

**National Mission for Clean Ganga****Format for Submission of Monthly Progress Report by States/UTs****(Hon'ble NGT in the matter of OA No.673/2018 dated 06.12.2019)****RIVER KARAMANA, THIRUVANANTHAPURAM**

ACTION PLAN FOR RIVER KARAMANA, KERALA – Monthly progress report February 2024

**1. Short term plan****Maintenance and de-bottlenecking of existing sewerage network**

No.	Activity	Implementing agency	Time line	Progress in the month of Aug 2023	Progress in the month of Sept2023	Progress in the month of Oct 2023	% works completed	Details of works remaining
2.1.1	Pumping lines from the terminal pumping stations namely Kuriyathi, Pattoor, Kannammoola and Enchakkal pumping stations are to be connected directly to STP at Muttathara	Kerala Water Authority	May 2019				100%	100% work of Kuriathy completed. Pumping main of Pattoor, Kannammoola and Enchakkal included in long term works
2.1.2	Rehabilitation/upgradation of Thaliyal and Aranoor Sewerage Pump house by rehabilitation of existing well, construction of new well and grit chamber, installation of new pump Sets	Kerala Water Authority	May 2020				100%	a) Completed
				Aranoor5 %			100%	Work completed
2.1.3	5 MLD sewage treatment plant at	Kerala	May				100%	Work Completed on 8/8/21.

I/50430/2024	Medical College	Water Authority	2020					
2.1.4	Installation of adequate pumps in Mudavanmughal and Enchakkal pumping stations.	Kerala Water Authority	March 2020				100%	Work Completed
2.1.5	DG sets in all lift and pumping stations – Mudavanmughal, Aranoor, Thaliyal, Kuriyathi, Pattoor, Kannammola, Pattom, Murinjapalam and Enchakkal	Kerala Water Authority	May 2020				100%	Work Completed
2.1.6	Reconnect sewer at Rajaji Nagar, stop outflow of sewage into Amayizhancha- nthodu, control storm water entry into sewer to avoid overflow in Thampanoor area. Sewage generated in Rajaji Nagar shall be diverted to main sewer line. Sewage generated in Thoppil area shall be diverted main sewer line	Kerala Water Authority	Dec 2020				100%	Work completed.
2.1.7	Discharge of sewage in Parayilkadavu shall be stopped as there is overflow of sewage reaches in houses having sewerage connection and this may lead to discharge of sewage in to River Karamana	Kerala Water Authority	Completed				100 % completed	Work completed.

2.1.8 I/50430/2024	Divert the sewer line from the School compound of Government Karamana High School	Kerala Water Authority	completed				100% completed	Work completed.
2.1.9	<b>Rehabilitation by laying new lines increasing size of undersized main and reconstruction by dilapidated manholes for the last 3 years</b>  <b>Total works in progress/completed (76No.) Works dropped (2No.)</b>	Kerala Water Authority	May 2020	0%	.0%	0%	98.5%	Works completed – 75No. (Rs. 15.41cr) AMRUT-44, State plan-28 MLA ADF/SDF-3 AMRUT-1, State plan-0 One Amrut work short closed due to non-obtaining of Road cutting sanction
							Dropped – 2 No. (Rs. 1.52cr.) State plan-2	Two works dropped due to not getting offers on repeated tenders and expiry of AS
2.1.10	Extension of sewer network wherever technically feasible in new areas of existing blocks  In progress/Ongoing (24No.) Tendering/ To be arranged (1No.) Land acquisition -1 In progress-3	Kerala Water Authority	May 2020	0.1%	0.1%	.1%	99.3%	Works completed - 21 No. (Rs. 17.21 cr.) AMRUT- 12, State plan-7 nos. 4nos ongoing MLA ADF/SDF-1  Land acquisition process for three work completed and land handed over to KWA and AS obtained for arranging the work under State Plan 22-23 and one work arranged and one tendered. LA for one work in initial stage.(Details shown in excel sheet attached) Direction from head office to cancel one work and recast the estimate and submit for new AS. Same has been approved in State Plan 2022-23 and

I/50430/2024

								tendered. Agreement Executed and pipe supplied and work in progress – 20%. Expected date of completion 31.03.2024
2.1.11	Procurement of sewer cleaning machines and equipment maintenance	Kerala Water Authority	Mar 2020	0%	0%	0%	100%	Work completed.

## 1. Long term Plan

### Seweragenetwork

	Long term measures proposed	Implementing agency	Amount Required (Rs.in Crore)	Time line	Progress in the month of February	Progress in the month of March	% works completed	Details of works remaining
3.1.1	Extension of sewerage system to Block F to G coastal belt	Kerala Water Authority		Three years				Consultant appointed for preparing Detailed Project Report for uncovered wards of the Thiruvananthapuram Corporation and Rehabilitation of existing system was terminated from the contract due to breach of contract by the firm vide Proceedings No. KWA/SE/SEW/EOI/REPL/338/2020-2021 of the Superintending Engineer, Sewerage Circle, Kerala Water Authority Thiruvananthapuram dated 31.05.2022 to arrange the balance work at their risk and cost. As directed in the Chief
3.1.2	Extension of sewerage system to Block H to R							
3.1.3	Extension of sewerage system to Newly added areas corporation viz,							
3.1.4	Providing sewerage system in Block A to E							
3.1.5	Rehabilitation of existing Network and pump house in block A to E							
3.1.6	Procurements of equipments form a intendance sewerage system							
3.1.7	Additional STP requirement							





there will be changes in the design network and there by changes will be made in the DPR . DPR for Cluster IX ( priority wards ( Vizhinjam and Harbour area) completed and submitted on 29.09.2023. Land for STP identified and the confirmation of the land not yet received. DPR of cluster X comprising of wards Shangumugham, Vettucaud, Vallakadavu, Beemapalli (part), Beemapalli East (part), Valiyathura and Kadakampally is under preparation.

**Total Amount required :**

**5000Crores**

Signed by

Sajiv Retnakaran

Date: 08-03-2024 17:23:10

## **ACTION PLAN FOR RIVER KARAMANA, KERALA-FEBRUARY 2024**

### **1. Short term Plan**

#### **Maintenance and de-bottlenecking of existing sewerage network**

No.	Activity	Implementing Agency	Time line	Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
2.1.1	Pumping lines from the terminal pumping stations namely Kuriyathi, Pattoor, Kannammoola and Enchakkal pumping stations are to be connected directly to STP at Muttathara  Kuriyathi Pumping line	Kerala Water Authority	May-19				100%	When 50 % of sewage (35 MLD) was diverted directly to the STP on completion of laying of pumping line from Kuriyathi to STP, overflow to TS Canal has completely stopped. Kuriyathi pumping main- Completed. DER for pumping main from Pattoor, Kannammoola and Enchakkal under RKI is under preparation in PPD Tvm.
2.1.2	Rehabilitation/upgradation of Thaliyal and Aranoor Sewerage Pump house by rehabilitation of existing well, construction of new well and grit chamber, installation of new pump sets  Aranoor	Kerala Water Authority	May-20	0%	5%	5%	100%	a) Completed.  b) 1. Proving RCC lining for the existing two wells. Lining for first well completed. 2 Pumpset erected in first well and commissioned. Pumping main also completed. Lining for 2 <sup>nd</sup> well partly completed. 2. Diesel generator- to be supplied by contractor. Work terminated at the risk and cost of the contractor. Work completed.
2.1.3	5 MLD sewage treatment plant at Medical College	Kerala Water Authority	May-20				100%	Work Completed.
2.1.4	Installation of adequate pumps in Mudavanmughal and Enchakkal pumping stations	Kerala Water Authority	Mar-20				100%	Work Completed.



No.	Activity	Implementing Agency	Time line	Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
2.1.5	DG sets in all lift and pumping stations - Mudavanmughal, Aranoor, Thaliyal, Kuriyathi, Pattoor, Kannammola, Pattom, Murinjapalam and Enchakkal	Kerala Water Authority	May-20				100%	DG sets installation of seven pumping stations completed. Approval from Electrical inspectorate received. Work completed. Trial run also completed. For Arannoor and Thaliyal. Erection of diesel generator is already included in the item mentioned 2.1.2. For Enchakkal already exists.
2.1.6	Reconnect sewer at Rajaji Nagar, stop outflow of sewage into Amayizhanchanthodu, control storm water entry into sewer to avoid overflow in Thampanoor area Sewage generated in Rajaji Nagar shall be diverted to main sewerline Sewage generated in Thoppil area shall be diverted main sewerline	Kerala Water Authority	Dec-20				100%	Work Completed.
2.1.7	Discharge of sewage in Parayilkadavu shall be stopped as there is overflow of sewage reaches in houses having sewerage connection and this may lead to discharge of sewage into River Karamana	Kerala Water Authority	Completed				100%	Rehabilitation work of existing pipe line is included in the work State Plan -2019-20- Rehabilitation of sewer line from Sathya Nagar to Karamana BHS and allied works. Works Completed.
2.1.8	Divert the sewer line from the School compound of Government Karamana High School	Kerala Water Authority	Awarded				100%	Work mentioned is same as the above work which is completed.
2.1.9	Rehabilitation by laying new lines increasing size of undersized main and reconstruction by dilapidated manholes for the last 3 years	Kerala Water Authority	May-20				99%	Works completed – 75No.(Rs.15.41cr) AMRUT-44, State plan-28 MLA ADF/SDF-3 In progress – 1No. (Rs. 3.cr.) AMRUT-1, State plan-0 One AMRUT work short closed due to not getting sanction for road cutting.

