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KERALA STATE POLLUTION CONTROL BOARD

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

Pattom P.O., Thiruvananthapuram – 695 004

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File No. KSPCB/314/2025-CEE

Dated: 25-06-2026

From,
The Member Secretary

To
The Secretary
Ministry of Jal Shakthi,
Department of Water Resources,
River Development & Ganga Rejuvenation,
Shram Shakti Bhawan, RafiMarg,
New Delhi- 110001

Sub:- Forwarding Monthly Progress Report for the month of April 2026 -reg

Ref:- Order of the Hon'ble NGT in the matter of O.A.No.673/2018

Sir,

Kind attention is invited to the subject matter. The matter is reported for kind information. As per CPCB report on water quality 2022, 11 polluted river stretches were deleted and 8 new stretches were added and hence the number of polluted river stretches is currently 18. The report prepared in revised format with respect to the progress in implementation of action plan of polluted river stretches, for the month of April 2026 is submitted herewith. As per the CPCB report on "Polluted River Stretches for Restoration of Water Quality, 2025", a total of 32 polluted river stretches/locations have been identified in the State of Kerala. Further remedial actions are under progress.

Yours faithfully,

Digitally signed by
RATISH MENON

Date: 25-06-2026 MEMBER SECRETARY
13:10:29

National Mission for Clean Ganga
Monthly Progress Report for the month of April 2026 in the NGT
Matter OA No. 673 of 2018 (in compliance to NGT order dated
24.09.2020)

For the State of Kerala

Overall status of the State:

I. Total Population: Urban Population & Rural Population separately:

As per Census 2011, Kerala has a population of 3,37,77,386. Rural population in Kerala is 2,58,40,501 and urban population in the state is 79,36,885. Population projected for 2026 is 3,60,05,329. The water consumption and wastewater generated are calculated based on the population projected for 2026.

• **Estimated Sewage Generation(MLD):**

Based on population projected for 2026, the estimated sewage and sullage generation is as given below:

- Estimated Sewage and Sullage generation in Urban area -1031.94 MLD

Sewage = 309.582 MLD

Sullage = 722.358 MLD

- Estimated Sewage and Sullage generation in Rural area -3010.99 MLD

Sewage = 903.297 MLD

Sullage = 2107.693 MLD

Total Sewage and Sullage generation -4042.93 MLD

• **Details of Sewage Treatment Plant:**

1. No. of functional common STPs in the state = 14 (Total = 15 ; 1 – not working)
2. No. of functional major Institutional STPs = 11 (Total = 12 ; (1 – maintenance)
3. Total sewage treatment capacity in the state through existing major STPs (1+2): =138.41 MLD
(Urban area =**129.705**MLD rural=**8.705**MLD)
4. Total sewage treatment capacity in the state through **functional** major STPs : =138.37 MLD
(Urban area =**129.675** MLD rural=**8.695** MLD)
5. Utilization Capacity (Urban) = 94.385 MLD
6. Other functional STPs : 3 Nos (0.22 MLD)
7. No. of functional common septic treatment plants in the state: 4 (0.22 MLD)
8. Sewage treatment capacity via individual STPs in **1438** establishments= **83.805**
- * In Kerala, individual houses have septic tank/ soak pits existing for toilets attached to them.
9. Gap in treatment of sewage in terms of sewage treatment plant= **131.372 (Urban)**
10. Major STPs/ FSTPs under construction = 29 Nos. (33.46 MLD)
11. STPs/ FSTPs under proposal stage = 38 Nos. (156.39 MLD)

Common STPs

Sl. No	STP location	Urban/Rural	STP Installed capacity	Utilization	Status
THIRUVANANTHAPURAM					
1	Common Sewage Treatment Plant, Muttathara, Trivandrum maintained by Kerala Water Authority (Co Processing facility for septage)	Urban	107 MLD (Activated Sludge Process) With 500 KLD Co-treatment	80 MLD	Operational
PATHANAMTHITTA					
2	Sewage Treatment Plant at Sannidhanam (5MLD) Maintained by Travancore Devaswom Board	Rural	5 MLD (UASB and SBR)	3.5 MLD	Operational
3	Sewage Treatment Plant at Pamba (3.5 MLD) maintained by Travancore Devaswom Board	Rural	3.5 MLD (Coagulation & settling)	3.5 MLD	Operational
ALAPPUZHA					
4	DEWATS system, Chathanad (For 50 houses in slum area)	Urban	25 KLD (Anaerobic Baffle Reactor)	0.025 MLD	Operational
KOTTAYAM					
5	STP for Houseboat (0.09 MLD) at Kumarakom maintained by DTPC, Kottayam	Rural	0.09 MLD (Activated Sludge Process)	0.09 MLD	Operational
ERNAKULAM					
6	STP owned by Greater Cochin Development Authority, Marine drive, Kochi	Urban	0.9 MLD (Activated Sludge Process)	0.9 MLD	Operational.
7	STP at Elamkulam, Kochi (AMRUT)	Urban	5 MLD (MBBR) with Co treatment 50 KLD	4 MLD	Operational.
8	STP owned by GCDA, International Stadium Kaloor	Urban	0.75 MLD (Activated Sludge Process)	0.05 MLD	Operational.
IDUKKI					
9	Sewage treatment Plant at Comfort station, Adimaly Grama Panchayat, Idukki	Rural	0.01 MLD	0.01	• STP was not working. • Inspection conducted on 22.08.2025 • Issue addressed to DC vide letter dated 07.11.2025
10	60 KLD STP at Taluk Hospital Adimaly, Adimaly Block Panchayat, Idukki	Rural	0.06 MLD	0.06	Operational
THRISSUR					
11	Sewage treatment Plant at	Urban	3 MLD	0.5 MLD	Operational.

	Guruvayur, Thrissur District		(Activated Sludge Process)		
12	Revamping of 35 KLD STP at Kuriyanchira Slaughter House Corporation, Thrissur	Rural	0.035 MLD (MBBR)	0.035 MLD	Operational
KANNUR					
13	Sewage treatment Plant at Taliparambu (0.5MLD) Taliparamba Municipality, Kannur	Urban	0.5MLD (Activated Sludge Process)	0.5MLD	A show cause notice was sent on 26/11/25. In the reply letter on 23/01/2026 the Taliparamba Municipality stated that the plant is under upgradation under the AMRUT MITRA scheme. Upon inspection on 15/06/2026, the plant was found operational but not upgraded. Sample collected for analysis on 15/06/26
14	STP at Padannappalam	Urban	1 MLD	0.3 MLD	Operational
15	STP at old age home Kannur	Rural	0.010	0.010	MBBR (Operational)
Total Capacity = 126.88 MLD (Urban : 118.175 MLD, Rural : 8.705)				Utilization Capacity = 93.48 MLD (Urban : 86.275 MLD ; Rural : 7.205)	

Institutional STPs

Sl. No.	STP location	Urban/Rural	STP Installed capacity	Utilization	Status
THIRUVANANTHAPURAM					
1	STP at Medical College, Thiruvananthapuram-Phase I & II (PRS)	Urban	5MLD (MBBR)	3 MLD	Operational
ALAPPUZHA					
2	STP at General Hospital	Urban	0.24 MLD Electro coagulation.	0.1 MLD	Operational
ERNAKULAM					
3	STP at Kalamassery, Market, Kalamassery Municipality (PRS)	Urban	0.01 MLD	0.01 MLD	Operational
THRISSUR					
4	STP at General Hospital, Thrissur (AMRUT-1.0)	Urban	0.36 MLD	0.2 MLD	Operation
MALAPPURAM					
5	STP at Municipal Bus Stand, Tirur (PRS)	Urban	0.05 MLD (Biological)	0.05 MLD	Operational
6	Sewage treatment Plant at Malappuram Municipal Bus stand	Urban	0.03MLD (MBBR)	0.03 MLD	Project proposal for maintenance work have been approved. ICE issued to the unit vide consent No.KSPCB/MA/ICE/

					10022893/2024 dated 24/01/2024 valid till 24/02/2024
KOZHICODE					
7	STP at Kozhikode Medical College.	Urban	2 MLD Old plant.	2 MLD	Operational. According to analysis report on 05.05.2026 the following values were observed. pH - 7.5, TSS- 17.6 mg/l, Total Residual Chlorine - Nil, COD- 56 mg/l, Oil and Grease-BDL, BOD- 8.53 mg/l, Ammoniacal – N 15.505 mg/l and Nitrate -0.737 mg/l
8	STP at Kozhikode Medical College.	Urban	2 MLD With 100 KLD Co-treatment Facility	2 MLD	Operational According to analysis report on 05.05.2026 the following values were observed. pH - 7.5, TSS-35.7 mg/l, Total Residual Chlorine -Nil, COD- 136 mg/l, Oil and Grease- BDL, BOD- 72.6 mg/l, Ammoniacal - N 94.425 mg/l and Nitrate -1.088 mg/l
9	STP at Kozhikode Medical College.	Urban	1 MLD	0.1 MLD	Operational According to analysis report on 05.05.2026 the following values were observed. pH - 8, TSS- 17.6 gm/l, Total Residual Chlorine -Nil, COD- 56 mg/l, Oil and Grease- BDL, BOD- 8.53 mg/l, Ammoniacal - N 15.505 mg/l and Nitrate -0.737 mg/l
10	STP at Kozhikode Medical College	Urban	0.5 MLD	0.5 MLD	Operational According to analysis report on 05.05.2026 the following values were observed. pH - 7.5, Total Residual Chlorine -NIL, TSS- BDL, COD- 16 mg/l, Oil and Grease- BDL

					, BOD-1.2 mg/l, Ammoniacal - N BDL and Nitrate - N- 0.147 mg/l
11	Common Sewage Treatment Plant at Narayana nagaram, near stadium, Vatakara, Opp. New bus stand	Urban	0.1 MLD	0.1 MLD	Non-functional since June 2025. A latest inspection of the said STP was conducted on 18.06.2026. Based on the inspection findings, notice will be issued to the concerned authority for necessary action.
WAYANAD					
12	Sewage Treatment Plant at Taluk Hospital, SulthanBathery	Urban	0.14 MLD (MBBR)	0.05 MLD	Operational
Total Capacity = 11.53 MLD; Utilization Capacity = 8.14 MLD					

FSTP

Sl. No.	STP location	STP Installed capacity	Utilization	Status
ERNAKULAM				
1	Septage Treatment Plant at Brahmapuram, Kochi Corporation, Ernakulam	0.1MLD (MBBR)	0.1 MLD	Operational
2	Septage Treatment Plant at Wellington Island, Kochi Corporation	0.1MLD(MBBR)	0.1 MLD	Not working properly. Directions issued
THRISSUR				
3	FSTP at Mattampuram	0.01MLD (Biological)	0.01	Operational
WAYANAD				
4	FSTP at Kalpetta	0.01MLD(Biological)	0.01 MLD	Operational
Total Capacity = 0.22 MLD; Utilization Capacity = 0.22 MLD				

