

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI
ORIGINAL APPLICATION: 142 OF 2024(SZ)

In The matter of:

M. Vetri Selvan, Chennai.

...Applicant(s)

Versus

The Central Pollution Control Board,
Rep. by its Chairman, New Delhi and ors.

...Respondent(s)

STATUS REPORT FILED BY SPECIAL SECRETARY, LOCAL SELF GOVERNMENT
DEPARTMENT/13TH RESPONDENT

<u>Sl.NO</u>	<u>DESCRIPTION</u>	<u>PG NO.</u>
1.	Status Report filed by Special Secretary, Local self Government Department, Kerala	1-15

Dated at Chennai on this 22nd July, 2025



M/s.E.K. Kumaresan

Standing Counsel for State of Kerala.

Order of Hon. National Green Tribunal in OA 142/2024 - Status of Liquid Waste Management Project - Report filed by the Special Secretary, Local Self Government Department (Respondent No 13)

1. Introduction

The wastewater generation in the state of Kerala is reconciled based on the 2011 population and its projection to 2024. Based on geometric projection, and considering the individual growth rate for districts, the population was forecasted. As per the projection of the population, the state Kerala has a total population of 3,56,40,084 for the year 2024. This includes urban population of 80,85,080 and rural population of 2,75,55,004. Following section describes the sewage generation in both Urban and Rural areas.

Table 1: Wastewater Generation (2024)

Type of LB	Sewage generation (MLD)	Sullage generation (MLD)	Total generation (MLD)
Urban	305	713	1018
Rural	895	2086	2981
Total	1200	2799	3999

2. Wastewater Treatment Plan adopted by the State of Kerala.

Kerala has a unique homestead habitation pattern where individual houses are typically scattered across plots of land. This dispersed settlement pattern leads to the construction of long sewer lines to connect widely spaced homes which requires extensive investment. The high value of land, especially in peri-urban areas increases the cost of land acquisition too. Kerala's varied

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topography, including abundant water bodies, coastal areas, and wetlands attracts regulatory constraints. Coastal Regulation Zone (CRZ), Ecologically Sensitive Areas (ESAs), Wetland Conservation Rules, and distance criteria from water bodies reduce the availability of suitable land for STPs. Kerala has one of the highest population densities in India, with land being heavily used for housing and other infrastructure. This makes it difficult to find underdeveloped, less expensive land parcels owned by the government or Private for setting up STPs, especially in urban areas where space is limited. Regarding geography, Kerala's terrain is divided into lowland, midland, and highland areas, each with unique topographical features. This diversity complicates the development of a centralized sewer network, particularly in midland and highland areas where the terrain is uneven and the construction of such infrastructure would require significant excavation and adaptation. Additionally, the high penetration of roads in Kerala, makes sewer network construction challenging due to the extended distances involved.

In most other states, there is a clear distinction between urban centers and rural areas, allowing for large-scale infrastructure like STPs to be built on the outskirts, where land is cheaper and more available. In Kerala, the urban-rural continuum means there is a seamless spread of habitation from towns and cities to rural areas, with little distinction between the two. This pattern leads to a continuous stretch of settlements, making it difficult to find large, undeveloped land parcels suitable for large STPs.

Hence the State strategized to construct STPs in Core Sanitation zones in urban areas where the land is feasible and available, FSTPs in the fringe areas outside the core sanitation zones of ULBs and in Rural areas. The state has prepared the State Fecal Sludge and septage Management Plan (FSSM). According to the plan, in a radius of 15 km FSTPs are planned on a cluster basis including urban and rural local bodies. Also, rural bodies can use the

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nearby ULB-owned STP co-treatment facility to treat their fecal sludge.

Hence the treatment capacity of existing, ongoing and proposed STPs and FSTPs are summarized in Table 2.

Table 2: Treatment Capacity

	Treatment by STPs (MLD)		Treatment by FSTPs (KLD)	
	Urban	Rural	Urban	Rural
Treatment Capacity by existing common STPs	130.05	8.72	470 + 650*	0
Treatment Capacity by ongoing & Proposed STPs	107.68	0.59	1964 + 479*	1149
Treatment Capacity by STPs in Establishments	94.00	1.92	-	-
Total- Urban- Rural	331.73	11.23	3563	1149
State Wise Total	342.96 MLD		4712 KLD	

The summary and the detailed list of STP, FSTP & MTU projects currently taken up by the State are attached as **Annexure A**

3. Implementation mechanism.

In the Urban areas state has proposed STP with Sewer Network in the Core

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Sanitation Area and FSTPs in the fringe areas under AMRUT (Atal Mission for Rejuvenation and Urban Transformation) , SBM-U (Swachh Bharat Mission Urban), IMPACT Kerala Ltd. However, setting up STP in all the core sanitation zone is difficult as explained in para 2, the state is focusing to establish septage treatment plants as cluster basis. To facilitate the FSTPs, action is progressing for retrofitting of existing onsite sanitation facilities.