No.	Activity	Implementing Agency	Time line	Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining	
	Total works in progress/Completed (76 No.) Works dropped (2No.)					Dropped – 2 No. (Rs. 1.52cr.) State plan-2		Two works dropped due to not getting offers on repeated tenders and expiry of AS.	
2.1.10	Extension of sewer network wherever technically feasible in new areas of existing blocks	Kerala Water Authority	May-20	0.10%	0.10%	0.1%	99.5%	Works completed -24 No.(Rs.17.21 cr.) AMRUT-12, State plan-11 MLA ADF/SDF-1	
	In progress/Ongoing (24No.)								
	Tendering/ To be arranged (1No.) Land acquisition -1 In progress-3					To be arranged	To be arranged - 1 No. (Rs. 7.885 Cr) Land aquisition Progress - 1 no.	Land acquisition process for three work completed and land handed over to KWA and AS obtained for arranging the work under State Plan 22-23, one arranged and one tendered. LA for one work in initial stage. Direction from head office to cancel one work and recast the estimate and submit for new AS. Same has been approved in State Plan 2022-23 and tendered. Agreement executed. Expected date of completion 31.03.2024.	
2.1.11	Procurement of sewer cleaning machines and equipment maintenance	Kerala Water Authority	Mar-20				100%	Work completed	
<b>Solid Waste Management Action Plan</b>									
	Activity	Implementing Agency	Unit	Time for Completion	Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February 2024	% Works Completed	Details of work remaining

No.	Activity	Implementing Agency	Time line		Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
2.2.1	Slaughter house and poultry waste	Thiruvananthapuram Corporation	Rendering Plant	Dec-22	5%	0%	2%	92%	<p><b>Slaughter House-</b> Slaughter house kunnukuzhy- Work started for construction of retaining wall, work ongoing for construction of security cabin and visitors lounge. Security cabin , roof slab casting completed, visitors lounge, structure completed, roof slab casting on progress. Work under progress. It will be completed on January 2024.</p> <p><b>poultry waste-</b> TMC has started collecting poultry waste coming under jurisdiction of 25 HI Office from 1st November 2019 with online tracking of vehicles. The entire poultry waste generated in whole Corporation area is collected and sent to rendering plant at Elloor.</p>
2.2.2	Sanitation facility and Treatment of waste water in the markets of Pangode, Kumarichanda	Thiruvananthapuram Corporation	Treatment Plant Portable Aerobic bins	Dec-19	10%	0%	0%	100%	<p>Kumarichanda: Market Renovation completed. Pilot project implemented for treatment of wastewater.</p> <p>Pangode: DPR submitted by the agency . Forwarded for getting technical sanction.</p>
2.2.3	Provide facility for the treatment of sewage, sullage and	Thiruvananthapuram Corporation	1. Moonmathumukku 2. Poonthura-HI Office 3. Cheriyan muttam-Poonthura 4. Beemapally Compound 5. Tsunami Colony		5%	0%	0%	50%	

No.	Activity	Implementing Agency	Time line		Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
	garbage generated in the poonthura slum area between Karamana river and sea		6. Mother Theresa Colony 7. Kumari Chantha 8. Poonthur a Marker 9. Moonnat tumukku bridge 10. Ambalat hara- Nilama 11. Fisherme n Flat- Muttatha ra 12. Perunalli Market Road 13. Poundka davu old market 14. Market behind Attipra zonal office						13 Location work completed, remaining location not available.  This area will be covered in the master plan for providing sewer line for the full capacity utilization of CSTP at Muttathara and by providing Decentralized STP where there is land availability- KWA
			15. Tsunami Colony near 110 KV tower (Poundkadav) 16. Near Valiyavila Veli St. Thomas Church (Poundkadavu) 17. NearKamales shwaram HSS 18. Valiya veetil Residence associati on 19. Near Arannoor Govt. Quarters 20. Kunjalumoodu Junction						

No.	Activity	Implementing Agency	Time line	Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
			21. Kumarap uram Thamara bhagam (near comfort station) 22. Near Kannam moola Bridge 23. Mannant hala Market 24. Santhi Nagar Residents associati on 25. Alanthar a Kattayil 26. UlloorMarket 27. Museum RKV Road 28. New Nalantha road					
2.2.4	The discharge of waste water from the surrounding houses to the pond at Jagathy is to be stopped	Thiruvananthapuram Corporation	Pond desilting					meeting was conducted on 30-07-21, convened by the Public Work Standing Committee Chairperson with KWA Officials, Tvpmm Corporation officials and councillors ward to discuss this concern. This area will be covered in the master plan for providing sewer line for the full capacity utilization of CSTP at Muttathara and by providing Decentralized STP where there is land availability- KWA.
2.2.5	Around 155 Houses in Kurukuvilakom, Kannettumukku shall be provided with septic and treatment system	Thiruvananthapuram Corporation						Dropped. When the full capacity utilization of CSTP at Muttathara shall be ensured, this area will be covered as it is situated along the banks of Karamana – Killiyar River - KWA.

No.	Activity	Implementing Agency	Time line	Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
2.2.5	Identification of illegal outlets into storm water drains and fine shall be imposed on such units	Thiruvananthapuram Corporation	Fine Imposed and prosecution initiated					2004450 fine collected from 2019 to till date
2.2.6		Thiruvananthapuram Corporation	Bio- Composter	82%	82%	80%	82%	Installed 51,568 bins in total. Tender invited for installation of 50,000 bio compost bins. Proposal approved by the health standing committee. Proposal placed in the health standing committee and forwarded to purchase committee for negotiation done, placed before council. Out of which 5812 bins were distributed.
2.2.7		Thiruvananthapuram Corporation	Thumboormuzhi aerobic bins	60%	60%		65%	Total 154 locations Completed works (Total - 159 units) Santhikavadam - 3 units, Manathala - 3 units, ITI chackai – 11 bins Kalladimukham – 32 bins Neerazhi Market, Ulloor – 6 bins Thumba station kadavu – 4 units Womens college – 4 bins completed will be handovered soon. Sanskriti College – 5 bins Near Peroorkada Market-35 Kamaleshwaram, Karamana PRS opposite, Cotton hill LPS ,Cotton hill HSS-25 Poojapura-10 Inside Pratheeksha flat-16 Manvila Market-5 Work in Progres: Kuravinkonam-4 bins.

No.	Activity	Implementing Agency	Time line		Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
2.2.8	Biodegradable waste (DPR)	Thiruvananthapuram Corporation	Community biogas		0%	0%	0%	65%	<p>Total 13 locations – Institutional Level. Work completed – 6locations</p> <p>Vanitha jail and Central jail, Poojapura - 100kg/day, Govt L P S, Kanjirampara - 100kg/day and Womens College, Vazhuthacaud - 500kg/day. Work at Law collage, Palayam -500 Kg/day, University campus, Palayam - 500Kg/day and Govt. High school, Kulathoor – 100Kg/day. Ongoing Works are : Mental Hospital, Oolampara – 500 kg/day General Hospital – 500 kg/day DPI, Jagathy – 100 kg/day.Govt Panchakarma Hospital</p> <p>Ongoing Works are : Mental Hospital, Oolampara – 500 kg/day General Hospital – 500 kg/day DPI, Jagathy-100 Kg/day. Govt.Panchakarma Hospital-100 kg/day. Remaining 2 sites will start soon.</p>
2.2.9		Thiruvananthapuram Corporation	Organic Waste Converter						Dropped
2.2.10		Thiruvananthapuram Corporation	Portable biogas						Dropped
2.2.11		Thiruvananthapuram Corporation	Portable aerobins		0%	0%	0%	100%	Project completed

No.	Activity	Implementing Agency	Time line	Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining	
2.2.12		Thiruvananthapuram Corporation	Ring compost				78%	Project implementation started. Installed 390 units. Rest of the bins will be installed soon. Action on going.	
2.2.13		Thiruvananthapuram Corporation	Segregation bins					Dropped.	
2.2.14		Thiruvananthapuram Corporation	RRC				99%	Work on going, Construction under progress	
2.2.15		Thiruvananthapuram Corporation	Plastic Recycling unit					Site not yet identified. Project dropped	
2.2.16		Thiruvananthapuram Corporation	Mobile MRF					Dropped.	
2.2.17		Thiruvananthapuram Corporation	Electronic Weigh bridge					Dropped.	
2.2.18		Biodegradable waste (DPR)	Thiruvananthapuram Corporation	Solar electrical cart		Part bil submitted		100%	Work completed
2.2.19	Thiruvananthapuram Corporation		Swaps shops		3%	0%	0%	98%	Work completed. Revised estimate approved by council. Final part bill will be issued soon.
2.2.20	Thiruvananthapuram Corporation		PET bottle crushing						Project dropped
2.2.21	Thiruvananthapuram Corporation		Community level unit Napkin destroyer		10%	0%	0%	10%	During Trail run the unit is found to be incompetent.158 Nos purchased and installed at various locations
2.2.22	Thiruvananthapuram Corporation		Animal Crematorium at Kattela						Project dropped
2.2.23	Thiruvananthapuram Corporation		Urban Gardening						Project dropped
2.2.24	Thiruvananthapuram Corporation		Upgradation of present facilities		0%	0%	0%	100%	Completed