Other operational STPs

Sl. No.	STP location	STP Installed capacity	Status
PALAKKAD			
1	FSTP at Yakkara, Palakkad Municipality (AMRUT-1.0)	0.1 MLD	Functional
KANNUR			
2	STP at Palayad, Taliparamba Municipality, Kannur	0.1 MLD	Functional
3	STP for Convention Centre, PinarayiGram Panchayath,	0.02 MLD	Functional

	Kannur		
TOTAL = 0.22 MLD			

Details of under construction of major STPs/ FSTPs in the State

No.	Location	Implementing Agency	Capacity of the plant in MLD	Physical Progress in %	Present Status	Timeline of Completion
THIRUVANANTHAPURAM						
1	FSTP at Varkala Municipality, Thiruvananthapuram (IMPACT KERALA Ltd)	IMPACT Kerala Ltd.	50 KLD FSTP	95%	Work ongoing	31.03.2026
KOLLAM						
2	STP at Kureepuzha, Kollam (AMRUT-1.0)	Kerala Water Authority/ AMRUT	12	95%	Work in progress	STP: Completed FSTP: 31.03.2026 Sewer Network: Vacuum Sewer Network – DPR is expected to be submitted by 30.06.2026. Iron Bridge Sewer Network expected to be tendered by 30.06.2026
3	STP at Chitumala Old Age Home. Chitumala BP, Kollam		0.015	98%	Work in progress. Revise estimate by IRTC in preperation	30.08.2026
4	190 KLD STP at Pathanapuram Market and Shopping Mall		0.190	38%	Need to select new agency for remaining STP construction	
5	STP at Mayyanad GP, Kollam	IMPACT KERALA Ltd	590KLD Co-treatment	70%	Work in progress	31.03.2026
6	Waste water Treatment (90 KLD) System for coastal housing and Tsunmai resettlement facility at karikuzhi, mayyanad Grama Panchayath , Kollam	IMPACT KERALA Ltd	0.09	90%	Work in progress	
ALAPPUZHA						
7	FSTP at Cherthala Municipality , Alappuzha	IMPACT KERALA Ltd	250 KLD Septage TP	99%	Inaugurated on 28.03.2025. Trial run kept on hold due to sludge management issues. Temporarily shut down the plant. need intervention for forward linkage of treated sludge.	
IDUKKI						
8	STP at private bus station, Kothayikkunnu, Thodupuzha municipality	Suchitwa mission	0.03	30%	Work in progress Work order amendment to be carried out.	

	Idukki					
KOCHI						
9	STP at Ambedkar Colony, Div-16, Edakochi South (AMRUT-1.0)	Kochi Corporation/ AMRUT	1.1	89%	Work in progress.	30.08.2026
10	STP at RAY Flats, Fort Kochi, Kochi Corporation (AMRUT-2.0)	Kochi Corporation	0.105	95%	Work in progress.	30.06.2026
11	FSTP at Brahmapuram, Kochi Corporation (AMRUT-2.0)	Kochi Corporation	1	1%	Work was started on 13/04/26.	The site is to be handed over to the contractor for starting the work. Expected to be started by 15.04.2026. Expected to be started by 30.04.2026.
THRISSUR						
12	Viyoore central jail STP (Thrissur)		0.05	65%	Work in progress	30.05.2026
13	Kunnumkulam, Thrissur		0.01		Ready for commissioning	Ready for commencing
14	STP at CHC Cherpu BP, Thrissur		0.01	90%	Plant construction completed. Final bill is to be submitted by LB.	30.08.2026
15	STP at Community Health Centre Pazhayannoor Block Panchayath ,Thirssur		0.025	1%	Work in progress	30.04.2026
16	Pazhayanoor STP (Thrissur)	KWA	0.45		Work awarded	31.12.2026
PALAKKAD						
17	STP at Ottappalam Municipality, Palakkad District	IMPACT KERALA Ltd	1.50ML D Co-treatment	60%	Sewer network design finalised using vacuum sewer technology.PWD NoC need to be obtained.	30.06.2026
MALAPPURAM						
18	STP at Pambad Housing Colony Malappuram Municipality, Malappuram		0.110	99%	Mechanical work pending due to electrical connection problem.	30.09.2025
19	STP at District Hospital, Tirur, Malappuram		0.5	70%	Work in progress	30.06.2026
20	Eco Friendly waste water Treatment plant 10 KLD in vettamCommunity Health centre ,Tirur BP		0.01	95%	Work in progress	30.05.2026
21	FSTP at Valancheri	IRTC- PIUMUNDUR			work stopped on 28.03.2026 due to public protest. Will restart the work after lifting	

					the MCC	
KOZHIKODE						
22	Wastewater treatment plant at Kuttiyadi government taluk hospital, Kozhikode		0.080	98%	Physical work completed. Electrical work pending	
23	Sewerage System for Zone-A (STP at West Hill Industrial Estate), Kozhikode Corporation (AMRUT-2.0, alternative project for Avikkalathodu & Kothi sewerage projects)	Kozhikode Corporation	15	Work to be started	To be started	
24	30 KLD Sewage Treatment Plant at EMS Memorial Municipal Town Hall, Koyilandy Municipality, Kozhikode	Kerala Water Authority	0.03	Work awarded		25.12.2026
KANNUR						
25	Sewage Treatment Plant 20 KLD at Shopping Complex cum multiplex Theatre, Kallumutti, Irutti Payam, Grama Panchayath 1, Kannur		0.02	2%	Contractor has given design and is under verification.	15.07.2026
26	FSTP at Chelora, Kannur Corporation (AMRUT-1.0)	Kannur Corporation/ AMRUT	100 KLD	99% Physically completed.	Trial run and commissioning to be done after getting the power supply.	30.06.2026
WAYANAD						
27	Construction of 45 KLD waste water treatment plant at Kalpetta Government Ayurveda Hospital DP, Wayanad		0.045	65%	Risk and cost details to be submitted.	
28	FSTP at Mangalpady, 50 KLD	Suchitwa mission	0.05	5%	Work started on 03.03.2026	30.11.2026
Total Capacity = 33.46 MLD						

Details of proposed STPs/ FSTPs in the State

No.	Location	Implementing Agency	Capacity of the STP proposed in MLD	Project status Status of Project (at DPR Stage/ DPR Approved/ AS issued/ TS issued/ Tendering Stage/ Tendered/ Awarded)	Likely Date of Completion of DPR Preparation/ Tendering
THIRUVANANTHAPURAM					
1	STP at Rajaji Nagar, Thiruvananthapuram Corporation	Thiruvananthapuram Corporation	0.5	At tendering Stage	STP: Expected to be tendered again by 31.05.2026 Sewage Network: Expected to be tendered by 31.05.2026
2	Nettukalthery FSTP,	IMPACT	80 KLD	DPR Stage	Agreement executed with

	trivandrum	Kerala Ltd			consultant for DPR preparation.
KOLLAM					
3	CHC Sooranadu, Sasthancotta Block Panchayath, Kollam	Suchitwa mission	0.028	At DPR Stage	DPC Revisions needed for including sbmkhosh fund
4	Kureepuzha 50 KLD FSTP (Proposed)	KWA	0.05	Tendering Stage	Expected to be tendered by 30.06.2026
ALAPPUZHA					
5	STP with Septage Cotreatment Capability at Alissery, Alappuzha Municipality (AMRUT-2.0)	Kerala Water Authority	5	To be retendered	Expected to be retendered by 31.05.2026
KOTTAYAM					
6	FSTP at Vellor GP			DPR stage. Lease agreement discussion ongoing.	31.12.2026
7	FSTP at Manganam		0.05	DPR stage The Municipality has proposed an alternative site at Vadavathoor, owned by Kottayam Municipality.	31.12.2025
8	Erumeli FSTP	IMPACT Kerala Ltd	105 KLD	Work tendered. Agreement executed.	Selection notice issued. Agreement executed. Contractor to submit vetted documents to IMPACT for approval
ERNAKULAM					
9	4 STPs are coming up under the KMRL's Integrated Water transport System project at	KWA	105	DPR Stage	31.09.2026
	Elamkulam (17.5 MLD) revised to 55 MLD				
	Vennala (24MLD) clubbed with Elamkulam				
	Muttar (16.5 MLD) revised to 50MLD				
	Perandur (19 MLD) clubbed with Muttar				
10	STP with Septage Cotreatment Capability at Elamkulam, Kochi Corporation	Kerala Water Authority	5	Retendering stage	STP: Expected to be awarded by 30.04.2026. Sewer Network: One package is expected to be awarded by 30.04.2026 and the other package is expected to be tendered by 30.04.2026
11	CHC Kadayiruppu, Vadavucode Block Panchayat, Ernakulam	Suchitwa mission	0.025	DPR Stage	31.08.2026
12	Muvattupuzha Municipality's FSTP Project	IMPACT Kerala Ltd.	0.05	Land conversion paperwork to be monitored.	

13	North Paravur FSTP	IMPACT Kerala Ltd.		DPR Stage	30.05.2026
THRISSUR					
14	5 MLD Decentralized Sewerage Scheme (STP at Kokkala), Thrissur Corporation (AMRUT-2.0)	Thrissur Corporation	5	To be tendered	Expected to be tendered by 30.04.2026
15	STP at Ottuppara Market, Wadakkanchery Municipality, Thrissur (IMPACT KERALA Ltd) (PRS)	IMPACT KERALA Ltd	18KLD STP	DPR preparation ongoing.	30.06.2026
16	STP at Athani market, Wadakkanchery Municipality, Thrissur (PRS) (IMPACT KERALA Ltd)	IMPACT KERALA Ltd	13.9 KLD STP	TS stage	30.06.2026
17	Augmentation of existing 3 MLD STP at Chakkamkandam to 5 MLD with Septage Cotreatment Capability, Guruvayur Municipality (AMRUT-2.0)	Kerala Water Authority	2	DPR stage AS to be issued	DPR expected to be finalized by 30.04.2026
18	General Hospital, Irinjalakuda Municipality, Thrissur (PRS)		0.150	TS received	DPR expected to be 31.12.2026
19	FSTP at Ramavarma puram, Thrissur Corporation	Thrissur Corporation	0.1	Tendering Stage	Expected to be tendered by 31.05.2026
20	Erumapetti FSTP	IMPACT Kerala Ltd		DPR Stage	Soil test to be done by LB. Reminder sent.
PALAKKAD					
21	STP for Municipal Buildings, Palakkad Municipality (AMRUT-2.0)	Palakkad Municipality	0.030	DPR Stage AS to be issued	DPR is expected to be submitted by 15.04.2026
22	Construction sewage treatment plant in Alathur taluk hospital, at Palakkad		0.005	DPR revision stage	Land constraints- Need to revise the DPR.
23	FSTP at Shornur	IMPACT Kerala Ltd.		DPR Stage	MoU to be signed with IMPACT Kerala.
24	ChitturThathamangalam FSTP, palakkad	IMPACT Kerala Ltd	20 KLD	DPR Stage	MOU to be executed with IMPACT Kerala Ltd.
MALAPPURAM					
25	Eco-Friendly wastewater Treatment Plant (140 KLD) for Women and Children Hospital Ponnani Municipality, Malappuram	Suchitwa mission	0.14	Tendering stage	Agreement executed on 26-12-2025.
26	FSTP at Perinthalmanna	Aquatechnics Water Treatment Technologies Pvt. Ltd. Ernakulam		New location to be identified.	
KOZHIKODE					

