This chapter includes information regarding water bodies and their current performance.

A short description on departments responsible for maintenance of the water bodies will help in better institutional understanding of water bodies in the city.

Information on the number of water bodies, their catchment area, their water quality status and discharge of untreated waste (if any) into water bodies to be collected.

As far as possible data to be presented also in tabular and graphical format for ease in understanding and analysis at later stage. During data collection special focus to be given to slums.

Brief information on the ongoing / upcoming projects to improve (rehabilitation & augmentation) existing water bodies to be given.

Maps depicting water bodies in the city and location of waste water and solid waste disposed to be provided.

## 3.1 Gaps & Issues

This section will identify gaps and issues related to receiving water bodies. ULBs to mention water quality (pollution level) status of lakes / ponds / rivers and reasons for poor quality of water bodies.

### **Main issues of Water bodies:**

1. All sullage drains and storm water drains existing in the town, the flows are letting out in to Maruva vanka and Nadimi Vanka and hence connecting at tail ends of Tadakaleru.

## **10. Institutional & Governance**

Kadiri 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
- 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:

- Planning for economic and social development
- Urban forestry, protection of the environment and promotion of ecological aspects
- Urban Poverty alleviation
- Safeguarding the interest of weaker sections including the handicapped and mentally retarded
- 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 Kadiri 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 74<sup>th</sup>

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 Kadiri Municipality is given below.

#### **Sanctioned, filled and vacant posts – department wise**

<b>Category of posts</b>	<b>Sanctioned Posts</b>
General Administration, Accounts Department, Revenue Section, Town Planning	
Engineering Wing, Street Lighting Water Supply	
Public Health Section (including PH Workers)	214
<b>TOTAL</b>	<b>238</b>

#### **Organization Chart of Kadiri Municipality**

**Institutional Arrangement:** Organogram of ULB and department wise staff in-position (& vacant posts) and sanctioned posts for each category. Department wise role & responsibilities pertaining to sanitation. Brief information regarding sanitation related institutions such parastatal agencies, pollution control board, PHED etc.

The following table indicates all responsible institutions (state and city level) for each part of the planning and delivery of sanitation services.

**Table 16: Institutional arrangements for all water and sanitation services**

Urban Services	Institutions in charge of planning	Institutions in charge of implementation	Institutions in charge of O&M	Institutions in charge of collecting user charges
<b>Water Supply</b>	Engineering Section	Engineering Section	Engineering Section	Revenue section
<b>Sewerage</b>	Engineering Section	Engineering Section	Engineering Section	
<b>Septage management</b>	Engineering Section	Engineering Section	Engineering Section	
<b>Storm Water Drainage</b>	Engineering Section	Engineering Section	Engineering Section	
<b>Solid waste management</b>	Public Health Section	Public Health Section	Public Health Section	
<b>Public Toilets</b>	Engineering Section	Engineering Section	Engineering Section	

**Governance:** Information on measures to improve transparency, enhance efficiency and ensure financial sustainability such as implementation of e-governance in ULB, citizen grievance redressal mechanism, etc.

### 3.2 Gaps & Issues

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

**Institutional arrangement** – Herein the ULB identifies issues related to Institutional arrangement with relevance to sanitation sector.