No.	Activity	Implementing Agency	Time line	Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
2.2.25		Thiruvananthapuram Corporation	Capacity Building & IEC					A training programme was conducted for HI/JHI on 2023 September 23,24 & 2024 January 22,23,24,25.
2.2.26		Thiruvananthapuram Corporation	Viability gap Fund					Issue of seventh phase of VGF to Haritha Karma Sena completed
2.2.27	Prevent entry of Stormwater into sewer line along with KWA	Thiruvananthapuram Corporation	KWA is authorized to prepare and implement proper sewerage lines under Amrut scheme					Close monitoring is done by health Squad and all Health Inspectors are directed to issue notice and prosecution.
2.2.28	Take steps to prevent the solid wastes in sewer line as reported by KWA	Thiruvananthapuram Corporation	Squad and Fines Special squad is formed at Corporation level. Health inspectors are authorized for regularly monitoring and preventing the wasted charge					Employees were placed at various spots during night to prevent dumping of solid waste in drains and fines are being charged. Regarding to waste throwing to public places Corproation collected an amount of Rs.20838280/- as fine from 01.01.2022.

### Monitoring

	Activity	Implementing Agency	Time line	Water quality in August/ Pre-monsoon	Water quality in August / Monsoon	Water quality in Post monsoon
2.3.1	River water quality monitoring - Killiyar, Karamana, Parvathiputhanar, Akkulam-Veli lake	Kerala State Pollution Control Board	Ongoing; monthly			
2.3.2	Storm drains monitoring - Amayizhanchanthodu, Ulloorthodu, Pattomthodu, Kannamoolathodu, Thekkanakkara canal	Kerala State Pollution Control Board	Ongoing Seasonal monitoring- Pre-monsoon, monsoon, Post-monsoon			

No.	Activity	Implementing Agency	Time line	Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
2.3.3	Inspection and effluent quality monitoring of the flats, industrial units, service stations, hospitals, hotels etc in Thiruvananthapuram Corporation area	Kerala State Pollution Control Board	Ongoing Interval; Red - 1 month Orange - 22 month Green - 2 month					

## **2. Long term Plan**

### **Sewerage Network**

	Long Term measures proposed	Implementing Agency	Amount Required (Rs. In Crore)	Time Line	Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February 2024	% Works Completed	Details of work remaining
3.1.1	Extension of sewerage system to Block F to G coastal belt	Kerala Water Authority	200	Three Years					Consultant for preparing Detailed Project Report for uncovered wards of the Thiruvananthapuram Corporation and Rehabilitation of existing system, appointed and DPR preparation in progress under PPD Regional Office Tvm
3.1.2	Extension of sewerage system to Block H to R	Kerala Water Authority	700						
3.1.3	Extension of sewerage system to Newly added	Kerala Water Authority	300						
3.1.4	Providing sewerage system in Block A to E	Kerala Water Authority	100						
3.1.5	Rehabilitation of existing Network and pump house in block A to E	Kerala Water Authority	100						
3.1.6	Procurements of equipments for maintenance sewerage system	Kerala Water Authority	10						
3.1.7	Additional STP requirement	Kerala Water Authority	60						
	<b>Total Amount required</b>		5000 Crores						

\* Out of the 100 wards in Thiruvananthapuram Corporation, 43 wards (Blocks A to E) are fully/Partially covered with sewerage facility. For 35 Wards (Blocks F to R) design of sewerage network is available but this needs modification in lieu of the change in demography and for the balance 22 wards new designs are to be prepared. The long term measures are envisaged to cover the entire wards in the Thiruvananthapuram Corporation. For preparing DPR/DER for rehabilitation of existing sewerage system and for establishing sewerage system for uncovered areas of Thiruvananthapuram Corporation, AS has been obtained under RKI (Govt. of Kerala) and preparation of DPR in progress.

### **Solid Waste Management**

	Long Term measures proposed by Thiruvananthapuram	Implementing Agency	Time line	Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
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No.	Activity	Implementing Agency	Time line		Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
3.2.1	Acquire 58 acres of land and rehabilitate 8150 families from the banks of River	Thiruvananthapuram Corporation	5 Years					Dropped	
3.2.2	SDM 2.0 Action plan prepared and submitted.								
3.2.3	KSWMD 5.14Crore works submitted to DPC.								
<b>Desilting and Development</b>									
3.3.1	Development package for ParvathyPuthanar	Irrigation department included in KIFB by KWIL includes cleaning of canal	3 Years	100%	100%		100%	Phase I (First half ) removal of water hyacinth completed Veli to Kadinamkulam Kayal (Ch 16.00 to Ch27.00).Executed by Inland Navigation . Aakkulam to Monnattumukku cleaning works 100% completed-by KWIL - for an amount of 45 Lakhs (3 Months) Now department work is started for clearing.	
3.3.2	De-silting and development of AmayizhanchanThodu	Irrigation Department	1.5 Years	15%	20%		20%	On going	
3.3.3	Improvements to Thekkenekara canal and de-silting-		1 Year					Flood mitigation work completed	
3.3.4	Karimadam tank improvements,de-silting sheet piling/under preparation and providing fencing		1.5 Years	15%	20%		20%	Flood mitigation works ongoing	
3.3.5	Development of Karamana basin		1.5 Years					Desiltation of river completed. E-flow statement is	

**SUPERINTENDING ENGINEER**

**ANALYSIS REPORT OF RIVERS INCLUDED IN THE LIST OF PRS-2022 FOR THE MONTH OF FEBRUARY 2024**

SL NO	PARAMETER	RIVER-NEYYAR		RIVER- KARAMANA		RIVER- MAMOM	RIVER- AYIROOR	RIVER- VAMANAPURAM
		Amaravila	Aruvippuram	Aruvikkara	Moonnattumukku	Mamom	Ayiroor	Vamanapuram
1	Temperature, 0°C	29	29	28	28	29	29	29
2	Dissolved Oxygen, mg/l	7.8	7.6	7.8	6.3	7.8	5.2	7.5
3	pH	6.3	6.4	6.3	6.8	6.4	6	6.5
4	Conductivity, µmhos/cm	88	110	64	401	112	118	132
5	BOD, mg/l	1.2	1.8	0.5	4.2	0.5	0.7	0.7
6	Nitrate-N, mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
7	Turbidity, NTU	1.8	1.6	1.3	5.3	1.4	1.4	1.6
8	Phenolphthalein Alkalinity, mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
9	Total Alkalinity, mg/l	22	22	10	100	22	16	24
10	Chloride, mg/l	18	20	18	76	20	28	22
11	COD, mg/l	4	4	4	24	4	4	4
12	TKN, mg/l	ND	ND	ND	ND	ND	ND	ND
13	Ammoniacal-N, mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14	Hardness as CaCO <sub>3</sub> , mg/l	22	20	12	96	20	24	28
15	Calcium as CaCO <sub>3</sub> , mg/l	16	16	8	76	16	12	24
16	Magnesium as CaCO <sub>3</sub> , mg/l	6	4	4	20	4	12	4
17	Sulphate, mg/l	BDL	BDL	BDL	7	BDL	BDL	BDL
18	Calcium (Ca <sup>2+</sup> ), mg/l	6.4	6.4	3.2	30.5	6.4	4.8	9.6
19	Magnesium (Mg <sup>2+</sup> ), mg/l	1.5	1	1	4.9	1	2.9	1
20	Sodium, mg/l	10.1	11.5	9.3	39.4	11.8	15.6	13.1
21	Total Dissolved Solids, mg/l	52	60	42	222	62	68	72
22	Total Fixed Solids, mg/l	38	42	36	146	42	36	46
23	Total Suspended Solids, mg/l	14	20	22	72	14	15	32
24	Phosphate, mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25	Boron, mg/l	0	0	0	0	0	0	0
26	Potassium, mg/l	0.6	1.8	2.3	9.2	1.4	1.6	2.4
27	Fluoride, mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
28	Total Coliform, MPN/100 ml	1600	800	1000	31600	1400	3000	2200

29	Fecal Coliform, MPN/100 ml	1200	300	400	22400	1000	2100	1600
30	Fecal Streptococcus, MPN/100 ml	NIL	NIL	NIL	NIL	NIL	NIL	NIL
31	% SODIUM	49.1	52.9	57.5	44.3	54.1	56.6	47.8
32	SAR	0.9	1.1	1.2	1.7	1.4	1.4	1.1

## National Mission for Clean Ganga

### Format for Submission of Monthly Progress Report by States/UTs

(Hon'ble NGT in the matter of OA No.673/2018 dated 06.12.2019) **RIVER PAMBA, PATHANAMTHITTA**