27	STP with Septage Cotreatment Capability at Sarovaram, Kozhikode Corporation	Kerala Water Authority	27	To be retendered	Expected to be tendered again by 30.04.2026
28	STP at Vadakara Municipality, Kozhikkode	IMPACT KERALA Ltd	0.5 MLD Sewage TP 20KLD FSTP 20KLD	DPR stage	DPR being corrected. Land Issue. Land Conversion process ongoing
KANNUR					
29	STP with Septage Cotreatment Capability at Maithanappally, Kannur Corporation (AMRUT-2.0)	Kerala Water Authority	5	To be retendered	Expected to be tendered again by 31.05.2026
30	STP at hospital, Pazhayangadi, Kannur	Kerala Water Authority	0.120	At tendering stage	31.12.2026
31	DPR for perumba fish market Payyanur Municipality, Kannur	Kerala Water Authority	0.01	Work tendered	25.10.2026
32	150 KLD Sewage Treatment Plant - Mattannur Municipality		0.2	At tendering stage	TS issued 06-11-2025. Tendering process ongoing.
33	FSTP at Valliyayi, Mokeri GP	Suchitwa Mission		TS issued on 17-10-2025.	
34	Panur BP FSTP	IMPACT Kerala Ltd	50 KLD	TS Stage	MOU to be executed with IMPACT Kerala for proceeding with tendering.
WAYANAD					
35	65 KLD Sewage Treatment Plant at Taluk Head Quarters Hospital Vythiri, Kalpetta Block Panchayat, Wayanad	Suchitwa mission	0.065	At DPR Stage Revised DPR preparation ongoing.	31.12.2026
KASARGOD					
36	Taluk Hospital, Neeleswaram Municipality Kasaragod	Suchitwa mission	0.040	DPR under revision	31.12.2026
37	FSTP at Manjeswaram, Manjeswaram GP	Suchitwa mission		TS issued	Paused due to public protest
38	Construction of 36 KLD FSTP at Kayyur-Cheemeni Grama Panchayath,		0.036	TS issued	
Total Capacity = 156.39 MLD					

Projects by Indian Railway

Sl No.	Location	Implementing Agency	Status of Project
1	STP at Ernakulam Junction railway station	Indian Railway	The STP will be commissioned along with Station redevelopment of Ernakulam Junction (South) Railway Station

2	STP at Aluva station	Indian Railway	Agency awarded for installation of STP at Aluva Railway Station. But the agency has yet to commence the work
3	STP at Ernakulam North	Indian Railway	The STP will be commissioned along with Station redevelopment of Ernakulam Junction (North) Railway Station
4	Diesel Loco Shed, Southern Railway, Ernakulam	Indian Railway	Inspections were conducted in every week since the commencement of remediation. Inspection was conducted by Board officials on 09.04.2024. Remediation work and filling of the land with red earth was seen completed. The excavated oil sludge will disposed to KEIL. Even though there is large extent of affected water logged area, the railway have now completed remediation 2000 sq ft land area.

Proposed Sewerage System

Sl No	Sewage network system	Implementing Agency	Capacity of STP proposal	Project Status	Likely Date of Completion of DPR Preparation/ Tendering
1	Sewerage system for Thiruvananthapuram Corporation- Cluster 1 Attukal, Ambalathara, Kaladi, Kalipankulam&Kamale swaram	KWA	7.0(for utilizing existsting 107 MLD)	DPR Approved. In Cluster 1 Kaladi Zone 3 &Attukal Zone 4 Part- Work awarded, Attukal Zone 1 Part- Work retendered, Ambalathara Zone 5 Part- The roads under DLP. Once road cutting sanction obtained work can be tendered	
2	Preparation of DPR for proposed sewerage system to the Madhippuram colony and surrounding areas near VizhinjamHarbour, TVM	KWA	5	DPR Approved	
3	Detailed Engineering Report for Sewerage Scheme in Neyyattinkara Zone I,TVM		2.5 MLD	DPR Approved	
4	Detailed Engineering Report for the Sewerage scheme in Alappuzha Municipality with ST P – Phase 1		5 MLD	DPR Approved	
5	Detailed Engineering Report for the Sewerage scheme in Haripad Municipality - Sewage Treatment Plant of Capacity 2.6 MLD– Phase 1 and Sewerage Network of Length 58km – Phase 2, Alapuzha		2.6 MLD	DPR Approved	
6	Comprehensive sewerage scheme- Government medical college, Kottayam		5 MLD	DPR Approved	
7	Sewerage System for Kattappana Municipality		1.76	DPR Approved	
8	Detailed Engineering Report for Sewerage Scheme in Kalamassery		2.6 MLD	DPR Approved	

	Municipality-Phase-1, Kochi				
9	Sewerage System for Aluva –Zone 1		1.72	DPR Approved	
10	Sewerage system for Pattambi municipality		5.4	DPR Approved	
11	Decentralized Sewerage Scheme (STP at Kokkala), Thrissur Corporation (AMRUT-2.0)		2.5	DPR approved The draft DBOT tender/EoI document is being vetted by the CE, LSGD's office.	31.03.2026

Mobile FSTP

No.	Location	Implementing Agency	Capacity of the STP proposed in MLD	Status of Project (in Detail)	Incremental Progress	Likely Date of Completion of DPR preparation/ Tendering
1	Mobile Treatment unit – Chalakudy – by BHOUMA ENVIROTECH PVT LTD		0.036	Operational		
2	Mobile Septage Units- 2 nos, Alappuzha Municipality (AMRUT-1,0)	Alappuzha Municipality/ AMRUT	0.02 (0.01 x 2 nos.)	Physically completed.	Both units delivered. The trial run was done by Bhouma on 05.07.2025. As per the test results (dated 28.07.2025) given by the KSPCB it was observed that the faecal coliform content in the effluent taken from both units and the oil & grease content in the effluent of one unit were above the allowable limits. Hence the ULB has asked Bhouma to conduct the trial run & testing again. This time the ULB is planning to give samples for testing to the KSPCB's lab as well as to a NABL accredited lab suggested by the KSPCB. Trial run & testing to be conducted again by Bhouma. Trial run was done again by Bhouma on 15.11.2025. As per the test results received, all parameters were found to be within the	

					allowable limits prescribed by the KSPCB. MTUs are to be made operational by the ULB.	
3	Mobile Treatment Unit - Kodungalloor, Neyyattinkara, Chirayinkeezhu, Kumarakam, Wadakkancherry			proposal stage		
4	Mobile Septage Treatment Units - 2 nos., Kollam Corporation (AMRUT-1.0)	0.02 (0.01x2 nos.)	45%	Tender to be floated by the ULB in the GeM portal for the 2 nd unit.	Decision to be taken by the ULB regarding the procurement of the 2 nd unit. One unit delivered and is to be made operational. The agenda for cancelling the procurement of the 2 nd unit will be placed in the Council after the MCC is withdrawn.	Decision on procuring the 2 nd unit is expected to be taken by the ULB by 31.05.2026.

Underground STPs (Proposed)

No	Projects	Status
1	UG STP for Thavanur Central Prison & Correctional Home, Malappuram Dist.	DPR submitted to SM for financial status. MoU to be signed.
2	UG STP at Parassinikkadavu, Anthur Municipality, Kannur Dist.	DPR submitted to SM for financial status. MoU to be signed.
3	Govt. Ayurveda Hospital, Piravom Municipality, Ernakulam Dist.	DPR submitted to SM for financial status. MoU signed.
4	3 projects in Alappuzha district i. Civil Station in Alappuzha Municipality ii. Revenue Tower, Taluk Office in Haripad Municipality iii. Taluk Hospital in Haripad Municipality	- RFQ invited for PFR from empanelled agencies with 09.06.25 as last date. 8 quotes received, under evaluation. Placed before the technical committee. Selection notice to be issued. - In the review meeting held by Principal Director on 05.06.2025, directed LB to proceed with soil test.
5	2 projects in Palakkad district i. PHC in Akathethara Grama Panchayat ii. KAP Camp in Puthupariyaram Grama Panchayat	- RFQ invited for PFR from empanelled agencies with 09.06.25 as last date. 8 quotes received, under evaluation. Placed before the technical committee. Selection notice to be issued. - In the review meeting held by Principal Director on 05.06.2025, directed LBs to proceed with soil test.

IV.Details of Industrial Pollution:

- **Total Effluent Generating units= 16288**
- **Quantity of Effluent generated = 126.62 MLD**
- OCEMS facility provided in 48 industries and is linked to the SPCB/CPCB servers. In case of

exceedance follow up is done.

- Number of industrial units connected to CETP: As per the available data–95nos

Number and total capacity of CETPs (details of existing/under construction /proposed)

- 9nos of CETPs are functional (Total Capacity – 9.545 MLD)
- Proposed CETPs –3 nos. (Total Capacity- 3.12 MLD).

Details of existing/under construction/proposed CETPs in the State						
CETP Name	Treatment Capacity	Operational Capacity	Status(Whether Operational or Non operational)	Number of member units	Number of complying units	Whether complying with parameters
Kinfra Apparel Park, St.Xavier's College P.O, Thumba, Thiruvananthapuram	4.5 MLD	4.5 MLD	Operational	10		pH- 7.2, TSS - 11mg/l, TDS - 1562mg/l,BOD- 4.2mg/l, COD - 48mg/l,O& G-BDL,Ammoniacal Nitrogen - 16.1mg/l, Nitrate Nitrogen- 33.2mg/l, Total Kjeldahal Nitrogen- 17.4mg/l,Phosphates-0.0705mg/l, Chlorides- 348mg/l,Sulphates- 1.7mg/l,Flouride- 1 mg/l, Total Residual Chlorine -2mg/l, Phenolic Compounds - BDL, Sulphides-BDL, Cyanide-BDLas per analysis report dated 24.04.2026.
CETP,KINFRA,Elamannoor, Pathanamthitta	0.22 MLD	30 Cubic metre per day	Operational	4	4	pH - 6.5 to 8.5, TSS - 100, BOD - 30, O&G - 10,COD-250 as per analysis report dated 12.01.2026
KSIDC Mega Food Park, Pallipuram, Cherthala, Alappuzha	2 MLD	0.5 MLD	Operational	6		pH-7.7 mg/L, BOD-30.24 mg/L, SS- 21.2 mg/L O&G-BDL , as per analysis report dated 24.12.2025
Sea Food Park (India) Ltd., Aroor, Alappuzha	0.3 MLD	0.3 MLD	Operational	10		pH-7.5 mg/L, BOD- 11.62mg/L, SS-5 mg/L, O&G-BDL , as per analysis report dated 31.12.2025
Kinfra Small Industries Park Nellad, Mazhuvanoor	0.4 MLD	0.4 MLD	Operational	15		pH- 7.09, COD-248 mg/L, BOD- 18.37mg/L, Oil