In the Rural areas state has proposed FSTPs in the fringe areas under SBM-G (Swachh Bharat Mission Grameen). Also in the coastal regions and Nagars where the water table is high. DRDO licensed biodigestors are proposed and around 200 units were implemented.

In addition to this, the following comprehensive plans are adopted by the state to avoid the discharge of untreated wastewater into the water bodies.

Mobile Treatment Units (MTU): Mobile Treatment Units (MTUs) are being procured to provide immediate treatment of sewage and faecal sludge, ensuring that untreated sewage is not discharged into water bodies or the environment. MTUs are flexible and can be deployed wherever the need is urgent, providing a quick response to wastewater issues until more permanent infrastructure can be established. The state has taken 29 projects for MTU and currently 7 MTUs are in operation.

Decentralized wastewater Treatment Systems: The approach also includes the planning of decentralized wastewater in locations where centralized systems are not practical. Decentralized treatment is particularly useful in areas with scattered settlements or terrain challenges, allowing for local management of wastewater and reducing the need for extensive sewer networks. These plants are mainly installed in institutions such as Hospitals, Auditoriums, Schools, Anganwadies, Slaughtehouses, Markets, Bus stands, Convention Centres, etc.

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Retrofitting of OSS: For households that rely on traditional On-Site Sanitation (OSS) systems, there is a focus on improving the quality and functionality of these systems. Twin-pit latrines provide a sustainable solution where one pit can be used while the other is left to compost, reducing the risk of environmental contamination. Retrofitting of existing OSS systems is also being promoted to enhance performance and compliance with sanitation standards, ensuring that they do not contribute to groundwater contamination or overflow issues.

Greywater Management : In order to achieve complete wastewater treatment, standalone greywater treatment facilities are also planned for sullage management in the rural areas. The technologies adopted for this kind is nature based with low O&M cost

4. Other Initiatives Taken By The State

4.1 Used Water Management (UWM) Strategy

Kerala has embarked on a comprehensive study to develop a tailored strategy for Used Water Management (UWM) in alignment with the state's unique topography and settlement patterns. This initiative, which focuses on both urban and rural Local Self Government Institutions (LSGIs), aims to address the challenges in implementing UWM solutions across diverse regions. The study is done by WASH Institute in collaboration with Suchitwa Mission.

The project is built around detailed studies of selected 10 pilot LSGs representing various settlement typologies, ranging from coastal cliff towns to densely populated urban areas and rural settlements in low-lying regions. The goal is to develop replicable UWM plans and guidelines, enabling

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LSGIs to identify and execute appropriate projects, including Sewage Treatment Plants (STP) with conveyance networks, Faecal Sludge Treatment Plants (FSTP), and Greywater Management (GWM) systems, based on local conditions.

4.2 IEC Initiatives

As part of the Swachhata Hi Seva campaign and other sanitation initiatives like Malinya Muktha Nava Keralam campaign, Local Self Government Institutions (LSGIs) in Kerala have undertaken a series of impactful Information, Education, and Communication (IEC) initiatives aimed at improving sanitation practices. These efforts focus on encouraging behavioral change and fostering community ownership of public health goals. All the LSGIs have organized community-based awareness campaigns in partnership with grassroots organizations like Kudumbashree, youth clubs, and school eco-clubs to drive the message of sanitation at the local level. Cultural approaches such as street plays, folk songs, and video campaigns have been utilized to communicate critical messages on hygiene, waste management, and the benefits of toilet use, particularly targeting underserved and rural communities.

In addition, several LSGIs have conducted workshops and training programs as part of these campaigns, educating different sections of the community, including women, children, and sanitation workers, on the importance of sanitation value chain and retrofitting efforts. Many have also introduced cleanliness drives in public spaces like markets and schools, as well as competitions between wards to encourage collective efforts toward maintaining sanitation standards. Digital platforms, including mobile apps and social media, have played a key role in spreading awareness, allowing LSGIs to reach a larger, tech-savvy audience with timely information on

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sanitation practices.

5. It is humbly requested that the above report in compliance with the order dated 20/12/2024 of the Hon'ble NGT may kindly be accepted.