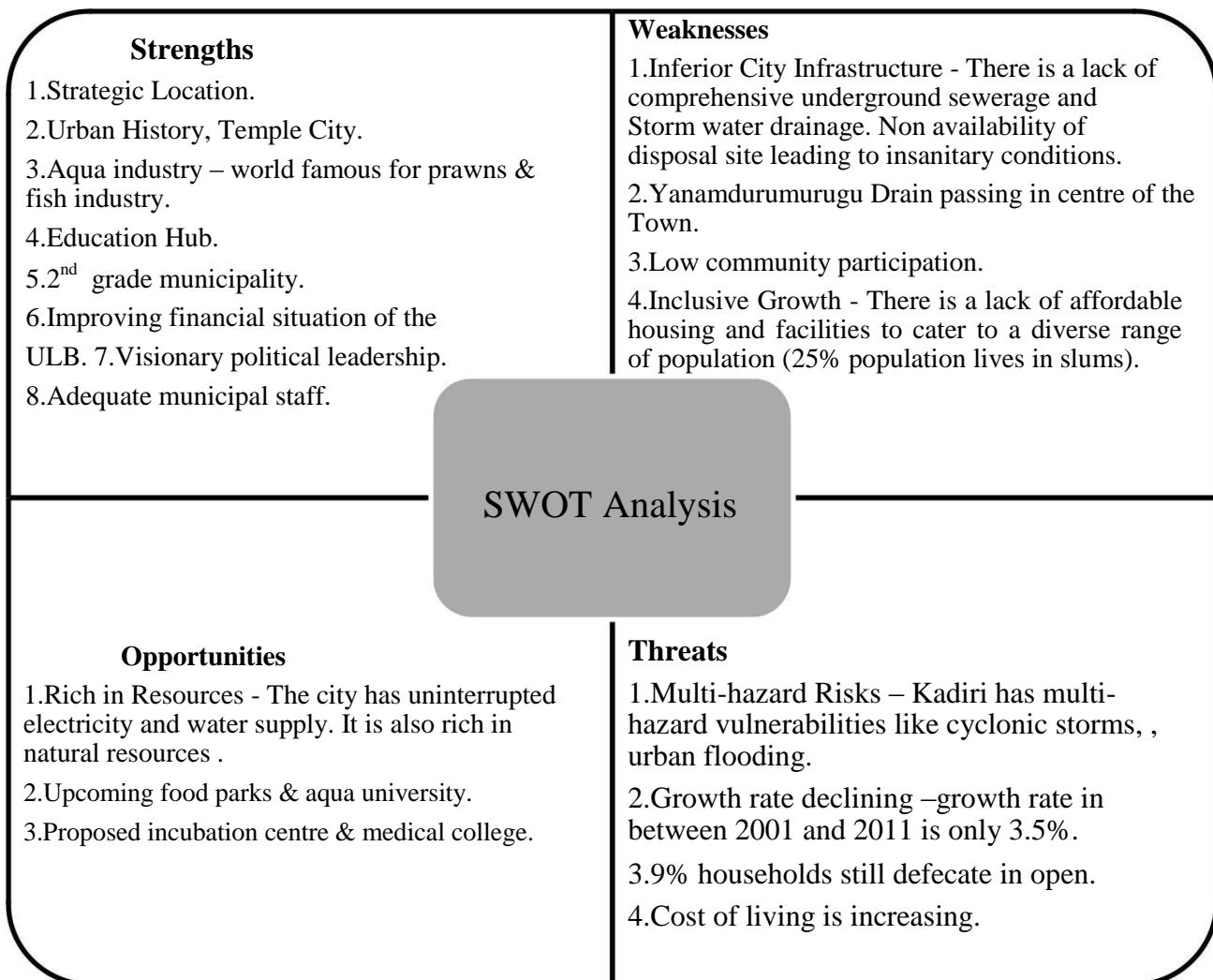
Issues under institutional arrangements may include

- vacant post related to sanitation sector in the ULB,
- lack of coordination between various sanitation related departments of ULB,
- poor inter-institutional coordination mechanism (ULB, Parastatals, PHED, NGOs, SPCB),
- overlapping / diffused / unclear roles & responsibilities (with respect to planning, implementation, O&M and M&E) concerning water supply, public toilets, waste water, septage management, storm water, water bodies & solid waste management.

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 Kadiri Municipality



#### 4. Municipal Finance

This chapter includes information regarding the municipal finances on sanitation related services. Certified Income and Expenditure statement (actual) for last four years. Capital / Revenue Expenditure: Water supply, sewerage and solid waste capital & O&M expenditures. Capital / Revenue Income: Revenue break-up of municipal budget for waste supply, sewerage and solid waste. Grants & Loans: Details on grants & loans for sanitation services and externally aided projects (WB, ADB, etc.)