						and Grease-BDL, Total Suspended Solids –182.4 mg/L, Fluorides< 1 mg/L, Chlorides-149.9 mg/L, Phosphate – 1.89 mg/L, Nitrate-1.10, Sulphates – 19.78mg/L, Sulphides– 3.63 mg/l, Ammoniacal Nitrogen – 0.964mg/l, Phenolic Compounds – BDL, as per analysis report dated 05.06.2025
Rubber Park India Private Limited (New Plant), Common Effluent Treatment Plant, 2 A, Kaudileeyam, Rubber Park, Valayanchirangara, Ernakulam- 683556	0.25 MLD	0.25 MLD	Operational	17 Units Dormitory and Canteen		pH- 8.11, COD-40 mg/L, Oil and Grease-BDL, Total Suspended Solids – BDL, TDS – 1.31, Chlorides-29.9mg/L, Sulphates – 28.25 mg/L, Sulphides – BDL, Fluorides < 1 mg/L, Ammoniacal Nitrogen –0.21 mg/L , Phenolic Compounds - BDL, Phosphates – 0.53 mg/l, Nitrate – 7.8 mg/l and Total Residual Chlorine - BDL as per analysis report dated 10.06.2025 Action is taken for preventing exceedance.
CSEZ, Kakkanad, Cochin Special Economic Zone Ernakulam	1 MLD		Operational	14		pH-7.23, TSS-BDL , TDS – 360 mg/l, Chloride – 6.9 mg/l, Residual Chlorine – BDL, phosphate-BDL, sulphide-BDL, ammoniacal nitr

						ogen– 0.078mg/L, BOD- BDL , COD-4 mg/l, Sulphate – 6.8 mg/l, Oil & grease – BDL, Copper- BDL, cadmium – BDL, Nitrite as Nitrogen – BDL, Nitrates as Nitrogen – 2.334 mg/l, Total Kjeldahl Nitrogen – 1.232 mg/l, Iron – BDL, Manganese – BDL, Nickel – BDL, Lead – BDL, Zinc – BDL analysis report dated 20.06.2025
KinfraTechno Industrial Park, KakkancheryChelambara P.O, Malappuram	0.675 MLD	0.675 MLD	Operational	17	17	pH – 7.4, BOD – 13 mg/l, COD – 56 mg/l, TSS – 62 mg/l, oil & grease – BDL as per report dated 19.07.2025
Kinfra Textile Centre, Nadukani, Pallivayal P.O, Thaliparambu, Kannur– 670142	0.2 MLD	0.2 MLD	Operational	2	2	pH – 8.91, BOD – 303.5 mg/l, COD – 736 mg/l, Oil & Grease – 10.72 mg/l, TSS – 104 mg/l as per analysis report dated 13.08.2025

*Appropriate action is being taken in cases where the specified standards are exceeded.

CETP- Proposed						
CETP, Industrial department, Aroor	1.5 MLD	Proposed	• GM issued proceedings on 08/01/2024 to resume the 1 acre land from JIS international • The time line now given to the unit for handing over the land to the Industries Department , if it does not start industrial activities in the land, is extended for 6 more months from 19.01.2024.			NA
CETP, Chandiroor	1.5 MLD	Proposed	• Not constructed (Land procured)	Sanctioned Rs. 10 crore in the 2024-25 annual budget for the construction CETP	ACCEPT Environment Solutions have submitted a project proposal.	
KINFRA Spices Park, Muttom, Idukki	0.120 MLD		• ICO issued. CETP is ready to operate		Industries have not started functioning.	

Solid Waste Management

- Total quantity of waste generated = 10182.91 TPD.
- Quantity of biodegradable waste = 7477.05 TPD
- Quantity of non-biodegradable = 2196.71 TPD

1. BIODEGRADABLE WASTE MANAGEMENT

In Kerala, an effective wet-waste management system is being implemented with mandatory source segregation into wet (biodegradable) and dry (non-biodegradable) fractions. The wet waste generated in the state is managed by a three tier system.

Through Household Level Devices: Kerala has successfully implemented household-level management of biodegradable waste through the widespread adoption of decentralized solutions such as compost bins. Recent data shows 23,98,843 numbers of composting bins and 68,973 numbers of household-level biogas plants are functioning effectively across the State. As a promotion for using source level waste management devices, the state is providing 90% subsidy to the beneficiaries for purchase of household level biomethanation/composting devices, through the LSGIs. In addition to that, Fifty percent of the estimated project cost, up to a maximum of one lakh rupees is given to the private sector institutions, hostels and hotels for setting up waste management plants in their premises. Workshops and campaign activities are also conducted to inform the Bulk Waste Generators and institutions about source-level waste management.

At present, 186 agencies are empaneled statewide for various services like supply of bio waste management devices, supply of quality inoculum for efficient composting and translation of technologies etc. in biodegradable waste management.

To ensure sustainability and to support households in the effective implementation and operation of these systems, address user queries, and provide technical assistance, more than 5000 Green Technicians have been deployed across Kerala. Overall, this decentralized approach has proven to be highly effective in reducing the overflow of waste from households and thereby reducing requirements of centralized plants

Through Community Level Facilities: To manage waste generated from markets and other institutions, Local bodies collect biodegradable waste through Haritha Karma Sena members or sanitation workers and process it at community-level facilities such as composting units, biogas plants, and windrow composting facilities.

Regional Level Facilities: Some rapidly urbanizing areas where the overflow of biowaste is sufficient enough to make a commercially viable CBG plant, State has proposed establishment of regional-level compressed biogas (CBG) plants to make the system future proof.

Details of biodegradable waste Management Facilities in the state are given in Table 1.

Table 1. Biodegradable Waste Management Facilities in the State					
District Name	Total BDW Generation (TPD) based on 2026 population	Total capacity of Compost Facilities (TPD)	Total capacity of Bio methanation Facilities (TPD)	Total Rendering Facilities (TPD)	Total BDW Processing Capacity (TPD)
Thiruvananthapuram	778.04	789.05	70.25	61.40	920.69
Kollam	569.34	578.89	55.94	70.94	705.77
Pathanamthitta	223.58	205.32	19.70	16.73	241.75
Alappuzha	424.90	405.86	31.16	43.17	480.19
Kottayam	394.15	380.76	28.01	43.82	452.59
Idukki	207.63	205.19	16.24	11.99	233.43
Ernakulam	788.23	716.32	49.81	115.28	881.42
Thrissur	698.76	672.11	59.03	52.22	783.36
Palakkad	610.67	646.63	36.26	72.18	755.07

Table 1. Biodegradable Waste Management Facilities in the State					
District Name	Total BDW Generation (TPD) based on 2026 population	Total capacity of Compost Facilities (TPD)	Total capacity of Bio-methanation Facilities (TPD)	Total Rendering Facilities (TPD)	Total BDW Processing Capacity (TPD)
Malappuram	994.93	935.26	121.77	127.98	1185.01
Kozhikode	754.90	769.50	55.56	74.57	899.62
Wayanad	172.17	185.03	6.70	21.92	213.65
Kannur	570.17	587.60	38.07	54.80	680.46
Kasaragod	289.58	294.39	18.59	25.53	338.51
Grand Total	7477.05	7371.91	607.08	792.55	8771.53

The quantity of biowaste generated in the State is approximately 7477.05 TPD, while the existing processing facilities including household, institutional, and community-level systems have a combined installed capacity of about 8771.53 TPD. While accounting for each ULB, a capacity gap exists, a significant portion of the remaining biowaste is productively utilized as livestock feed. A substantial share of biowaste generated originates from Bulk Waste Generators such as hotels, restaurants, and catering establishments, primarily in the form of food waste. The food waste collected from these sources is generally of good quality and can be used as livestock feed with minimal pre-processing. Farm owners often collect food waste directly from these establishments and utilize it as animal feed, thereby ensuring the productive reuse of a considerable quantity of food waste.

To establish a sustainable and long-term system for biowaste management and to address the existing processing capacity gap, the State has proposed the development of regional-level Compressed Biogas (CBG) plants. The status of the projects are given in Table 2.

Table 2. Status of Compressed Biogas Plants			
Sl.No.	Location of the plant	Capacity of Plant (TPD)	Implementation Status
1	Palakkad Municipality	110	85% work completed
2	Kochi Corporation	150	Trial run completed
3	Thrissur Corporation	30	Construction Started
4	Thiruvananthapuram Corporation	150	In land acquisition process
5	Kollam Corporation	150	Agreement signing stage
6	Kozhikode Corporation	150	Agreement executed
7	Changanaserry Municipality	30	Tendering stage
	Total	770	

2. NON-BIODEGRADABLE WASTE MANAGEMENT

Dry waste generated from households and institutions is collected and transported to Material Collection Facilities (MCFs) or Resource Recovery Facilities (RRFs), where it is segregated into recyclable and non-recyclable waste. The recyclable waste is sent to recycling units, while non-recyclable waste is directed to co-processing facilities, such as cement plants. Table 3 gives the details of non biodegradable waste collection and segregation facilities.

Table 3. Non-Biodegradable Waste Management Facilities in the State		
Facility Type	July 2025	Jan 2026
Mini MCF	19808 Nos	20051 Nos
Containers for temporary Storage	148 Nos	158 Nos
MCF	1272 Nos	1350 Nos
RRF	167 Nos	192 Nos
Clean Kerala Company + Private Facilities	73 Nos 685.64 TPD	80 Nos 715.64 TPD

The state is handling non-bio waste through collection, storage & handling, segregation and processing through facilities established by local bodies and private agencies. The details are shown in table 4.

Table 4. Non-bio waste generation and processing capacity					
District Name	Total NBDW Generation (TPD) based on 2026 population	Facilities in Local Bodies (TPD)	Private agency Godown Facility (TPD)	CKCL Godown Facility (TPD)	Total NBDW Processing Capacity (TPD)
Thiruvananthapuram	240.67	164.75	68.26	12.20	245.21
Kollam	166.94	127.83	23.94	22.20	173.97
Pathanamthitta	63.04	64.16	0.00	5.00	69.16
Alappuzha	121.26	138.00	11.62	39.06	188.68
Kottayam	112.02	109.93	15.33	22.84	148.10
Idukki	57.38	59.68	6.04	9.79	75.51
Ernakulam	242.19	213.29	69.63	7.00	289.93
Thrissur	205.77	215.05	13.52	0.00	228.57
Palakkad	171.57	133.01	49.26	4.50	186.77
Malappuram	285.61	168.48	128.21	2.50	299.18
Kozhikode	229.90	187.16	80.67	5.60	273.42
Wayanad	48.88	30.30	54.28	6.07	90.65
Kannur	170.04	169.68	17.81	10.00	197.50
Kasaragod	81.44	87.60	18.59	11.73	117.92
Grand Total	2196.71	1868.93	557.16	158.49	2584.57
Kerala Enviro Infrastructure Ltd (KEIL)					16.00
Grand Total (TPD)					2600.57

3. LEGACY WASTE MANAGEMENT

Legacy dump sites in the State are being remediated through biominining, a scientific process that employs microorganisms and natural methods to excavate, treat, segregate, and recover useful materials from long accumulated waste. These legacy wastes, comprising organic matter, plastics, metals, and other materials compacted over several years, are segregated into fractions and systematically processed.