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List of Projects1. List of STP projects

Sl. No	District	Existing	Ongoing	Proposed	Total
1	Thiruvananthapuram	2	0	1	3
2	Thrissur	2	0	3	5
3	Ernakulam	3	1	6	10
4	Kannur	2	0	2	4
5	Alappuzha	2	0	2	4
6	Kozhikode	2	0	3	5
7	Kollam	0	2	0	2
8	Palakkad	0	1	2	3
	Total	13	4	19	36

Sl. No	District	Project Name	Capacity (MLD)	Stage
1	Thiruvananthapuram	Muttathara	107	Existing
2	Thrissur	Guruvayur	3	Existing
3	Ernakulam	Marine Drive - Greater Cochin Development Authority	0.9	Existing
4	Ernakulam	International stadium Kaloor - Greater Cochin Development Authority, Kadavanthra	0.75	Existing
5	Kannur	Taliparamba	0.5	Existing
6	Alappuzha	DEWATs -Chathanad Colony	0.025	Existing

7	Thiruvananthapuram	Medical College	5	Existing
8	Ernakulam	Elamkulam	5	Existing
9	Kozhikode	Medical College	2	Existing
10	Kannur	Padannapalam	1	Existing
11	Kozhikode	Medical College	1	Existing
12	Thrissur	General Hospital	0.36	Existing
13	Alappuzha	General Hospital	0.24	Existing
14	Kollam	Kureepuzha	12	Ongoing
15	Ernakulam	Ambedkar Colony	1.1	Ongoing
16	Kozhikode	Sarovaram	27	Proposed
17	Kozhikode	West Hill Industrial Estate (alternative proposal for Kothi & Avikkalthodu proposals)	13	Proposed
18	Alappuzha	Alliseery	5	Proposed
19	Ernakulam	Elamkulam	5	Proposed
20	Thrissur	Kottappuram	5	Proposed
21	Thrissur	Chakkamkandam	5	Proposed
22	Kannur	Maithanapally	5	Proposed
23	Thrissur	Kokkala	2.5	Proposed
24	Ernakulam	Ray Flats, Fort Kochi	0.105	Proposed
25	Palakkad	Municipal Buildings	0.03	Proposed
26	Alappuzha	Bhajanamadam Settlement	0.012	Proposed
27	Thiruvananthapuram	Rajaji Nagar	0.5	Proposed
28	Palakkad	Ottapalam	1.5	Ongoing
29	Kollam	Mayyanad	0.59	Ongoing
30	Ernakulam	Cochin Marine Drive	2	Proposed
31	Ernakulam	Life Mission site	1	Proposed

32	Kozhikode	Vadakara	0.5	Proposed
33	Ernakulam	Kaloor Market	0.25	Proposed
34	Ernakulam	Kadavanthra Market	0.03	Proposed
35	Palakkad	Pattambi	3.75	Proposed
36	Kannur	Anthoor	0.4	Proposed

2. List of FSTP Projects

Sl. No	District	Existing	Ongoing	Proposed	Total
1	Ernakulam	2	0	5	7
2	Thrissur	1	0	6	7
3	Wayanad	1	0	2	3
4	Kannur	0	1	3	4
5	Palakkad	0	1	2	3
6	Kollam	0	0	2	2
7	Alappuzha	1	0	3	4
8	Thiruvananthapuram	0	1	2	3
9	Kottayam	0	0	4	4
10	Kasargod	0	0	4	4
11	Idukki	0	0	2	2
12	Malappuram	0	0	2	2
13	Pathanamthitta	0	0	1	1
	Total	5	3	38	46

Sl. No	District	Project Name	Capacity (KLD)	Stage
1	Ernakulam	Wellington, Kochi Corporation	100	Existing
2	Ernakulam	Brahmpauram, Kochi Corporation	100	Existing

3	Thrissur	Madakkathara, Thrissur Corporation	10	Existing
4	Wayanad	Kalpetta, Kalpetta Municipality	10	Existing
5	Kannur	Chelora, Kannur Corporation	100	Ongoing
6	Palakkad	Yakkara, Palakkad Municipality	100	Ongoing
7	Ernakulam	Brahmapuram, Kochi Corporation	1000	Proposed
8	Thrissur	Ramavarnapuram, Thrissur Corporation	100	Proposed
9	Kollam	Kureepuzha	50	Proposed
10	Alappuzha	Cherthala - Anatharaveli	250	Existing
11	Thiruvananthapuram	Varkala	50	Ongoing
12	Ernakulam	Muvattupuzha	50	Proposed
13	Ernakulam	Vedimara.	50	Proposed
14	Palakkad	Shormur	44	Proposed
15	Palakkad	Chittur-Tathamangalam	40	Proposed
16	Kottayam	Erumeli.	105	Proposed
17	Thrissur	Panancherry	48	Proposed
18	Kasargod	Madikkunnu, Cheruvathoor	40	Proposed
19	Ernakulam	Varapetti	30	Proposed
20	Idukki	Chathanmala	20	Proposed
21	Idukki	Kuyilimala	20	Proposed
22	Kannur	Pariyaram Medical College	150	Proposed
23	Kannur	Valliyai, Panoor.	55	Proposed
24	Kasargod	Mangalpady.	50	Proposed
25	Thiruvananthapuram	Nettukaltheri, Kallikadu	65	Proposed