Financial sustainability measures: Details of existing financial reforms, transparency and monitoring mechanism, existing incentives and punitive measures.

**Table 17: Financial Analysis**

	Particulars	Amount (Rs. in Lakhs)			
		2012-13	2013-14	2014-15	2015-16
<b>A. Revenue Income</b>					
1	Income from Taxes	234.79	217.50	168.24	233.76
2	Income from Non-Taxes	90.79	94.32	121.48	208.58
3	Income from Assigned Revenue	‘-	-	-	-
	<b>Total Revenue Income (1+2+3)</b>	<b>325.58</b>	<b>311.82</b>	<b>289.72</b>	<b>442.34</b>
<b>B. Capital Income</b>					
4	Grants and Loans	349.95	410.83	230.12	193.95
	<b>Total Capital Income (4)</b>				
	<b>Total Income (1+2+3+4)</b>	<b>675.53</b>	<b>722.65</b>	<b>519.84</b>	<b>636.29</b>
<b>C. Revenue Expenditure</b>					
5	General, Establishment and Other Revenue Expenditure	380.03	232.91	422.63	309.25
6	O&M of Sanitation including SWM	141.03	392.20	141.03	153.17
	<b>Total Revenue Expenditure (5+6)</b>	<b>521.06</b>	<b>625.11</b>	<b>563.66</b>	<b>462.42</b>
<b>D. Capital Expenditure</b>					
7	Capital Expenditure	35.39	20.90	11.07	20.30
	<b>Total Capital Expenditure (7)</b>	<b>35.39</b>	<b>20.90</b>	<b>11.07</b>	<b>20.30</b>
	<b>Total Expenditure (5+6+7)</b>	<b>556.45</b>	<b>646.01</b>	<b>574.73</b>	<b>482.72</b>
	<b>Revenue Surplus/Deficit (1+2+3-5-6)</b>	-195.48	-313.29	-273.94	-20.28
	<b>Capital Surplus/Deficit (4-7)</b>	314.50	389.93	219.05	173.65
	<b>Overall Surplus/Deficit (1+2+3+4-5-6-7)</b>	119.08	76.64	300.79	462.64

## **Gaps & Issues**

This section will identify gaps and issues related to Municipal finances with relevance to sanitation related sectors. The issues may include

- poor cost recovery from water supply, public toilets, waste water and solid waste management,
- poor collection efficiency for cost of services,
- lack of budget for efficient O&M of existing assets,
- poor asset management,
- dependency on state / central support for implementing / improving sanitation services,
- excessive expenditure for managing solid waste,
- high establishment cost for managing sanitation services,
- lack of financial reforms (eg. double entry accounting) & monitoring mechanisms for transparency
- lack of incentive & punitive measures to increase fund flow.

### **Main issues of Municipal Finance:**

1. Poor recovery of taxes.
2. Poor collection efficiency for cost of services.

## **5. Capacity Enhancement**

This chapter includes information regarding the current capacities of the ULB and on-going initiatives for capacity enhancement.

Provide information on adequacy of staff, their training and capacity enhancement strategy. Data on outsourcing of staff and services.

**Table 18: Capacity assessment**

Institution/Department (Engineering, Sanitation, Poverty Alleviation, etc)	Tasks to be performed	Permanent Staff	Contractual Staff	Gaps in Number	Gaps in Skills
Sanitation	To be Provide	64	150	-	1. Lack of Technical Sanitary Inspectors. 2. Lack of Sufficient Staff

### **13. Health and Hygiene**

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 Kadiri 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.

#### **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:**

Stagnation of water in open spaces leads to the water borne diseases like dengue and chicken guinea

A drain passing through the city which is polluted by chemicals is concern for the health.