Across the State, a total of 59 legacy dump sites have been identified, biominining and bioremediation activities have been completed at 24 sites, while remediation work is currently in progress at 21 sites. The process is scheduled to commence at the remaining 14 sites. Details of the quantities of processed and unprocessed legacy waste are presented in the table 7 below.

Table 4. Progress of Biominining projects

	June 2025			December 2025		
	No	Quantity (MT)		No	Quantity (MT)	
		Processed	unprocessed		Processed	unprocessed
Completed Sites	24	358278.55	0	24	369978.33	0
Ongoing Sites	19	962389.14	396970.58	21	1008764.85	433601.79
To be started	16	0	173719.29	14	0	142369.46
Total	59	1320667.69	570689.87	59	1378743.18	575971.24

Remediation Completed Sites

	Name of Districts	Name of Local Body	Legacy waste site (district wise)	Quantity of processed waste (in MT) in each site
1	Thiruvananthapuram	Thiruvananthapuram Corporation	Palayam market	4804
2	Thiruvananthapuram	Thiruvananthapuram Corporation	Erumakuzhi, near chala market	900
3	Kollam	Kollam Corporation	Kureepuzha	83926

4	Pathananmthitta	Pathanamthitta Municipality	Near Mini stadium, PTA	800
5	Pathananmthitta	Adoor Municipality	Kaimalapara, Ward no. 2, Adoor	500
6	Pathananmthitta	Pandalam Municipality	Near RRF Unit, pandalam	400
7	Ernakulam	Kalamassery Municipality	Kalamasseri	46699.78
8	Thrissur	Kodungalloor Municipality	Pullut, Chappara, Kodungalloor	26000
9	Thrissur	Guruvayur Municipality	Choolpuram, Guruvayoor	20000
10	Thrissur	Kodungalloor Municipality	T.K.S. Puram, Kodungalloor	607
11	Palakkad	Pattambi Municipality	Pattambi, Sankaramangalam	1041.1
12	Malappuram	Malappuram ulb	Puliyettummal, Near Inkel city, Malappuram	5079.04
13	Malappuram	Tirurulb	Trenching ground, Ottilathara	3079.2
14	Malappuram	Perinthalmanna Municipality	Perinthalmanna, Kunnappalli	200
15	Malappuram	Manjeri Municipality	Vettekkode, Manjeri	13902.11
16	Kozhikkode	Kozhikkode Municipal Corporation	Kalliyi, ward-56, beside the river	15
17	Kozhikkode	Koyilandy Municipality	Koyilandi	40
18	Kozhikkode	Kozhikkode Municipal Corporation	Njaliyanparambu	130,000
19	Thrissur	Thrissur Corporation	Laloor	19500
20	Palakkad	Alathur Grama Panchayath	Alathur	1824
21	Palakkad	Vadakkanchery Grama Panchayath	Vadakkanchery	1520
22	Palakkad	Nemmara Grama Panchayath	Nenmmara	3641.1
23	Kottayam	Mundakkayam Grama Panchayath	Mundakkayam	4000
24	Kottayam	Erumeli Grama Panchayath	Erumeli	1500

		Total		369978.33
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Remediation work in progress

Sl No.	Name of Districts	Name of Local Body	Legacy waste site (district wise)	Quantity of waste (in MT) in each site	Quantity of processed waste (in MT)
1	Thiruvananthapuram	Attingal Municipality	Attingal, Chudukad	11365	7800
2	Kottayam	Kottayam municipality	Vadavathoor, Kottayam	80943.3	12950.91
3	Ernakulam	Kothamangalam Municipality	Kumbalathumuri, Kothamangalam	19146	Yet to Start
4	Idukki	Thodupuzha Municipality	Parakadavu, Thodupuzha	28000	18000
5	Ernakulam	Kochi Corporation	Brahmapuram, Kochi	843000	732465
6	Thrissur	Chavakkad Municipality	Chavakkad	5000	3600
7	Thrissur	Wadakkanchery Municipality	Kumbalangad	21063	14745
8	Palakkad	Ottapalam municipality	Panamanna, Ottappalam	37600	28100
9	Kannur	Kannur Corporation	Chelora	43727.32	32874
10	Kannur	Mattannur Municipality	Mattannur, Karithurparamba	15680	10328
11	Kottayam	Changanaserry Municipality	Fathimapuram, Changanaserry	7300	3650
12	Ernakulam	Muvattupuzha Municipality	Kurianmala, Muvattupuzha	44589	6242.46
13	Thrissur	Irinjalakuda Municipality	Irinjalakkuda, Mangadikunnu	18389	4200
14	Palakkad	Palakkad Municipality	Koottupatha, Kodumba	73827	53155.44
15	Kannur	Thalaserry Municipality	Thalaserry, Punnoolpetty	45430.4	18172.16
16	Thiruvananthapuram	Thiruvananthapuram Corporation	Vizhinjam	3177.1	317.71
17	Ernakulam	North Paravoor Municipality	Vedimara, North Paravoor	18666	Yet to Start
18	Thrissur	Wadakkanchery Municipality	Wadakkanchery, Kumblangad	16152	13729.2

19	Kozhikode	Vadakara Municipality	Puthiyappu, Vadakara	30693.6	7366.464
20	Alappuzha	Alappuzha Municipality	Sarvodayapuram	57200	34320
		Total		1420948.72	1002016.344

Remediation Work about to start

SL No.	Name of Districts	Name of Local Body	Legacy waste site (district wise)	Quantity of waste (in MT) in each site
1	Alappuzha	Kayamkulam Municipality	Murikkummoodu, Kayamkulam	6567.04
2	Kottayam	Erattupetta Municipality	Erattupettah, Thevarrupara	8000
3	Idukki	Kattappana Municipality	Kattappana, Puliyanmala	12000
4	Wayanad	Kalpetta Municipality	Vellaramkunnu, Kalpetta	9485.37
5	Kannur	Iritty Municipality	Iritty, Athithattu	1618.49
6	Kannur	Payyannur Municipality	Payyannur, Moorikkovval	2100.00
7	Kannur	Kuthuparamba Municipality	Palapparamba, Kuthuparambu	22473.955
8	Kasaragod	Kasaragod Municipality	Kelugudde, Kasaragod	12873.6
9	Kasaragod	KanhangadMunicipality	Kanjhangad, Trenching Ground Chemmattamvayal	3481.39
10	Kollam	Kottarakkara Municipality	Ugrankunnu, Kottarakkara	6596
11	Alappuzha	Mavelikkara Municipality	Puthiyakavu, Mavelikkara	2880
12	Idukki	Munnar Grama Panchayath	Munnar	25000
13	Ernakulam	Koothattukulam Municipality	Town-Ward 15, Koothattukulam	1346
14	Thrissur	Chalakkudy Municipality	Near Cosmos Club, Chalakkudy	6769
15	Kasaragod	MangalpadyGrama Panchayath	Kubanoor	12557.80
		Total		133748.6

Online Vehicle Tracking Portal

Rule 16 (6) of Solid Waste Management Rules, 2016 and on the order of Hon'ble NGT board developed an online vehicle tracking portal through ULCCS to monitor inter-state waste movement. GPS/ Mobile tracking through app can be implemented through this portal.

Sanitary Waste Management

Sanitary waste is collected separately at the source, based on demand, and is disposed of using double-chambered incinerators. In addition to the double-chambered sanitary incinerators established at the local body level and the common biomedical waste management facility (KEIL), four regional sanitary waste treatment plants, each with a capacity of 20 TPD, have been proposed in four regions to address existing gaps in the sanitary waste management sector (Given in Table 6). Agreements for the implementation of these projects have been executed.

Table 6. Regional Level Sanitary Waste Incinerators in the State			
S1. No	Location	Capacity(TPD)	Districts in the cluster
1	Kollam	20	Thiruvananthapuram, Kollam, Pathanamthitta
2	Ernakulam	20	Alappuzha, Ernakulam. Kottayam, Idukki
3	Palakkad	20	Thrissur, Palakkad, Malappuram
4	Kannur	20	Kozhikode, Wayanad, Kannur, Kasaragod

RDF Plants

To facilitate easier transportation and enhance calorific value, the conversion of reject waste into Refuse Derived Fuel (RDF) is being promoted. In this regard, seven RDF plants have been established across the State, while six additional plants are at various stages of implementation, with a combined capacity of 730 tonnes per day. The details are given in Table 5.

Table 5. Status of RDF Plants			
Sl No	Plant Location	Plant Capacity (TPD)	Status
1	Thiruvananthapuram	100	Ongoing

2	Kollam	80	Planning stage
3	Ernakulam	40	Completed
4	Ernakulam	40	Completed
5	Ernakulam	60	Planning stage
6	Ernakulam	60	Planning stage
7	Ernakulam	60	Completed
8	Palakkad	40	80 % work completed
9	Palakkad	100	Completed
10	Malappuram	40	Completed
11	Kozhikkode	40	Completed
12	Kannur	60	Ongoing
13	Kasaragod	10	Completed
		730 TPD	

Rendering plants

Meat rendering plants process animal by-product materials for the production of tallow, grease, and high-protein meat and bone meal. Plants operate in conjunction with animal slaughterhouses or poultry processing plants. The Government of Kerala developed guidelines for the operation of rendering plants which led to the standardization of facilities. The facilities use wastes as an input material to create valuable products as new outputs. The aim of resource-recovery is to reduce the amount of waste generated and optimize the values created from waste. Here, the newly functioning plants lead to the management of around **1068** TPD of poultry waste which would have ended-up as waste and created a menace to the people.