S. No	Activity to be monitored	Timeline	Submission of progress by State/UT-Compliance status
1	Ensure 100% treatment of sewage at least in-situ remediation		
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured		Kadapra Grama Panchayat id totally open defection free. All the sewage generated in the households and other places and inistutions have 100% treatment of sewage-situ
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning		
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none"><li>• Specifying accountability of nodal authorities not below the Secretary level</li><li>• Chief Secretaries may have an accountable person attached in their office for this purpose</li></ul>		
	<ul style="list-style-type: none"><li>• Monitoring at State level must take place</li></ul>		
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none"><li>• Secretary,Ministry of Jal Shakti</li><li>• Member Secretary,CPCB</li></ul>		

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&amp;D and sewerage networks</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure,Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv)<u>Status of Solid Waste Management &amp; Details of Processing Facilities</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline</p> <p>(v)Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi)Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p> <p>(vii)Ground water regulation</p> <p>(viii) Adopting good irrigation practices</p>		<p>The Panchayat has resolved to identify all polluting sources involved in pollution of river resources and initiation of penal action against them.</p>
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(ix) Protection and management of food plain Zones (FPZ)		
(x) Rain water harvesting		
(xi) Maintaining minimum Environmental flow of river		
(xii) Plantation on both sides of the river		
(xiii) Setting up biodiversity parks on flood plains by removing encroachment		

### ACTION PLAN FOR RIVER PAMBA, KERALA

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of <b>January 2024</b>	Progress in the month of <b>February 2024</b>	% works completed	Details of works remaining
A(a)	No industries	-	-	-	-	-	-
A(a)	Monitoring of river water quality	Kerala State Pollution Control Board	Continuing project				
C(ii)	Establishment of decentralized solid waste treatment facility	Mannar Panchayat, Kadapra/ Niranam Panchayath	31.03.2021	Not submitted report  The Panchayat has resolved to identify all	Not submitted report  The Panchayat has resolved to identify		Inauguration of functioning.



				<p>polluting involved in pollution of river resources and iniation of penal against them</p> <p>Niranam Gramapanchayat is an upper Kuttanad area , so no such dry land suitable for solid waste treatment plant is available</p>	<p>all polluting involved in pollution of river resources and iniation of penal against them</p> <p>Not submitted report</p>		
C	Resource Recovery Facility	Mannar Panchayat, Kadapra/ Niranam	31.03.2021	Not submitted the report	Not submitted report	NA	Collection and transportation of Non-bio

		Panchayath		Resource Recovery Facility due to non-availability of space  It will be suitable if RRF is established at Block level in Niranam Grama Panchayath	Resource Recovery Facility due to non-availability of space  Not submitted report		degradable Materials to RRF for processing
C	Installing household and community level solid waste management units	Mannar Panchayat	31.03.2021	Not submitted report	Not submitted report	100%	Construction and operation of Aerobic

							compost unit.
C	Door to door collection and transportation of municipal solid waste	Mannar Panchayat	31.03.2021	Not submitted report	Not submitted report		Continuing
C	Construction of small sewage treatment plant with screening, septic tank and disinfection to the storm water drain of Parumala Town	Kadapra Panchayat	31.12.2020	The Panchayat is considered is sewage treatment plants is currently not need with in Panchayat area around Parumala	The Panchayat is considered is sewage treatment plants is currently not need with in Panchayat area around Parumala		
C	Construction of small sewage treatment plant with screening,	Mannar Panchayat	31.12.2020	Not submitted report	Not submitted report	0%	Not applicable

	septic tank and disinfection to the storm water drain of Mannar Town						
C	Construction of compound wall with fencing	Irrigation department	31.03.2021	Detailed project report for the Holistic rejuvenation of the reaches is prepared and submitted to Government	Detailed project report for the Holistic rejuvenation of the reaches is prepared and submitted to Government		
C	Removing light jungle and muddies from river courses	Irrigation department	31.03.2021				
C	Electrical-Light arrangements and Surveillance cameras	Irrigation department	31.03.2021				
C	Regulating activities in flood plain zone, protection and management of flood plain zone	Irrigation department	31.03.2021	Detailed project report for the Holistic rejuvenation of the reaches is prepared and submitted to Government	Detailed project report for the Holistic rejuvenation of the reaches is prepared and submitted to Government		
	Greenery development Plantation plan. Plantation on both sides of the river, setting up biodiversity parks on flood plains by removing encroachment	Irrigation department	31.03.2021				
C (b) (ii)	Green Protocol implementation in all Offices institution & Public function	Mannar, Kadapra/ Niranam Panchayat	31.05.2020	100%	Not submitted report		Continuation of Green Protocol.
				Green protocol has	Green protocol has		

				implemented in public officers Kadapa Grama Panchayat	implemented in public officers Kadapa Grama Panchayat		
				Necessary instruction are given to all offices and institution to strictly comply with the green protocol and is regularly monitored in Niranam Grama Panchayath	Not submitted report		
D(a)	Issues relating to E-flow,maintaining minimum environmental flow of river (by having watershed management provisions)	Irrigation department	30.11.2020	Detailed project report for the Holistic rejuvenation of the reaches is prepared and submitted to Government	Detailed project report for the Holistic rejuvenation of the reaches is prepared and submitted to Government		
D (b)	Irrigation practices	Irrigation department	30.04.2020				
E	Awareness programmes for	Kerala State Pollution	31.05.2020				

	sections of public	Control Board					
C	Management of municipal, plastic, hazardous, biomedical and electrical waste	LSGD	31.03.2021	NA			continuing. About 12 tonnes of plastic materials handed over to Clean Kerala Company(CKC) so far. About 500 kg of plastic materials is kept ready for transportation.Socio-Economic Unit (SEU) has been selected as implementing agency for the construction Two mini MCFs in each ward in all the 18 wards of Mannar GP.For the management of electrical, electronic and hazardous waste, the Grama

						<p>Panchayat has reached in an agreement with Clean Kerala Company. Collection and handing over of electrical, electronic and hazardous waste will start. Biomedical waste is being collected from source and transported for processing by</p>		
						<p>IMAGE (IMA GOES HERE)</p>		
				<p>of electrical, electronic and hazardous waste, the Grama Panchayat has reached in an</p>				





ACTION BY GROUND WATER DEPARTMENT

Sl. No.	Ref para item nos as per NGT Order no.673/2018 dated 20.09.2018	Activity	Progress in the month of <b>January,2024</b>	Progress in the month of <b>February 2024</b>	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks	NOC has not been issued to industries for Ground Water extraction during December 2023	NOC has not been issued to industries for Ground Water extraction during February 2024	Demand based	1. As per the GEC estimation all the blocks in the District has been categorized as SAFE. 2.Provisions of GW (control &Regulation) Act 2002 is implementing strictly for regulating extraction of GW resource in the district.
2	B(ii)	Ground water recharging / rain water harvesting	Artificial Recharge Structure Estimate for pond renovation at one site (Perumpetty Valiyakulam) Sent for Technical Sanction. One site pond renovation estimate under preparation. Pond renovation at Malayalappuzha Grama Panchayath work tendered and work order issued.	Artificial Recharge Structure technical Sanction for 6 sites received & work tendered and word order issued. Worker order for the work ARS at 5 sites also issued.	Demand based	All the blocks in the district is categorized as SAFE as per GEC estimation. Kadapra- Niranam Area is not feasible for Ground Water Recharge. However, GW recharging programme is taken up in some pockets in the midland area including Manimala basin. Where seasonal GW level fluctuation is noticed.
3	B(iii)	Periodic ground waste quality assessment and	Groundwater sample collection during the month of July 2023	Groundwater sample collection during the month of July 2023	Periodical assessment(Regular programme)	(i)Maintaining a network of observation wells in various hydro geomorphic units

		remedial actions in case of contaminated ground water tube wells/bore wells or hand pumps	monitoring wells (borewells and open wells) collected and sent to Analytical Lab Thiruvananthapuram for chemical analysis soon.	monitoring wells (borewells and open wells) collected and sent to Analytical Lab Thiruvananthapuram for chemical analysis soon.	Chemical analysis result of groundwater samples collected during November-2020 reveals that the gw quality is good and potable.	throughout the district from which water level and water samples have been collected periodically and analysed. (ii)generally groundwater quality is good and potable
4	B(iv)	For regulating use of ground water for irrigation purpose, adopting good irrigation practices	Borewell/ tube well construction is regulated in the district by insisting permit of local bodies based on the feasibility report  ii) Promoting conjunctive use of groundwater and surface water for irrigation purpose.	Borewell/ tube well construction is regulated in the district by insisting permit of local bodies based on the feasibility report  ii) Promoting conjunctive use of groundwater and surface water for irrigation purpose.	Continuing programme	i)Borewell/tube well construction is regulated in the district by insisting permit of local bodies based on the feasibility report of GWD ii) Promoting conjunctive use of groundwater and surface water for irrigation purpose. iii)Awareness programmes organised to the public to adopt rainwater harvesting measures

## National Mission for Clean Ganga

**Format for Submission of Monthly Progress Report by States/UTs  
(Hon'ble NGT in the matter of OA No.673/2018 dated 06.12.2019)**

### **RIVER PAMBA, PATHANAMTHITTA**

<b>S. No.</b>	<b>Activity to be monitored</b>	<b>Timeline</b>	<b>Submission of progress by State/UT- Compliance status</b>
1	Ensure 100% treatment of sewage at least in-situ remediation		NA
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured		NA
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning		NA
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none"><li>• Specifying accountability of nodal authorities not below the Secretary level</li><li>• Chief Secretaries may have an accountable person attached in their office for this purpose</li></ul>		NA
	<ul style="list-style-type: none"><li>• Monitoring at State level must take place</li></ul>		NA
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none"><li>• Secretary, Ministry of Jal Shakti</li><li>• Member Secretary, CPCB</li></ul>		NA