#### **City-wide Key Issues**

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

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	<p>1) Only 9 out of 39 wards have the public and community toilets.</p> <p>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</p> <p>2) A drain passing through the city which is polluted by chemicals is concern for the health.</p> <p>3) There is great need to implement the Swach Bharat programme.</p>

Key Issue 4	Improper Storm Water Drainage system
Rationale for this key issue	<p>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</p> <p>2) Majority storm water drains width is nearly 0.5m</p> <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>
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>

## **Action Plan for Kadiri 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 issues in Kadiri Town today is Solid waste management. According to an estimate done by the Municipality on an average about 35.00 Metric Tons 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 Kadiri 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.

A separate meeting has been held for the hotels & Restaurant Owners on the issues of solid waste segregation and organic waste composter. Kadiri 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.

## **Compost Yard:-**

On an average 30 Metric Tons of solid waste is generated in the town which is disposed by the Kadiri municipality. The major problem for solid waste management in the Kadiri 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 Kadiri municipality will be transported to the plant.

**Table 19: EXAMPLES OF POTENTIAL GOALS**

*(Inputs in the columns are examples. Please adapt it for your city accordingly)*

<b>KEY ISSUE</b>
Proper segregation and treatment – Not done.
Suitable dump yard – Technical land fill not available
G.O No.279
Achievement of 100% ODF by end of 2016
Lack of Septic treatment for both black and grey water are mixing in to the same drain
Lack of Enforcement of laws
Lack of Human Resource management
Lack of Cost recovery

Please list the main goals for your city's CSP below:

<b>SANITATION GOALS</b>
Ensure proper waste water (sewage & Septage) management (collection, conveyance, treatment & disposal) by 2025
Ensure all existing and new toilets (HHT, PT & CT) are sanitary and properly maintained (to cover the current and future demand) by 2019
Ensure comprehensive and efficient storm water management by 2016
Achieve atleast 90% cost recovery and 90% collection efficiency in water supply related services by 2020
Take up gradation of skills of all Municipal Staff as mainstream and regular activity, aimed at achieving better competency and efficiency
Achieve Service Level Benchmarks (as defined by MoUD) in Solid Waste Management by 2020

## 6. Action Plan

This chapter should outline the specific strategy for addressing each key issue through identification of specific actions. These actions should be classified as short term, medium term and long term along with who will be responsible for each action. In addition to technical sectors, include actions on institutional strengthening, financing, capacity enhancement and inclusiveness.

**Table 20: FORMAT FOR ACTION PLAN**

Sectors	Goals (from list above)	Actions			Agency responsible for action (ULB, PHED, etc.)
		Short term (within 3 yrs.)	Medium term (3 to 5 yrs.)	Long term (within 10 yrs.)	
Water supply	Improvement of Water Supply	Constructing of 2 Nos of 500 KL Capacity ELSRs at 16 <sup>th</sup> Election Ward and 34 <sup>th</sup> Election Ward	Yes	-	PHED
Toilets	100% ODF	Construction of Individual Toilets at 3036 Nos and Community Toilets of 4 Nos	Yes	-	ULB
Waste-water		Construction of Sullage Drain	-	Yes	ULB
Solid waste		Laying of Sewerage Pipelines (UGD) and Construction of Sewerage Treatment Plant	-	Yes	ULB and PHED
Storm water		Construction of Open Strom Water Drainage System	Yes	-	ULB and PHED

Finance Management		Increase of Taxes and Non-Taxes	Yes	-	ULB
Administration / Governance / Institutions		Construction of Ward Offices, Schools, etc.,	Yes	-	ULB
Capacity Enhancement		Training of Officers, Section Heads and Other Staff	Yes	-	ULB
Gender and support to the urban poor		Sanction of Loans under various schemes	Yes	-	ULB

## 7. Cost Estimates and Investment Plan for CSP

### Budget Projections of ULB

First it is required to understand the financial capacity of the ULB in the next years to understand the own funds available for implementation of CSP. For this prepare the projection for your municipal budget for at least the next three years.