Details of Existing Rendering Plants

District	No. of plants	Plant Capacity (TDP)
Kollam	1	185
Pathanamthitta	1	30
Ernakulam	7	242
Thrissur	2	6.5
Palakkad	6	93.25
Malappuram	16	305.5
Kozhikode	1	30
Wayanad	1	12
Kannur	2	54
Kasargod	2	110

Status of proposed Waste- to- Energy Plants

Sl No.	Plant Location	Status of operation	Power generation
1	Palakkad Kanjikode	At Palakkad Municipality, around 50% of the construction work for the 110 TPD CBG plant has been completed.	110 TPD
2	Malappuram	8.09 acres of land identified by District Administration at Kurumbathur village Tirur taluk for setting up of WtE plant. The land is under possession of KSIDC. Details of this are reported to be submitted to Government already by LR Deputy & ROOHFWR	
3	Ernakulam Brahmapuram	Construction of CBG Plant ongoing	150TPD
4	Kannur Chelora	Work of plant can be started only after the work of Biomining is carried out. WIE plant is proposed in 9.7 acres of land after clearing the legacy waste. Tendering completed and 65 DPR prepared by Blue planet. Consent application is yet to be received. For biomining, volume of legacy waste - 1,22,844 m3 (NIT). First given to Zonta and they asked to revise the amount of biomining Again retendered and identified a suitable contractor, Jan AdharSevabhaviSanstha.Bio mining has already started. Agreement to be executed Bio-mining is already started (6500) cum is biomined (50%)	

5	Thrissur Corporation	Proposal for CBG plant in the district is at various stages of planning.	30 TPD
6	Thiruvananthapuram Corporation	Proposal for CBG plant in the district is at various stages of planning.	150 TPD
7	Kollam Corporation	Proposal for CBG plant in the district is at various stages of planning.	150 TPD
8	Kozhikode Corporation	Proposal for CBG plant in the district is at various stages of planning.	180 TPD
9	Changanassery Municipality	Proposals for CBG plant in the district is at various stages of planning.	20 TPD

Other interventions taken by the State in Solid Waste Management

Registration of Unauthorized Dealers

Scrap dealers are pivotal in the non-biodegradable waste management process in Kerala, contributing significantly to the collection and processing of waste. They engage in collecting, sorting, and processing diverse scrap materials, such as metals, paper, plastics, and electronics, contributing to the reduction of waste reaching the mainstream. Efforts are underway to register them officially and evaluate the volume of waste they manage.

Sanitary landfill

The non-usable, non-recyclable, non-biodegradable, non-combustible and non-reactive inert waste and preprocessing rejects and residues from waste processing facilities shall only go to sanitary landfill and its specifications are given in zi of Rule 15 of the Solid Waste Management Rules, 2016.

In the State, for a Regional Sanitary Landfill 25 acre of land has been earmarked by KINFRA at site of FACT at Ernakulam and action is being carried out to set up. Another secured landfill is under construction in Attingal Municipality.

VI. Bio-medical Waste Management:

As per Annual Report in the whole state for the year 2024-25:

- Total Bio-medical generation: 96773.817 kg/day
- No. of Hospitals and Health Care Facilities: 29465
- Total Bio-Medical waste treated :96773.817 kg/day

Board has entrusted Council of Scientific and Industrial Research organization , National Institute for Interdisciplinary Science and Technology (CSIR-NIIST) for conducting a detailed assessment of healthcare facilities in the Kerala state. The works include field inspection, field data collection; estimation of gap and for projected/ extrapolated requirements of CBWTF'S for next ten years and entered into an agreement.

VII. Hazardous Waste Management:

As per Annual Report in the whole State for the year 2023-24:

- Total Hazardous Waste generation: 44915.3351 Metric Tonne/year
- Total hazardous waste recycled: 2727.8695 Metric Tonne/year
- Total hazardous waste utilized: 54.165 Metric Tonne/year
- No. of Industries generating Hazardous waste: 2302
- Treatment Capacity of CTSDF in the State: 27,50,000 MTA for 45 years
- Total hazardous waste treated (captive and Common) : 57451.16Tonne/year

VIII . Plastic Waste Management:

- Total Plastic Waste generation: 68683.7 TPA (as per annual report in the whole State for the year 2024-25).
- Material Collection Facility – 1233 nos.; Resource Recovery Facility-136 nos.
- Processing including recycling- 66402.5 TPA
- Gap between current status and desirable level :2281.2 TPA

IX. Details of Alternate Treatment Technology being adopted by the State/UT:

- Decentralized Wastewater Treatment System (DEWATS) system coupled with Phyto-remediation was provided in a slum area, Chathanad in Alappuzha, Kerala. The system consists of Anaerobic baffle reactor, planted gravel filter. Waste water from the houses in the colony is collected through pipe line and then it enters the anaerobic baffle reactor and then it is passed through planted gravel filter and treated sewage is discharged into drain
- Centre for Water Resources Development and Management, Kozhikode submitted “proposal for the study of sewer infiltration into water resources via isotopic tracing and treatment of liquid waste by constructed wetland” submitted to Indian National Committee on Ground Water(INCGW) on 25-10-2021, a response is awaited from the INCGW.
- FSTP at Madakkathara, Thrissur is funded by UNICEF. The unit consists of Anaerobic Stabilization Reactor, Tiger Bio-filter, Intermediate Tank, PSF, ACF, Chlorination unit and Treated water tank.



X. Identification of polluting sources including drains contributing to river pollution and action as per Hon'ble NGT order on in-situ treatment:

- Polluting sources including drains contributing to river pollution were already identified and according to that action plans were prepared and submitted to CPCB. STPs were proposed in the action plans wherever necessary. Measures for management of waste were also incorporated in the action plans.

XI . Details of Nodal Officer appointed by Chief Secretary in the State/UT:

- Vide G.O.(Rt)No.93/2020/WRD dated 28.01.2020 Government of Kerala nominated Deputy Secretary (Projects),Water Resource Department as the nodal authority, Government of Kerala for monitoring the compliance of the directions in the order on fortnightly basis and to maintain record of progress and to act as an accountable person to the Chief Secretary for the purpose.
- Vide G.O.(Rt)No.223/2020/WRD dated 12.03.2020 Government of Kerala appointed a monitoring committee comprising of Additional Chief Secretary, Water Resources Department as Chairperson and Principal Secretary, LSGD, Principal Secretary, Environment, Secretary, Water Resources Department and Staff officer to Chief Secretary as nodal officers & members.

XII. Details of meetings carried under the Chairmanship Chief of Secretary in the State/UT:

- Regarding OA 514/2019 (Solid Waste Management) Chief Secretary convened meetings on 22.09.2020 and 25.09.2020 Regarding OA 804/17 (Implementation of Hazardous and Other Waste Management Rules, 2016) Chief Secretary convened meeting of 16/10/2020. Additional Chief Secretary Labour Department had convened 1st meeting on the same for Chief Secretary on 09/10/2020. Meeting of State Level Advisory Committee (SLAC) on Waste Management, chaired by Chief Secretary is being conducted in the State regularly to

discuss the various matters. 38 such meetings were conducted in Kerala so far. Last SLAC meeting was conducted on 12.02.2021.

- Meetings were held by the Chief Secretary on 11-12-2020, 30-03-2021 and 05-04-2021 with the Stake holder Departments/ Authorities, to review the progress in implementation of the projects taken up on the basis of orders of the Hon'ble National Green Tribunal in O.A. No. 673 of 2018(PZ).
- RRC Meetings were held on 28/05/2021 and 23/06/2021 and Review meeting was held by the Chief Secretary on 31-05-2021. RRC meeting convened on 22.07.2021. Review meeting was held by the Chief Secretary on 27.07.2021. RRC meeting convened on 02.09.2021 and Review meeting was held by Chief Secretary on 09.09.2021. RRC meeting convened on 01.10.2021 and Review meeting was convened by Chief Secretary on 23.10.2021. RRC meeting convened on 29.11.2021 and Review meeting was convened by Chief Secretary on 16.12.2021. RRC meeting convened on 13.01.2022 and Review meeting was convened by Chief Secretary on 27.01.2022. RRC meetings convened on 23.02.2022,01.04.2022 ,15.07.2022,13.10.2022,2/12/2022,08.02.2023,13.04.2023,20.05.2023, 11.08.2023,11.10.2023, 27.12.2023, 17.02.2024, 23.03.2024, 12.06.2024,01.08.2024 and 21.11.2024, 17.12.2024, 05.03.2025, 29.08.2025, 12.11.2025
- Review meetings were convened by Chief Secretary on 31.03.2022, 19.04.2022, 26.5.2022, 21.6.2022, 15.07.2022 & 23.08.2022,18/10/2022 &21.12.2022, 09.02.2023, 31/07/2023,06.11.2023, 25.03.2024, 08.07.2024, 16.11.2024, 13.06.2025

XIII. Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river:

Latest Analysis report of PollutedRiver Stretches are attached as Annexure of the Monthly Progress Report.

XIVGround water regulation:

Groundwater governance in the State is carried out through the statutory enforcement of the **Kerala Groundwater (Control and Regulation) Act, 2002**. As per the section 3 of the act, the Govt.of Kerala has been constituted the State Ground Water Authority in 2004, in order to regulate and manage ground water resources in the State. The **State Groundwater Authority** is responsible for the notification of areas (to regulate the extraction or use of ground water in any area, as required), regulation of groundwater abstraction, and the registration of drilling

agencies. Since 2009, the Authority has been issuing **No Objection Certificates (NOCs)** for groundwater extraction to industrial and infrastructure establishments. The issuance of NOCs are based on the recommendations of the **District Level Evaluation Committee (DLEC)**, chaired by the **District Magistrate**. The DLEC considers proposals based on scientific reports, including pumping test studies conducted by the district offices of the Groundwater Department. To further streamline these processes, the State Groundwater Authority implemented specific guidelines for groundwater extraction effective from **April 15, 2018**.

In notified blocks-specifically **Chittur and Malampuzha** in Palakkad District and **Kasaragod Block** in Kasaragod District-a permit is mandatory for the construction of new groundwater abstraction structures (except dug wells for domestic use) and conversion permit is mandatory for drilled wells to be energized. From 2016 to December 2025, 6,127 permits have been issued for digging new wells in notified blocks, while 1,939 conversion permits were granted. To regulate private drilling activities, 376 no of private rig agencies have been registered, 669 nos of registration certificates for private drilling rigs were issued, and 92 no of renewals were carried out in the State. The State Ground Water Authority has issued No Objection Certificates for 412 no of industrial units and 36 no of infrastructure units so far.

The Department has undertaken sustained awareness and outreach activities to improve compliance and promote ground water conservation and management to students, public officials, NGO's and people's representatives. A total of 451 mass awareness seminars on groundwater management were organized across the State during the period from April 2016 to December 2025.

For the year **2026-27**, the Department is proposed to intensify the implementation of the Act through wider public outreach and capacity building. About **70 awareness programs** are to be planned across the State, alongside the preparation of educational materials and handbooks for the public. Further strengthening of the State Groundwater Authority is envisaged through augmentation of scientific capability, including procurement of additional pumping test units, modern equipment, software, hardware and mobility support to improve regulatory oversight and groundwater resource management.

A statewide well census titled 'Neerarivu' has been carried out using a mobile application developed by KSREC with the support of Kudumbashree Mission. Data collection has been

completed in 331 Panchayats covering about 22 lakh abstraction structures, and the information generated will support future water budgeting and policy formulation.