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&amp;D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u>  Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management &amp; Details of Processing Facilities</u>  Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic</p>		
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	<p>waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p> <p>(vii) Ground water regulation</p> <p>(viii) Adopting good irrigation practices</p> <p>(ix) Protection and management of flood plain Zones (FPZ)</p> <p>(x) Rain water harvesting</p> <p>(xi) Maintaining minimum Environmental flow of river</p> <p>(xii) Plantation on both sides of the river</p> <p>(xiii) Setting up biodiversity parks on flood plains by removing encroachment</p>		
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## ACTION PLAN FOR RIVER PAMBA, KERALA

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
A(a)	No industries	-	-	-	-		-	-
A(a)	Monitoring of river water quality	Kerala State Pollution Control Board						
C(ii)	Establishment of de-centralized solid waste treatment facility	Mannar Panchayat, Kadapra/ Niranam Panchayath	31.03.2024				Thumboormoozi Aerobic unit 4 in panchayath office and 2 in private bus stand	
C	Establishment of Material Collection Facility	Mannar Panchayat, Kadapra/ Niranam Panchayath	31.03.2024	60%	70%	80%	80%	Completion of roof
C	Resource Recovery Facility	Mannar Panchayat, Kadapra/ Niranam Panchayath	31.03.2024	0	0	0	0	no projects
C	Installing household and community level solid waste management units	Mannar Panchayat	31.03.2024	20%	30%	40%	40%	60%

C	Door to door collection and transportation of municipal solid waste	Mannar Panchayat	31.03.2024				100%	
C	Construction of small sewage treatment plant with screening, septic tank and disinfection to the storm water drain of Parumala Town	mannar Panchayat	31.12.2025					All house hold toilets have individual septic tank.no outlets to pamba river
C	Construction of small sewage treatment plant with screening, septic tank and disinfection to the storm water drain of Mannar Town	Mannar Panchayat	31.12.2024					All house hold toilets have individual septic tank.no outlets to pamba river
C	Construction of compound wall with fencing	Irrigation department	31.03.2024					
C	Removing light jungle and muddies from river courses	Irrigation department	31.03.2024					
C	Electrical-Light arrangements and Surveillance cameras	Irrigation department	31.03.2024					

C	Regualting activites in flood plain zone, protection and management of flood plain zone	Irrigation department	31.03.2021					
	Greenery developmentPlantation plan. Plantation on both sides of the river, setting up biodiversity parks on flood plains by removing encroachment	Irrigation department	31.03.2021					
C (b) (ii)	Green Protocol implementation in all Offices institution & Public function	Mannar, Kadapra/ Niranam Panchayat	31.05.2024	100%	100%	100%	100%	-
D(a)	Issues relating to E-flow, maintaining minimum environmental flow of river (by having watershed management provisions)	Irrigation department	30.11.2020					
D (b)	Irrigation practices	Irrigation department	30.04.2020					
E	Awareness programmes for sections of public	Kerala State Pollution Control Board	31.05.2020					
C	Management of municipal, plastic, hazardous, biomedical and electrical waste	LSGD	31.03.2021					

## ACTION BY GROUND WATER DEPARTMENT



Sl. No.	Ref para item nos as per NGT Order no.673/2018 dated 20.09.2018	Activity	Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks					
2	B(ii)	Ground water recharging / rain water harvesting					
3	B(iii)	Periodic ground waste quality assessment and remedial actions in case of contaminated ground water tube wells/bore wells or hand pumps					
4	B(iv)	For regulating use of ground water for irrigation purpose, adopting good irrigation practices					

**Analysis Result of Drains Joining to Mannar-Thakazhi Stretch of Pamba River (2023-2024)**

Sl.No	Name of Drain	Parameters														
		pH			Electrical Conductivity( $\mu$ S/cm)			BOD(mg/l)			TC(Nos/100ml)			FC		
	Months	DEC	JAN	FEB	DEC	JAN	FEB	DEC	JAN	FEB	DEC	JAN	FEB	DEC	JAN	FEB
1	Parumala Drain	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
2	MannarTown Drain	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
3	Kuriyathkadavu Thodu	6.1	Nil	7.7	119.1	Nil	73.09	2	Nil	1.066	3000	Nil	100	1800	Nil	0
4	Karuvelil Thodu	7.1	6.5	7.8	205.9	133.8	72.43	1.8	1.6	0.8	7000	3000	1100	400	500	600
5	Nochithodu	6.9	6.5	7.5	62.26	62.59	86.94	1.7	0.86	1.2	1800	6000	4500	1400	1500	1000
6	Pattaparambil Thodu	6.6	7	7.6	213.9	124.3	50.13	0.6	0.8	0.33	2000	1700	1500	1200	1200	1000
7	Kappiyarissery Thodu	6.5	7	6.9	62.92	149.6	114.3	0.01	1	0.4	1100	2500	2000	600	2000	500
8	Kombankery Thodu	6.2	7	7.2	52.24	87.81	53.96	2.3	0.73	0.133	1600	2700	2500	800	1300	1300
9	Perackalthodu	7.1	7.1	7.3	202.1	53.17	60.84	2.2	0.06	0.733	2000	1800	1000	1100	1700	300
10	Erathodu	6.2	7	7.4	54.97	52.55	46.75	2.4	0.66	0.2	1500	2000	2300	800	1500	500
11	Kolarayaru	6.5	6.5	7.4	46.19	47.65	49.27	1.8	1	0.6	1300	1400	1500	800	800	500

**WATER QUALITY DATA OF POLLUTED RIVER STRETCHES FEBRUARY-2024****DISTRICT OFFICE, PATHANAMTHITTA****Date of Sampling: 06.02.2024**

Sl. No	PARAMETERS	THAKZHY	EDATHUA	MANNAR
1	Temperature, °C	28	28	27
2	pH	6.2	6.4	6.3
3	Conductivity, µmhos/cm	52.72	54.18	51.17
4	Turbidity, NTU	0.8	2.5	0.8
5	Phenolphthalein Alkalinity, as CaCO <sub>3</sub>	Nil	Nil	Nil
6	Total Alkalinity, as CaCO <sub>3</sub>	10	11	11
7	Chloride, mg/l	8	10	10
8	COD, mg/l	3.2	3.2	3.2
9	TKN, mg/l	0.25	0.2	0.15
10	Ammoniacal-N, mg/l	BDL	BDL	BDL
11	Hardness, as CaCO <sub>3</sub> mg/l	20	24	20
12	Calcium, as CaCO <sub>3</sub> mg/l	12	14	12
13	Magnesium as CaCO <sub>3</sub> , mg/l	8	10	8
14	Sulphate, mg/l	2.12	1.4	1.51
15	Sodium, mg/l	4.5	5.1	5.4
16	Total Dissolved Solids, mg/l	30	36	34
17	Total Fixed Solids, mg/l	25	31	29
18	Total Suspended Solids, mg/l	20	26	24
19	Phosphate, mg/l	BDL	BDL	BDL
20	Boron, mg/l	BDL	BDL	BDL
21	Potassium, mg/l	0.315	0.710	0.213
22	BOD, mg/l	0.9	1.8	0.7
23	Fluoride, mg/l	0.25	0.15	0.2
24	Dissolved Oxygen, mg/l	6.3	5.8	6.2
25	Nitrate-N, mg/l	0.231	0.213	0.154
26	Total Coliform, CFU/100 ml	340	360	330
27	Faecal Coliform, CFU/100 ml	110	100	120
28	SAR	0.437492	0.45262	0.52499
29	% of sodium	13.39368	12.58923	15.68039
30	Faecal Strepto Coccus,CFU/100 ml	Nil	Nil	Nil

# MONTHLY ANALYSIS REPORT OF POLLUTED RIVER STRETCHES FEBRUARY-2024

## STATION: MANNAR

Sampling Date: 06.02.2024

Sl. No	PARAMETERS	ITTINAYARKKADAVU BRIDGE KUTTAMPEROOR	KOTTAKAL KADAVU BRIDGE KORATTIKADAVU	PARUMALA BRIDGE	MANNAR BRIDGE
1	Temp. (°C)	25	26	27	27
2	pH	7.2	6.9	7.0	7.8
3	Conductivity (µS/cm)	72.89	76.83	77.60	67.13
4	DO (mg/L)	5.7	5.6	5.8	5.6
5	BOD (mg/L)	1.2	1.0	1.3	1.2
6	COD (mg/L)	6.4	3.2	6.4	6.4
7	TDS (mg/L)	88	74	68	58
8	TC (CFU/100ml)	780	390	430	180
9	FC (CFU/100ml)	260	110	140	60
10	FSC(CFU/100ml)	Nil	Nil	Nil	Nil

## National Mission for Clean Ganga

**Format for Submission of Monthly Progress Report by States/UTs  
(Hon'ble NGT in the matter of OA No.673/2018 dated 06.12.2019)**