26	Kasargod	Kayyoor Cheemeni	10	Proposed
27	Wayanad	Arattupuzha Ambalavayal	55	Proposed
28	Kollam	Karungapally	25	Proposed
29	Malappuram	Valancheri	70	Proposed
30	Kottayam	Pipe yard quarters, Manganam	65	Proposed
31	Kannur	Mattanur, Trenching ground	10	Proposed
32	Thrissur	Wadakkancherry	20	Proposed
33	Kasargod	Kasargod Pudukai	40	Proposed
34	Alappuzha	Mavelikkara Thekkekara - Kurathikad	70	Proposed
35	Alappuzha	Chengannur Municipality	20	Proposed
36	Alappuzha	Palamel	50	Proposed
37	Ernakulam	Kottakunnu, Eloor Municipality	10	Proposed
38	Kottayam	Medical College, Ettumanoor	89	Proposed
39	Kottayam	Velloor	20	Proposed
40	Malappuram	Perinthalmanna.	100	Proposed
41	Pathanamthitta	Kodumon	20	Proposed
42	Thiruvananthapuram	Chudukadu	20	Proposed
43	Thrissur	Koratti GP	20	Proposed
44	Thrissur	Elavally	20	Proposed
45	Thrissur	Mattathur, Schipoorna	20	Proposed
46	Wayanad	Pulpally	35	Proposed

3. List of Mobile Treatment Units

Sl. No	District	Existing	Tendering	Proposed	Total
1	Alappuzha	1	1	1	3
2	Kottayam	2	0	0	2
3	Malappuram	1	1	3	5
4	Thrissur	3	0	5	8
5	Ernakulam	0	1	0	1
6	Kollam	0	2	0	2
7	Trivandrum	0	1	0	1
8	Idukki	0	0	1	1
9	Kannur	0	0	1	1
10	Kozhikode	0	0	7	7
11	Pathanamthitta	0	0	3	3
12	Thiruvananthapuram	0	0	1	1
	Total	7	6	22	35

Sl. No	District	Local Body Name	Capacity L/H	Stage
1	Alappuzha	Alappuzha Municipality	6000	Existing
2	Alappuzha	Alappuzha Municipality	6000	Tendering
3	Kottayam	Kumarakom Gramapanchayat	6000	Existing
4	Kottayam	Changanaserri Municipality	6000	Existing
5	Malappuram	Manjeri Municipality	6000	Existing
6	Thrissur	Chalakkudy Municipality	6000	Existing
7	Thrissur	Kodungaloor Municipality	6000	Existing
8	Thrissur	vellangallur BP	6000	Existing

9	Ernakulam	Maradu Municipality	6000	Tendering
10	Kollam	District Panchayath, Kollam	6000	Tendering
11	Kollam	District Panchayath, Kollam	6000	Tendering
12	Malappuram	vallikkunnu GP	6000	Tendering
13	Trivandrum	Neyyatinkara municipality	6000	Tendering
14	Idukki	Kumily GP	6000	Proposed
15	Kannur	Iritty Municipality	6000	Proposed
16	Kozhikode	Perambra GP	6000	Proposed
17	Kozhikode	Perumanna Gp	6000	Proposed
18	Kozhikode	Eramala GP	6000	Proposed
19	Kozhikode	Kuttiyadi GP	6000	Proposed
20	Kozhikode	Mukkam Municipality	6000	Proposed
21	Kozhikode	Koyilandy Municipality	6000	Proposed
22	Kozhikode	Mukkam	6000	Proposed
23	Malappuram	Nilambur BP	6000	Proposed
24	Malappuram	kondotty ulb	6000	Proposed
25	Pathanamthitta	Pandalam Municipality	6000	Proposed
26	Pathanamthitta	PARAKODE BP	6000	Proposed
27	Pathanamthitta	Pattanamthitta Municipality	6000	Proposed
28	Thrissur	Irinjalakuda Municipality	6000	Proposed
29	Thrissur	Wadakanchery Municipality	6000	Proposed
30	Thrissur	chavakkad municipality	6000	Proposed

31	Thrissur	Kunnankulam municipality	6000	Proposed
32	Thrissur	Sreenarayanapuram GP	6000	Proposed
33	Alappuzha	Kayamkulam Municipality	6000	Proposed
34	Thiruvananthapur am	Chirayinkeezhu GP	6000	Proposed
35	Malappuram	Purathur GP	6000	Proposed