In addition, for effective regulation of bulk groundwater extraction and transportation through tanker lorries, the Government have issued specific procedural guidelines. Vide G.O.(Rt) No. 465/2023/WRD dated 18.05.2023, provisions were introduced for issuance of No Objection Certificates (NOCs) for bulk groundwater supply. Subsequently, detailed procedures for Groundwater Extraction for Bulk Water Supply have been prescribed as per G.O.(Rt) No. 97/2026/WRD dated 27.01.2026, streamlining the application, scrutiny, monitoring, and compliance mechanisms associated with such extraction. These orders strengthen regulatory oversight, ensure scientific assessment prior to approval, and facilitate sustainable management of groundwater resources in the context of commercial bulk supply.

XV. Good Irrigation practices being adopted by the State:

Irrigation in Kerala is classified into two schemes.

- Major Irrigation and Medium Irrigation
- Minor Irrigation

The Irrigation department develops and maintains major and medium irrigation schemes/projects across the state. The primary activity of the Department is providing irrigation facility to the farmers of the State through its system comprising reservoirs, main canals, branch canals, feeder canals and other related infrastructure. The department maintains water distribution through the canal system. Water distribution is being carried out based on the cropping pattern of a particular area and a water distribution calendar prepared and approved by a committee headed by the District Collector with members of farming community, other stake holders and department officials. For proper distribution and maintenance of the canals Water Users Association (WUA)/ Farmers Association plays an important role.

1.Minor Irrigation

- Minor Irrigation schemes are divided into Class-I and Class-II depending on the ayacut served. Schemes serving above 50Ha up to 2000Ha are classified as MI Class-I. Lift irrigation schemes are also Minor irrigation schemes serving at least 40Ha. Aims to Construct RCBs, SWEGBs, ponds, VCBs, check dams, salt water barriers, storage weirs, cross bars, and protection works etc.

- MI Class-I schemes Minor works like improvements to tanks and rivulet, construction of check dams, sluices, regulators, bunds, vented crossbars, salt water barriers, layout of channels and drainage structures etc are usually undertaken under MI Class-I schemes.
- MI Class-II Schemes Minor irrigation works including construction of vented cross bars, canals, improvements to natural drains etc are taken up under this scheme.

Lift Irrigation

- Lifting of water is required for irrigating fertile land at a higher elevation where gravity flow of stored water is not possible. Although mechanical lifting is required, these schemes are very useful and serve the marginal farmers of the State.
- Optimum utilization of water by supplying designed quantity
- Works involving lifting of water with a command area not less than 40 hectares come under this category.
- This will increase in the ground water table in high altitude areas, Ensure water availability to farmers before the cropping period.
- This will reduce agricultural loss in high altitude areas due to water scarcity, their by reducing distress to farmers.
- At present the Irrigation Department has under its control 450 Lift Irrigation Scheme (LI schemes) with a total Ayacut of 43170ha.

Micro Irrigation

- Micro-irrigation system is a modern method of irrigation in which water is delivered slowly. Usually in the form of discrete droplets, continuous drops, streams, etc. Micro-irrigation system is popular these days for its low cost and water-efficiency.
- The benefits of micro irrigation and precision farming are well demonstrated with an average increase in yield by three times. Pepper as a case in point shows enhancement from 1.9 kg/wine to 6/wine on precision agriculture. Coconut also shows increase in productivity to 150 nuts per plant as against 45 without precision irrigation support.
- In the coming year department is planning to implement atleast one micro irrigation scheme in each district with the coordination of line departments and farmers. Steps are initiated to identify the location as well as crops in coordination with the agriculture department.

XVI. Rain Water Harvesting:

The Groundwater Department is the nodal department in the State for coordination and implementation of activities under the Jal Shakti Abhiyan - CTR, JSJB initiative with various line departments involved in water conservation activities.

From 2016 to March 2025, under the Groundwater Conservation and Recharge programme, 1179 recharge pits have been constructed, 65 open well or borewell recharge schemes were implemented, 16 small ring check dams were built, and 2 small ponds were renovated, resulting in a total of 1,262 recharge structures with an expenditure of 26.09 crore in the State. Further, during the financial year 2025-26, technical sanction was issued for works amounting to 600 lakhs, 58 schemes have been completed.

In compliance with the directions of the Hon'ble National Green Tribunal, the Department continues to implement groundwater conservation and artificial recharge measures as long-term strategies for aquifer sustainability through the plan funded scheme "Groundwater Conservation and Recharge". Artificial recharge schemes are predominantly undertaken in public buildings and government institutions, with priority accorded to blocks classified as Critical and Semi-critical, where the Stage of Groundwater Development exceeds sustainable thresholds or indicates emerging stress on aquifer systems. However in the latest Government order i.e. G.O.(Rt) No.93/2026/WRD dtd 28/01/2026 department has been taken steps to recharge bore wells drilled for domestic and private purpose by providing 80% subsidy on pilot basis. Bore wells constructed in Critical blocks (Chittoor, Malampuzha and Kasaragod) and in the Semi Critical block Kattappana will be taken for recharge.

As of February 2026, under the Jal Sanchay - Jan Bhagidari initiative in Kerala, a total of 9,170 works have been taken up across the State, of which 3,815 works have been completed and 5,355 works are in progress, with major concentrations in districts such as Palakkad, Kozhikode and Thrissur, and the activities are being subjected to regular monitoring to ensure timely completion and effectiveness.

For the year 2026-27, the Department intends to implement about 300 no of recharge structures across the State. The programme will also include execution of recharge pit/direct dug well recharge/ bore well recharge, rejuvenation of small open ponds and small check dams in first and second order streams to ensure sustainability of the ground

water resources. Implementation of recharge interventions will continue to be based on hydrogeological feasibility studies, scientific site selection and field supervision.

XVII. Demarcation of Floodplain and removal of illegal encroachment:

Kerala receives about 90% of the annual rainfall during the monsoon months from June to August and from October to November. The remaining period from December to May is practically dry. Most of the rain water received during monsoon period flows to sea within 48 hours of rainfall due to the character of the geographic terrain of the state.

- State Disaster Management plan 2016 was prepared by National Centre for Earth Science Studies in 1:50,000 scale using satellite images.
- Based on the request of central water commission, Government of Kerala constituted Regional Committee for scientific assessment of Flood prone areas in Kerala.
- Flood-level marking for the flood affected rivers has been carried out. Steps have been taken for conducting the studies regarding Flood plain Zoning. Due to the peculiar topography and dense population, evacuation of people from these zones is difficult.

Flood plain zoning is considered as an effective measure for flood management. As far as Kerala is concerned, the topography and total number of rivers, major lakes and other water bodies are entirely different compared to other states. Since Kerala has 44 rivers, except three rivers, all are west flowing; that is about every 14 km (average) there is a river. It may please be noted that the width of Kerala varying from roughly 30 to 120 km, and the total geographical area is 38863 km². Kerala is the 21st largest Indian state by area. As per census of 2011 the density of population per square kilometer is 859. By considering the above facts, implementation of zonation and demarcation of priority areas/non development zones will affect the populace of Kerala or leads to displacement from their ancestral settlement. This is why the Model Bill of 1975 issued by CWC has not been implemented in Kerala. However intensive contour may delineate and notification of limits of flood plains through LSGIs is a possible way out as far as Kerala is concerned to avoid future developmental activities in such area, for which a policy decision is necessary.

Desilting:- Flood havoc in 2018& 2019 very much affected the storage capacity of several regulators and check dams due to the accumulation of silt/ sand and other debris. In some

cases, the proper functioning of the regulators become halted due to the accumulation of the above said materials.

Vide G.O (Rf) No.50/2019/WRD dt 08-11-2019 Government issued AS for desilting of 6 structures, namely Cheruthuruthy check dam; Changanamkunnu regulator; Manjummel regulator; Purappallikavu regulator; Velliyankallu regulator cum bridge; Pookkottumana regulator cum bridge

The work for desilting of 6 regulators/ check dams were tendered and the works are indifferent stages.

Along with irrigation structures action were taken to desilt the dams as a pilot project to enhance the storage capacity which results more outflows and ground water recharge. Mangalam dam, Chulliyar dam, Meenkara dam and Walayar dam are the four dams listed. Apart from the above Irrigation department has initiated action to prepare an inventory of the present status of all the rivers in Kerala by entrusting the job to Executive Engineers. The primary objective is to find out the obstructions to free flow in rivers. It is expected to complete the process within a month and draft reports/ status reports were also be ready. As a follow up, the department intends to desilt the river stretches which need urgent action to avoid flooding in the vicinity; by utilising the amount announced in the Budget.

Encroachments can be assessed after detailed survey with the help of Revenue Department. Executive Engineers entrusted with ownership of rivers have been directed to identify the encroachments along rivers and prepare a list at the earliest Public Grievance report form has been developed in department website. 300 petitions were forwarded to the revenue officials for remedial action. 133 petitions also received since then are also forwarded to the concerned.

XVIII. Maintaining minimum e-flow of river:

- As per order of the Hon'ble NGT Order in OA no.498/2015 it is mandatory to maintain 15%-20% of average lean season flow in the river. E-flow can be assessed in many ways. Hydrological methods and holistic methods are generally used for this purpose. A good Hydrological data is maintained at IDRB Chief Engineers office at VikasBhavan. Steps have been initiated to collect last 25 years average flow details of all 44 rivers during summer season, ie from January to May.

- Ministry of Water resources, RD& Ganga Rejuvenation issued a notification (SO.5195 (E) dated 9.10.2018) to maintain e-flow in River Ganga. Hon'ble NGT order has given some relaxation to status , which are unable to adhere to the average percentage fixed as e-flow CE (I&A),&CE (IDRB) made discussion in this regard and action has been taken by IDRB to compile the last 25 years discharge of rivers. As per the report of Kerala State Disaster Management Authority (KSDMA) nearly 15% of the land area of the state prone to flood. On two (2) occasions, GOI (CWC) and Ministry of Environment Forest and climate change had circulated model bill on (i) Flood Plain Zoning (1975) (II) River Regulation Zone (2015). Considering the already enacted regulations vizi) Forest area ii) Coastal Regulation Zone (CRZ), the topography of the state, high population density , and number of rivers, Government has not yet taken a policy decision in this matter. The State Government has sent the apprehension of the State to GOI with regard to River Regulation Zone Bill.
- As per the direction of the Additional Chief Secretary (WRD), meetings were conducted with Chief Engineer, IDRB to discuss the availability of historical data. To carry forward the study of e-flow a training was arranged on 12.09.2021 to the engineers entrusted for e-flow calculation. A review meeting in this regard was also conducted on 01.10.2021 and in the meeting it was decided to calculate e-flow of the rivers, Meenachil and Manimala as pilot project. Data collection for Manimalariver completed. Data collection for Meenachil, Kadalundi, Karamana and Vamanapuram is in progress.
- It was decided in the last RRC meeting that an expert committee to be constituted to recalculate the e-flow. Accordingly an initial discussion of the technical committee has been convened and it has been decided to recalculate the e-flow for the rivers on the revised methodology. Secretary WRD directed (08/2023) to conduct a meeting with KSEB authorities, to collect required data for the e Flow calculation. Also details of dam, ground water, amount of water ejected out from hydro electric projects in various seasons are to be collected for the calculation of flow. For these, the Expert committee framed for vetting e Flow needs to be restructured to include representatives from KSEB, Fisheries, Environmental Scientists, etc. Hence we have requested to the above departments to nominate suitable officials from their department /institution who have

expertise in e-flow analysis/who can contribute to the same to be included in the Expert Committee. Follow-ups are going on. Based on the direction from the Administrative Department, an Expert committee was constituted for vetting the same. The first meeting of the committee is scheduled to be held on 10.01.2024. The present e flow calculation was done in line with the old methodology as per the direction of NGT. As per the existing NGT order the minimum E flow calculation required is 15-20. Since it is based on the flow of Himalayan fed rivers, the same method cannot be applied to Southern states which are monsoon fed. Hence a new methodology is required. An interdepartmental Expert Committee has been constituted for calculation of e-flow. 3 Meetings of the committee have been convened, and as per decision of the committee, Kuttiyadi river was selected as pilot project for arriving the new methodology for e flow calculation, and CWRDM is assigned with carrying out same.