### **RIVER MANIMALA, ALAPPUZHA**

S. No.	Activity to be monitored	Timeline	Submission of progress by State/UT- Compliance status
1	Ensure 100% treatment of sewage at least in-situ remediation	31.03.2021	NIL
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured	31.03.2020	Since Large Land holding by local residents on the bank, No
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning	22.01.2020	Such issues arises, no need of steps since
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none"> <li>• Specifying accountability of nodal authorities not below the Secretary level</li> <li>• Chief Secretaries may have an accountable person attached in their office for this purpose</li> </ul>	22.01.2020	No industry/commercial activity
	<ul style="list-style-type: none"> <li>• Monitoring at State level must take place</li> </ul>	22.01.2020	NIL
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none"> <li>• Secretary, Ministry of Jal Shakti</li> <li>• Member Secretary, CPCB</li> </ul>	22.01.2020 Fortnightly commencing	NIL
6.1	Progress Report may be comprised of details along with completion timelines on:	21.12.2019	Drains contributing to river pollution were

<p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&amp;D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p>	<p>2020-2021</p>	<p>identified. The drains are seasonal and water quality is above the require limit, no in situ.</p> <p>Proposal for setting up an FSTP by Chengannur municipality is initiated.</p> <p>Since the area does not contain any industry no requirement of any CETP, this action. Plan revised.</p> <p>The adjoining local bodies are in the stage of developing and establishing adequate solid waste management facilities also the solid waste during issues were not identified in the stretch during field visit held during past 1 year.</p>
<p>(iv) <u>Status of Solid Waste Management &amp; Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p>	<p>2019-2020</p>	<p>Water quality analysis result of the stretch up to DECEMBER 2023 is enclosed. Awareness campaigns initiated.</p>
<p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p>	<p>2020-2021</p>	<p>No groundwater pollution is noted in the area action yet to be initiated.</p>
<p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p>	<p>2020-2021</p>	<p>Action will be initiated. Action will be initiated.</p>

<p>(vii)Ground water regulation</p> <p>(viii) Adopting good irrigation practices</p> <p>(ix) Protection and management of food plain Zones (FPZ)</p> <p>(x) Rain water harvesting</p> <p>(xi)Maintaining minimum Environmental flow of river</p> <p>(xii) Plantation on both sides of the river</p> <p>(xiii)Setting up biodiversity parks on flood plains by removing encroachment</p>	<p>Action will be initiated.</p> <p>Action will be initiated.</p> <p>Action will be initiated.</p> <p>Action will be initiated.</p>
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**ACTION PLAN FOR RIVER PAMBA, KERALA**

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2023	Progress in the month of JANUARY 2024	Progress in the month of February 2024	% works completed	Details of works remaining
A(a)	Monitoring of river water quality	Kerala State Pollution Control Board	Continuing project				100%	NIL
A(b)	Rendering Plant at Eraviperoor or Thiruvalla	Eraviperoor/ Thiruvalla local body	31.03.2021				0%	Work to be initiated
C(ii)	Fencing of bridges, desilting, dredging and protection works,	Irrigation department	31.03.2021				0%	Work to be initiated

	surveillance cameras at vantage points							
C	Preventing illegal discharge of septage and other waste water into the river. Formation of River Protection Group	Panchayath, Police , KSPCB	31.05.2020.				0%	Work pending due to COVID pandemic
C	Greenery development Plantation on both sides of the river, setting up biodiversity parks in flood plains and removing encroachment	Irrigation department in association with panchayath	31.03.2021				0%	Yet to be initiated
C(b)(ii)	Green Protocol implementation in all offices, institution & public functions	Kalloopara, Eraviperoor, Puramattom, Kaviyoor, Peringara, Kuttoorpanchayaths	31.03.2020				100%	0
D(a)	Issues relating to E-flow, maintaining minimum environmental flow of river (by having watershed management provisions)	Irrigation department, Hydrographic survey department	31.03.2021					Work to be initiated
C(ii)	Establishment of decentralized solid waste treatment facilities	Kalloopara, Eraviperoor, Puramattom, Kaviyoor, Peringara, Kuttoorpanchayaths	31.12.2020				100%	0
C	Installing household & community level solid and domestic sewage waste management	Kalloopara, Eraviperoor, Puramattom, Kaviyoor, Peringara, Kuttoorpanchayaths	31.12.2020				NA	NA
C	Door to door collection of solid waste & Material Collection	Kalloopara, Eraviperoor,	31.12.2020				NA	NA



	Facilities (MCF) & Resource Recovery Facilities (RRF)	Puramattom, Kaviyoor, Peringara, Kuttoorpanchayaths						
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### ACTION BY GROUND WATER DEPARTMENT

Sl. No	Ref para item nos as per NGT Order no.673/2018 dated 20.09.2018	Activity	Timeline	Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks	31.03.2021					
2	B(ii)	Ground water recharging / rain water harvesting in Govt offices	31.03.2021					
3	NGT order in O.A no.496/2016 Identification of illegal bore wells in the catchment area.	NGT order in O.A no.496/2016 Identification of illegal bore wells in the catchment area.	31.03.2021					



**ANALYSIS REPORT OF DRAINS OF MANIMALA BETWEEN KALLOOPARA AND THONDRA  
FEB -2024**

<b>SI NO</b>	<b>BOTTLE NO.</b>	<b>Name of Drains</b>	<b>PH</b>	<b>BOD</b>	<b>TC</b>	<b>FC</b>
1	TK1	Panayampalathodu	7.8	0.26	300 0	1800
2	TK2	PadathupalamThodu	7.7	0.26	150 0	1100
3	TK3	Thottappuzha	7.7	0.53	300 0	100
4	TK4	Kuttapuzha under Kattodubridge	7.8	0.26	200 0	500
5	TK5	Kadavumbara	7.7	0.33	150 0	0
6	TK6	Drain under Varappalam Bridge	NA	NA	NA	NA
7	TK7	Drain under kallupalam Bridge	7.7	0.66	500 0	1500
8	TK8	Komalamthodu	7.7	0.26	200 0	0
9	TK9	Vennikulam Valiyathodu	7.6	0.46	300 0	3000
10	TK10	Paduthodu	7.6	0.33	150 0	1500
11	TK11	Mallappally Valiyathodu	7.7	0.06	320 0	2000

**National Mission for Clean Ganga**

**Format for Submission of Monthly Progress Report by States/UTs  
(Hon'ble NGT in the matter of OA No.673/2018 dated 06.12.2019)**

**RIVER CHITHRAPUZHA. ERNAKULAM**

<b>S. No.</b>	<b>Activity to be monitored</b>	<b>Timeline</b>	<b>Submission of progress by State/UT- Compliance status</b>
1	Ensure 100% treatment of sewage at least in-situ remediation		
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured		
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning		
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none"><li>• Specifying accountability of nodal authorities not below the Secretary level</li><li>• Chief Secretaries may have an accountable person attached in their office for this purpose</li></ul>		
	<ul style="list-style-type: none"><li>• Monitoring at State level must take place</li></ul>		
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none"><li>• Secretary, Ministry of Jal Shakti</li><li>• Member Secretary, CPCB</li></ul>		
6.1	Progress Report may be comprised of details along with completion timelines on: (I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.		

<p>(II) <u>Status of STPs, I&amp;D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management &amp; Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p> <p>(vii) Ground water regulation</p> <p>(viii) Adopting good irrigation practices</p> <p>(ix) Protection and management of food plain Zones (FPZ)</p>		
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(x) Rain water harvesting		
(xi) Maintaining minimum Environmental flow of river		
(xii) Plantation on both sides of the river		
(xiii) Setting up biodiversity parks on flood plains by removing encroachment		

### ACTION PLAN FOR RIVER CHITHRAPUZHA, KERALA

#### SHORT TERM MEASURES

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of October 2023	Progress in the month of November 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
<b>(1) Drain joining Chithrappuzha (near Brahmapuram dumping yard) (Near FACT CD)</b>									
C (ii)	Restricting seepage of leachate of plastic dumped in the dumping yard	Kochi Corporation	3 years						
Aa (iv)	Effluent monitoring from FACT	KSPCB	Periodical						
Aa (iv)	Periodical Monitoring	KSPCB	Periodical						
<b>(2) Drain from Cochin Refinery area</b>									

Aa (iv)	Surveillance to restrict the dumping of wastes into the river and its branches	Vadavucode – Puthencruz Panchayat with the help of Police	Periodical						
A(b)	Sanitation Survey	Vadavucode – Puthencruz Panchayat	3 months						
E	Periodical Cleaning of Chithrapuzha	Irrigation Department	Twice in 3 years						
	Already implemented Effluent Treatment facility in Cochin Refinery and periodical monitoring are ongoing	KSPCB							
		<b>(3) Athikkayi branch (Provided temporary bund in joining section to check salinity intrusion)</b>							
A(b)	Identification of major pollution causing units(Apartments, hospitals, service stations, markets and industries) in upstream	Thrikkakkara Municipality	3 months						
		KSPCB					Notices issued and fine imposed		
Aa(iv)	Surveillance to restrict the dumping of wastes into the river and its branches	Thrikkakkara Municipality with the help of Police	Periodical Monitoring					Periodical squad done	
Aa(iv)	Periodical Monitoring	KSPCB	Periodical						