**Table 21: BUDGET PROJECTIONS**

#	Particulars	Amount (Rs. in Lakhs)		
		2016-17	2017-18	2018-19
<b>A. Revenue Income</b>				
1	Income from Taxes	224.17	250.00	275.00
2	Income from Non-Taxes	60.14	65.00	70.00
3	Income from Assigned Revenue	52.62	55.00	60.00
	<b>Total Revenue Income (1+2+3)</b>	<b>336.93</b>	<b>370.00</b>	<b>405.00</b>
<b>B. Capital Income</b>				
4	Grants and Loans	362.50	400.00	425.00
	<b>Total Capital Income (4)</b>	<b>362.50</b>	<b>400.00</b>	<b>425.00</b>
	<b>Total Income (1+2+3+4)</b>	<b>699.43</b>	<b>770.00</b>	<b>830.00</b>
<b>C. Revenue Expenditure</b>				
5	General, Establishment and Other Revenue Expenditure	94.50	95.00	100.00
6	O&M of Sanitation including SWM	225.00	250.00	275.00
	<b>Total Revenue Expenditure (5+6)</b>	<b>319.50</b>	<b>345.00</b>	<b>375.00</b>
<b>D. Capital Expenditure</b>				
7	Capital Expenditure	362.50	400.00	425.00
	<b>Total Capital Expenditure (7)</b>	<b>362.50</b>	<b>400.00</b>	<b>425.00</b>
	<b>Total Expenditure (5+6+7)</b>	<b>682.00</b>	<b>745.00</b>	<b>800.00</b>
	<b>Revenue Surplus/Deficit (1+2+3+4-5-6-7)</b>	17.43	25.00	30.00
	<b>Capital Surplus/Deficit (4-7)</b>	0	0	0
	<b>Overall Surplus/Deficit (1+2+3+4-5-6-7)</b>	17.43	25.00	30.00

## 7.1 Cost estimates for CSP

As a second step you have to calculate the cost per project and for short-term, medium-term and long-term activities. You should also added the funding sources you are planning to use for covering this project cost. For this it is required to have a clear picture of the financial capacities of the ULB (see part 18.1)

**Table 22: Cost Estimates for CSP**

n o	Projects (taken from CSP Action Plan)	Description (All actions included in this project)	Cost in Rs.			Source for funding (ULB own revenues, Grant under SBM, AMRUT, etc.)
			Short Term	Medium Term	Long Term	
1	Constructions of IHHL & Community and Public Toilets	Constructions of Strom Water Drains and Under Ground Drainage (UGD) System	Rs. 1.75 Crores	Rs. 99.30 Crores	Rs. 119.00 Crores	SBM and AMRUT
2	-	-	-	-	-	-
3	-	-	-	-	-	-
4	-	-	-	-	-	-
5	-	-	-	-	-	-
6	-	-	-	-	-	-
7	-	-	-	-	-	-

## 8. Information , Education & Communication

Herein the ULB prepares the external communication strategy for broader public use to achieve behavior change and awareness with clear timelines and resources.

**Table 23: Example for preparing an external campaign**

*(Inputs in the right column are examples. Please adapt it for your city accordingly)*

CAMPAIGN OBJECTIVE	<b>STOP LITTERING IN PUBLIC SPACES</b>
Possible location	<i>Commercial areas (markets, etc.)</i>
Target audience	<i>Families, women and children</i>
Current behavior	<i>Throwing plastic waste into the open areas, especially waste of products they just bought</i>
Desired behavior	<i>No littering in the areas</i>
Partners for campaign	<i>Vendors, market associations, ULB, RWA, safaikaramcharis</i>
Communication Actions	<i>Display messages, organize street theatre at the market, organize, clean-up actions with children, etc.</i>
Communication Channels	<i>Board at shops, Personal interactions</i>
Monitoring systems	<i>Monthly monitoring day with vendors and buyers at markets taking pictures</i>
Sustainability	<i>Incentive system for street vendors</i>