- Fisheries data for Kuttiyadi river was obtained from the Fisheries Department and data collection regarding cross section of river from the Hydrographic survey wing is in progress. Reconnaissance survey for 14.6 Km has been conducted by Hydrographic survey wing and detailed estimate submitted to Head office for approval. The methodology for E flow calculation of Meenachil river was carried out by IDRB. The methodology in this regard is under review. The methodology was presented in the 4th meeting of the Expert committee 06.06.2024

XIX. Reuse of Treated Water:

Draft policy on treated waste water reuse is under preparation by Suchitwa Mission

XX. Model River being adopted by the State & Action proposed for achieving the bathing quality standards:

Tirur-Ponnani River, Malappuram

XXI. Status of Preparation of Action Plan by the 13 Coastal States:

As per the NGT order in O.A 829/2019 dated 22.06.2020 regarding the remedial action to restore sea water quality along the Indian Coastal areas, the Hon'ble NGT ordered that "All

States/UTs through their concerned departments such as Urban/Rural Development, Irrigation & Public Health, Local Bodies, Environment, etc. may ensure formulation and execution of plans for sewage treatment and utilization of treated sewage effluent with respect to each city, town and village, adhering to the timeline as directed by Hon'ble Supreme Court. STPs must meet the prescribed standards, including fecal coliform. CPCB may further continue efforts on compilation of River Basin-wise data. Action plans be firmed up with Budgets/Financial tie up.” In compliance with the order, CPCB instructed that the State PCB shall associate National Centre for Coastal Research, Chennai under Ministry of Earth Science for monitoring and assessment of coastal water within the jurisdiction of the Kerala State up to 5 km from shore and to evolve strategies for protection of the coastal areas in association with Coastal Zone Management Authority in the State and Prepare time bound comprehensive action plan along with implementing agency in consultation with Kerala State Coastal Zone Management Authority for control of coastal pollution in Kerala State. Also the State Government has instructed the Board to prepare action plan by consulting CUSAT. Based on this, the Member Secretary of Kerala State Pollution Control Board has conducted meeting with officials of CUSAT, National Centre for Coastal Research, Kerala State Coastal Zone Management Authority and also with the field level officers through video conferencing. The Action plan was forwarded to CPCB. CPCB put forward some suggestions and requested to modify the action plan upon concurrence with River Rejuvenation Committee. So, the Coastal Action Plan prepared has been forwarded to the concerned Stakeholder Departments for their remarks. Meetings in this regard convened on 23.07.2021 and 02.08.2021. The modified Coastal Action Plan was approved by RRC and the same has been submitted before State Govt. for approval. The Coastal Action Plan was submitted to CPCB with the approval of State Govt. The Coastal Action Plan is being revised with projected population for the year 2024.

XXII. Regulation of Mining Activities in the State/UT:

Indian parliament has enacted the Mines & Minerals (Development & Regulation) Act, 1957 and it stipulates for the conservation, prudent and discriminate exploitation of minerals with a view to secure maximum benefit to the community. In exercise of powers conferred by section 13 of Mines and Minerals (Development & Regulation) Act 1957, the Central Government has framed the Mineral concession Rules, 1960. The Central Government has also framed the Mineral Conservation and Development Rules, 1988 in exercise of the powers conferred by section 18 of the Act. These Rules are applicable to all minerals except coal,

atomic minerals and minor minerals. The powers of framing rules for minor minerals have been delegated to the State under section 15 of the mines Act. In exercise of the powers conferred by section 15 (1) of the Act the State has framed the Kerala Minor Mineral Concession Rules 2015 and Kerala Minerals (Prevention of Illegal Mining, Storage and Transportation) Rules 2015 for the regulation and extraction of minor minerals. The Central Government in exercise of powers conferred by section 18 of the Act has also framed the Granite Conservation and Development Rules, 1999 for conservation & systematic development and scientific mining of the granite resources. The grant of reconnaissance permit, prospecting license or mining lease are governed by the central Act. The State with the prior approval of the Government of India grants permission for reconnaissance permit, prospecting license or mining lease for major minerals. The state Government issue quarrying permits and leases for minor Minerals based on the Kerala Minor Mineral Concession Rules, 2015. Other Acts and Rules which govern the mineral administration of India applicable to the State are the following:

- The Mines Act, 1952 (Act 35 to 1952)
- The Mines Rules, 1955 (35 of 1952)
- The Metalliferous Mines Regulations, 1961
- The Mines Rescue Rules, 1985
- Mines Vocational Training Rules, 1966
- Payment of wages (Mines Rules , 1966)
- Payment of undisbursed wages (mines rules, 1989)
- The Indian Explosive Act, 1884
- Air (Prevention & Control of Pollution) Act, 1981(14 of 1981)
- Environment (protection) Act, 1986 (29 of 1986)
- Indian Registration Act, 1908 (Central Act of Act 16 of 1908)
- Kerala Protection of River Banks and Regulation of Removal of Sand Act, 2001
- Kerala paddy field and wetland conservation Act, 2008.
- Kerala Panchayath Act.

There is no large scale mining activity in Kerala as in other parts of the country. Almost all the mines are open cast and limited in areal extent. The important mines of major minerals are china clay, laterite/bauxite, limestone and lime shell. Mineral sands and silica sand are excavated by scooping and quartz is being extracted by taking trenches and pits. The important minor minerals in the state are granite, building stones, dimension stone, laterite,

tile/brick clay and ordinary sand. The state owns mineral deposits like placers, china clay (kaolin), limestone, silica sand, bauxite, graphite, iron ore, granite etc.

The major mineral based industries like Indian Rare Earths Ltd. (Chavara), Kerala Minerals and Metals Ltd. (Chavara), Malabar cements (Walayar), Travancore cements Ltd. (Kottayam), Kerala ceramics (Kundara) Travancore Titanium products Ltd. And English Indian Clays Ltd, Thiruvananthapuram, Excel Glass Industry, Alappuzha, KeralaClays and Ceramic Products Ltd. (Pazhayangadi) are some of the mineral based industries working in the State since several years. A number of tile based industries are also functioning mainly in Thrissur and Kozhikode districts.

In exercise of the powers conferred by section 15(1) of the Mines and Mineral (Development & Regulation) Act, 1957, the State has framed the Kerala Minor Mineral Concession Rules 1967 for regulating the extraction of minor minerals. The State with prior approval of the Govt. of India grants permission for reconnaissance permit, prospecting license or mining lease for the first schedule minerals on first cum first served basis. In addition to EIA requirements as stipulated by the Central Govt, an EIA report is insisted on all mining activities before granting mining lease. No quarrying permits or leases are granted in the State unless there is a Mining plan duly approved by the competent authority. Afforestation of the reclaimed areas is promoted. Environment Rehabilitation is insisted in all mining projects.

The Kerala District Mineral Foundation Rules 2018 has been formed with an objective to work for the interest and benefit of persons and area affected by mining related operations. The permissible activities under District Mineral Foundation includes among other things, developing sources of irrigation, development alternate sources of energy and rain water harvesting, conservation measures of biodiversity of the affected areas.

The expert study in all selected quarries in Kerala was carried out with one day for ambient air quality measurement (without the operation of quarry) and next day with the operation of the quarry. Individual site reports with the observations on dust, noise and mine pit water quality was prepared by the monitoring team of KSPCB for all the nine quarry sites.

XXIII. Action taken status with regard to directions issued for prohibition of immersion of idols, puja materials and other items of religious offerings in rivers & other water bodies in particular during the occasion of festivals

- Regarding the Ganesh Utsav celebration and immersion of idols, it may kindly be noted this is not widely practiced in the State of Kerala. The Board had instructed the District offices to conduct monitoring of water bodies where immersion of idols is

practiced on a large scale. Water quality was carried out in three stages-pre immersion, during immersion & post immersion periods. A press release was also issued by the Board in connection with the festival for information of the public on the guidelines for immersion, issued by CPCB. In Kerala idol immersion are not celebrated as a major festival. The Govt. take steps to avoid water pollution due to immersion of idols. If to celebrate natural clay and colours are being used and that too in artificial ponds arranged by local authorities

- During Sabarimala festival season, there is a traditional celebration “ Pettathullal”, for the same the pilgrims will apply colouredKumkum on their body. It was directed that only natural colours shall be used for the celebration. Separate arrangement like shower bath are provided for carrying out bath after the celebration, in order to avoid the reach of coloured water into the main waterbody. The waste water from the shower bath location will be treated in ETP provided.

XXIV. Current status of water quality of rivers based on draft revised categorisation of CPCB

- Out of 21 stretches, the following 11 stretches delisted from PRS. Mogral- at Kasaragod, Kuppam, Peruvamba, Ramapuram, Kavvayi- at Kannur, Bharathapuzha, Bhavani- at Palakkad, Kutiyadi-Kozhikode, Kecheri, Karuvannur, Puzhakkal- at Thrissur
- Due to improvement in water quality priority class of the following 4 rivers has been shifted to lower priority class. No priority I and II rivers in Kerala now.
 - Karamana, at Thiruvananthapuram- Priority III (from Priority-I)
 - Manimala at Alappuzha – Priority V (from Priority IV)
 - Pamba at Pathanamthitta – Priority V (from Priority IV)
 - Kadambrayar at Ernakulam –Priority V (from PriorityIV)
- As per the report of CPCB on “Polluted River Stretches for Restoration of Water Quality, 2025”, a total of 32 polluted river stretches/locations (polluted River stretches (14 nos)/ locations (18 nos)) have been identified in the State of Kerala. (Priority III - 2 river stretches/ locations; Priority IV - 4 river stretches/ location & Priority V - 26 river stretches/ locations)

XXV. Action against identified polluters, law violators and officers

responsible for failure for vigorous monitoring

Necessary actions are initiated against the identified polluters, environmental law violators for inadequate monitoring, including issuance of statutory directions, assessment of Environmental Compensation, closure action, and departmental action, as applicable under the relevant environmental statutes and service rules.

MEMBER SECRETARY

Digitally signed by
RATISH MENON
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