A(b)	Sanitation Survey	Thrikkakara Municipality	6 months				Being done		
E	Periodical Cleaning	Irrigation Department	Once in a year						
<b>(4) Drain joining Chithrappuzha from CSEZ (Chittethukara)</b>									
A(b)	Ensure proper functioning of ETP in CSEZ	KSPCB	Periodical						
A(b)	Sanitation Survey and periodical cleaning	Thrikkakara Municipality	6 months				Being done		
Aa(iv)	Periodical Monitoring	KSPCB	Periodical						
<b>(5) Vettuvelikkadavu (Konothupuzha joining Chithrappuzha)</b>									
A(b)	Identifying and closing of all unauthorized outlets into the stream joining the river	Thripunithura Municipality	6 months						
A(b)	Sanitation Survey	Thripunithura Municipality	3 months						
Aa(iv)	Periodical Monitoring	KSPCB	Periodical						
C(ii)	Surveillance to restrict the dumping of wastes into the river and its branches	Thripunithura Municipality with the help of Police	6 months						
E	Cleaning of Konothupuzha (work Proposal already submitted by Minor Irrigation)	Irrigation Department (Minor Irrigation)	Twice in a year						
<b>Main Stretch (Kadambrayar-Chithrappuzha Confluence point to Irumpanam)</b>									



E	Periodic Cleaning	Irrigation Department	Once in a year						
C(ii)	Surveillance to restrict the dumping of wastes into the river	Vadavucode - Puthercruz with the help of Police	Periodical Monitoring						
		Thripunithura Municipality with the help of Police	6 months						
Aa(iv)	River water quality monitoring	KSPCB	Ongoing; monthly frequency						
A(b)	Inspection and effluent quality monitoring of the flats, industrial units, service stations, hospitals, hotels etc	KSPCB	Ongoing						
C(ii)	Survivance of restrict dumping of waste to the river, Sanitation survey (with the help of Police)	Vadavukad Puthenkruze Panchayath	6 months						

### LONG TERM MEASURES

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of October 2023	Progress in the month of November 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
E	Provide inspection bund for Chithrapuzha	Irrigation Department	3 years						
A(b)	Additional STP requirement (if needed)	Thrikkakkara Municipality, Thripunithura Municipality	3 years				NO		
	Restriction of illegal dumping of Septage in to the river	Police							
	Flood Plain Zone(Management and Protection) Preparation of Inundation maps	Irrigation Department	3 years						

### ACTION BY GROUND WATER DEPARTMENT

Sl. No.	Ref para item nos as per NGT Order no.673/2018 dated 20.09.2018	Activity	Progress in the month of October 2023	Progress in the month of November 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
1	B(i)	Ground Water resources and						

		regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks						
2	B(ii)	Ground water recharging / rain water harvesting						
3	B(iii)	Periodic ground waste quality assessment and remedial actions in case of contaminated ground water tube wells/bore wells or hand pumps						
4	B(iv)	For regulating use of ground water for irrigation purpose, adopting good irrigation practices						

(Sd/-)

Municipal Secretary  
Thrikkakara Municipality

**National Mission for Clean Ganga**

**Format for Submission of Monthly Progress Report by States/UTs  
(Hon'ble NGT in the matter of OA No.673/2018 dated 06.12.2019)**

**RIVER KADAMBRAYAR, ERNAKULAM**

<b>S. No.</b>	<b>Activity to be monitored</b>	<b>Timeline</b>	<b>Submission of progress by State/UT- Compliance status</b>
1	Ensure 100% treatment of sewage at least in-situ remediation		
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured		
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning		
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none"><li>• Specifying accountability of nodal authorities not below the Secretary level</li><li>• Chief Secretaries may have an accountable person attached in their office for this purpose</li></ul>		
	<ul style="list-style-type: none"><li>• Monitoring at State level must take place</li></ul>		
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none"><li>• Secretary, Ministry of Jal Shakti</li><li>• Member Secretary, CPCB</li></ul>		
6.1	Progress Report may be comprised of details along with completion timelines on: (I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.		

<p>(II) <u>Status of STPs, I&amp;D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management &amp; Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p> <p>(vii) Ground water regulation</p> <p>(viii) Adopting good irrigation practices</p> <p>(ix) Protection and management of food plain Zones (FPZ)</p>		
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(x) Rain water harvesting		
(xi) Maintaining minimum Environmental flow of river		
(xii) Plantation on both sides of the river		
(xiii) Setting up biodiversity parks on flood plains by removing encroachment		

**ACTION PLAN FOR RIVER KADAMBRAYAR, KERALA**

**SHORT TERM MEASURES**

**Short term plan**

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of October 2023	Progress in the month of November 2023	Progress in the month of December 2023	Progress in January 2024	Progress in February 2024	% works completed	Details of works remaining
(1)	(2)	(3)	(4) <b>Manakkakkadavu</b>							
2.1.2 C(ii)	Surveillance to restrict the	Kunnathunadu Panchayat	As the post of							

	dumping of wastes into river and its branches	and with the help of Police	the Panchayat president is vacant at present, the officials informed that fund for surveillance can be intimate d only after the Preside nthas been elected							
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(5)	(6)	(7)	(8) Canal joining Kadambrayar near Infopark PhaseII								
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No. (as per Action Plan)	Activity	Implementing agency	Time line	Progre ss in the month	Progress in the month of November2	Progress in the month of December	Progress in the month of January2024	Progress in the month of February2024	% works completed	Details of works remaining
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				of Octob er 2023	023	2023				
2.2.1E	Cleaning of thodu	Kerala Irrigation Department & Vadavucode – Puthencruz Panchayat	6 months  6 months							
2.2.3 C(ii)	Surveillance to restrict the dumping of wastes into river and its branches	Vadavucode –Puthencruz Panchayat with the help of Police	2 months							
			<p align="center"><b><u>Main Stream (Manakkadavu to Kadambrayar-Chithrappuzha Confluence point)</u></b>  <b><u>(Provided temporary bund (Kozhichira Bund) in Kadambrayar-Chithrappuzha joining section to check salinity intrusion)</u></b></p>							
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progre ss in the month	Progress in the month of November2	Progress in the month of December	Progress in the month of January2024	Progress in the month of February2024	% works completed	Details of works remaining



				of Octob er 2023	023	2023				
A(b)	Provide proper facilities for restricting the seepage of leachate	Kochi Corporation								
A(b)	Provide proper facilities for collecting and treating leachate	Kochi Corporation								
<b>Action plan by Gramapanchayath</b>										
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progre ss in the month of Octob er 2023	Progress in the month of November2 023	Progress in the month of December 2023	Progress in the month of January2024	Progress in the month of February202 4	% works completed	Details of works remaining
E	Installation of	Kunnathunad	30.09.2019							

	CCTV camera At Manakkakadavu	u								
C(ii)	Vadavukad puthenkruze	Cleaning of Thodu	6 months							
C(ii)	Vadavu kad puthenkruze	Surveillance to restrict dumping of waste to the river and branches (with the help ofPolice)	2 months							
	1.	2.	3.	4. Long termPlan						
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progre ss in the month of Octob er 2023	Progress in the month of November2 023	Progress in the month of December 2023	Progress in the month of January2024	Progress in the month of February202 4	% works completed	Details of works remaining
4.5 C(ii)	Solid waste treatment facility at	Kochi Corporation	Three years DPR							

	Brahmapuram		Preparation in 10 months (through consultants)							
4.6 A(b)	Restriction of illegal dumping of septage in to the river	Police	As soon as possible							
			<b>3. REVISED ACTION PLAN</b>							
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of October 2023	Progress in the month of November 2023	Progress in the month of December 2023	Progress in January 2024	Progress in February 2024	% works completed	Details of works remaining
3.1	Slaughter house and poultry waste Rendering plant	Thrikkakkara Municipality	To allot land for installing plant, Government procedure are on going					The land identified and the inspect		

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								than the market value. The proposal cancelled and decided to give Advertisement again.		
3.2	Sanitation facility and treatment of waste water in the markets  Treatment plant  Portable aerobic bins	Thrikkakkara Municipality	2020-21  2021-22					Municipality has no adequate land for construction of waste manag		

								ement facility in the market s.		
3.3	<p>Provide facility for the treatment of sewage, sullage and garbage generated</p> <p>Proposed places for the installation of Aerobins</p> <p>(1) Municipal office compound</p> <p>(2) NGOquarters</p> <p>(3) KakkanadMarket</p> <p>Near Eechamukku TV-Centre Anganavadi</p>	Thrikkakkara Municipality	To allot land for installing plant, Government procedures are on going					No progress. Land has been identified near NGO quarters for setting up aerobins and the proposal submitted for		

								council approval. Market construction completed. The land identified near NGO Quarters found inadequate. Requested Suchitwa Mission to		
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								prepar e DPR for waste manag ement in market .		
3.4	Providing facility for restricting discharge of waste water from the surrounding houses to the river  Outlet closing procedures are going on by issuing Notices	Thrikkakkara Municipality					.	Survey continuing. DLTC convenor informed the municipality to submit the sanitation survey report.		