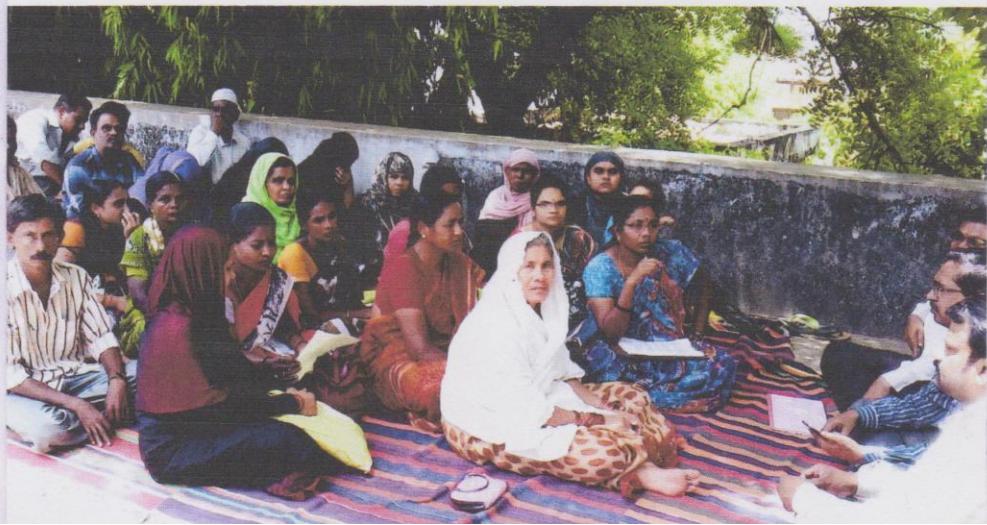
## Annexures

Please add the following documents as annexure to your CSP Document:

- Minutes of Meetings of all CSTF Meetings
- Notification/council resolution on CSTF Formation
- Following maps:
  - Base map
  - Ward map
  - Map depicting population densities
  - Land use map
  - Water supply map
  - Map depicting location of existing and proposed public and community toilets
  - Map depicting location of open defecation and urination
  - Map of sewer network coverage, onsite system, areas without system
  - Map depicting the door to door collection, unserved areas, community bins, transfer stations, areas of open dumping
  - Maps depicting constructed and natural drain network and location of water logging









**Copy of Council Resolution No. 113, Dated: 03.12.2016 of the**  
**MUNICIPAL COUNCIL, KADIRI**

అంశము : జి.ఐ.ఆర్.టి నెం. 243, యం.ఎ & యం.డి. దిపార్పుమెంటు, తేది: 18.04.2015 సంచాలకులు పురపాలక పరిపాలనా శాఖ వారి ఉత్తర్వులు నెం. 8807/2014 మరియు సర్కారీ నెం. 2708/2015-యం3 వారి ఉత్తర్వుల ప్రకారము కదిరి పురపాలక సంఘమునకు సిటీ శానిబేషన్ ప్లాన్ తయారుచేసి పంపవలసినదిగా తెలయిజేసియున్నారు.

సిటీ శానిబేషన్ ప్లాన్ తయారు చేయుటకు జర్మన్ కో-ఆపరేషన్ (GIZ) మరియు సెంటర్ ఫర్ సైన్స్ అండ్ ఎన్జీరింగ్ (CSE) న్యూఫీల్డ్ వారి సహకారముతో కదిరి పట్టణమునకు సిటీ శానిబేషన్ ప్లాన్ తయారుచేయుట జరిగినది. ఈ ప్లాన్ తేది: 22.10.2016 న జరిగిన సిటీ శానిబేషన్ టాస్క్ ఫోర్మ్ సమావేశములో ఆమోదించుట జరిగినది. సిటీ శానిబేషన్ ప్లాన్ ప్రభుత్వము వారికి పంపుటకు గాను కొన్నిలు వారి ఆమోదమునకు ఉండడమైనది.

తీర్మానము : ఆమోదించడమైనది.

(సం/- పేట్ సురయాబాను),  
చైర్మన్,  
మునిసిపల్ కోన్సీలు, కదిరి

// అనలుకు నకలు //

సి.ఎస్.క్రమా  
కమిషనరు, 3/12/16  
కదిరి పురపాలక సంఘము.  
అ. 03/12/16