								Survey reported to be progressing .1200 completed. Report of survey not submitted to DLTC		
3.5	Providing effluent treatment plant for industries  No.of industries :75 no.s  Total effluent treatment plant required : Nil	Thrikkakkara Municipality						നഗരസഭ യും പി സി ബി യും ചേർ ര്ന്നു നടപ		

	units							ടീക ളർ സീ കരി ച്ച വരു നു.		
3.6	Identification of illegal outlets into storm water drains and fine shall be imposed on such units – 30 units	Thrikkakkara Municipality						Fine imposed.		
3.7	Biodegradable waste management  Bio-Composter – 2000 No.s Thumboormuzhi aerobic bins - 4 No.s Portable biogas	Thrikkakkara Municipality						Biocompost units being distributed		

	- 1500 No.s Ring compost – 500 No.s Napkin destroyer – 6 No.s  Viability gap Fund									
	<b>4.</b>	<b>5.</b>		<b>6.</b>	<b>7. MONITORING</b>					
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progre ss in the month of Octob er 2023	Progress in the month of November2 023	Progress in the month of December 2023	Progress in the month of January2024	Progress in the month of February202 4	% works completed	Details of works remaining
4.1	River water quality monitoring Monitoring of water quality	Kerala State Pollution Control Board	Ongoing; Monthly frequency							
4.2	Inspection and effluent quality monitoring of	Kerala State Pollution Control Board								

	the flats, industrial units, service stations, hospitals, hotelsetc									
	Monitoring of establishments, service stations, flats, industrialunits									
	<b>8.</b>	<b>9.</b>	<b>10.</b>	<b>11. LONG TERM PLAN</b>						
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progre ss in the month of October 2023	Progress in the month of November2 023	Progress in the month of December 2023	Progress in the month of January2024	Progress in the month of February202 4	% works completed	Details of works remaining
5.1	Additional STP requirement DPR Preparation in 6 months (through consultants)	Thrikkakkara Municipality	3 years						The land identifi ed and the land	

	To allot land, Government Procedure are ongoing							inspect ed by the sub- commi ttee. The propos al submit ted for counci l approv al. Propos al not approv ed by counci l since land value is found higher		
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								than the market value. The proposal cancelled and decided to give advertisement again.		
5.2	Acquiring of land and rehabilitate families from the banks of River  To allot land, Government Procedure are	District Collector, Thrikkakkara Municipality, Revenue Dept	5 years					സ്ഥലം ലഭ്യമാക്കുന്നതിനുവേണ്ടി		

	ongoing							താല്പര്യപത്രം ക്ഷണിക്കുകയും, ആയതിന്റേ അടിസ്ഥാനത്തില് 5 പേര് രസന		
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								താല്പര്യപത്രം ക്ഷണിക്കുകയും 2 പേര് താല്പര്യപത്രം ഹാജരാക്കുകയും		
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**DESILTING AND DEVELOPEMENT**



No. (as per Action Plan)	Activity	Implementing agency	Time line	Progre ss in the month of October 2023	Progress in the month of November2 023	Progress in the month of December 2023	Progress in the month of January2024	Progress in the month of February202 4	% works completed	Details of works remaining
5.3	Development package  Inspection bund for Chithrapuzha and Kadambrayar are included in this package. For this project, preliminary investigation of site which includes survey of land to know its availability for formation of side bund	Irrigation department	3 years							

	<p>which is to be provided with tiles. The project also includes side protection work of Chitrapuzha and Kadambrayar. Provision for handrails at the edge of the bund is given. Overall cost comes to 25 Crore. The work is being proposed urgently and will be submitted to higher authorities for financial sanction.</p>									
5.4	<p>Desilting and development  It includes clearing and</p>	Irrigation Department	1 year (periodical cleaning - 4 months x3)							

	removing water hyacinth of Kadambrayar, Chitrapuzha and Edachirathodu near Infopark phase II. This is to be done periodically (every four months), depending on availability of fund.									
5.5	sheet piling and providing fencing Fencing is provided in Sl.no 5.3	Irrigation Department	1.5 years							
5.6	Development of river basin It includes cleaning and removal of water hyacinth from rivers and maintain its	Irrigation Department	1.5 years							

	natural flow, depending on availability of fund.									
	<b>12.</b>	13.	14.	<b>15. <u>RECOMMENDATIONS BY KERALA STATE POLLUTION CONTROL BOARD</u></b>  <b>Activities for compliance with Solid Waste Management Rules, 2016; Bio-medical Waste Management Rules, 2016</b>						
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of October 2023	Progress in the month of November 2023	Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
6.1	Door-to-door collection and transportation of MSW  <b>100% door to door collection</b>  Proposed Kerala Solid	Thrikkakkara Municipality  Local bodies of Census Town						Door to Door collection 95% completed. 10787		

	Waste Management Authority							house olds (103 flats) having onsite compo sting and handli ng non bio degrad able waste by NGO's As per calend ar Issued by ULB glass bottles were		
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								collect ed in Januar y, leather , bag etc. were collect ed in Februa ry, E- waste collect ed in March and waste cloths were collect ed in April. Bio medica l waste		
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								collect ion was started . Traini ng has given to the Harith akarm asena memb ers for Harith a mithra m- smart garbag e monito ring App. Placin g QR		
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								code in househ old going on.		
6.2	Modern Solid Waste TreatmentPlant  Proposed Kerala Solid Waste Management Authority	Thrikkakkara Municipality (To allot land, Government procedure areongoing)  Local bodies of Census Town						The land identifi ed and the land inspect ed by the subco mmitte e. The propos al submit ted for counci l approv al.		



								<p>Council not approved the proposal since land value is found higher than the market value. The proposal cancelled and decided to give adverti</p>	
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								sement again		
6.3	Rendering plant for slaughter house/poultry wastes  Proposed Kerala Solid Waste  Management Authority	Thrikkakkara Municipality (To allot land, Government procedure are on going)						The land identi fied and the land inspect ed by the sub commi ttee. The propos al submit ted for counci l approv al. Counci l not approv		

								ed the propos al since land value is found higher than the market value . The propos al cancell ed and decide d to give adverti sement again.		
6.4	Common	Health Department								

	bio-medical waste treatment facility  Proposed  Kerala  Solid Waste  Management Authority									
6.5	Regional sanitary landfill site identification and land acquisition  Establishment  and operation of Regional Sanitary Landfills	District Collector  Local bodies								

	Proposed Kerala State Waste Management Authority									
			<b>7.OTHERASPECTS</b>							
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of October 2023	Progress in the month of November 2023	Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
7.1	Flood plain zone management and E- flow maintaining  Flood plain zone management & E-flow maintaining	Irrigation Dept								

	<p>cleaning &amp; desilting, depending on availability of fund. During summer season Irrigation Department Provides temporary bund to prevent the salt water intrusion due to tidal effects. To maintain natural flow, sluice gate is provided. During the low tide, the shutter of the sluice gate is kept open to maintain minimum flow</p>									
7.2	Development of bio diversity parks in banks	Thrikkakkara Municipality	<p>1<sup>st</sup> Phase 2020-21</p> <p>2<sup>nd</sup> Phase 2021-22</p>					<p>തൃക്കാക്കര നഗര സഭ യ്ക്ക് സ്വ</p>		

								ന്നമാ യി മതി യായ സ്ഥ ലം ലഭ്യ മല്ലാ ത്ത സാ ഹച ര്യമാ ണു ള്ളത് . സ്ഥ ലംല ഭ്യമാ ക്കു ന്നതു മാ യി		
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								ബന്ധ പ്പെട്ട് നടപ ടിക ല് സ്വീകരി ച്ചു വ രുന്നു .		
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(Sd/-)

Municipal Secretary  
Thrikkakara Municipality



**National Mission for Clean Ganga**

**Format for Submission of Monthly Progress Report by States/UTs  
(Hon'ble NGT in the matter of OA No.673/2018 dated 06.12.2019)**

**RIVER PERIYAR. ERNAKULAM**

<b>S. No.</b>	<b>Activity to be monitored</b>	<b>Timeline</b>	<b>Submission of progress by State/UT- Compliance status</b>
1	Ensure 100% treatment of sewage at least in-situ remediation		
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured		
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning		
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none"><li>• Specifying accountability of nodal authorities not below the Secretary level</li><li>• Chief Secretaries may have an accountable person attached in their office for this purpose</li></ul>		
	<ul style="list-style-type: none"><li>• Monitoring at State level must take place</li></ul>		
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none"><li>• Secretary, Ministry of Jal Shakti</li><li>• Member Secretary, CPCB</li></ul>		
6.1	Progress Report may be comprised of details along with		

	<p>completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&amp;D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u>  Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management &amp; Details of Processing Facilities</u>  Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including</p>		
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A(b)	Augmentation and Revamping of existing STP at near AdwaitaAshramam and to increase the capacity of STP so as to treat more sewage generated in the municipality	Aluva Municipality	Dec 2019	<p>The construction work of STP at Advaita Ashram is in progress. The agreement for the civil works has been completed at present and the work will start immediately. Electrical work is reserved for retendering. Investments have been made for mechanical related work. Currently STP is working partially, therefore steps have been taken to speed up the partial functioning. Informed that mechanical and civil related works may completed within 2 months.</p>	<p>The construction work of STP at Advaita Ashram is in progress. The agreement for the civil works has been completed at present and the work will start immediately. Electrical work is reserved for retendering. Investments have been made for mechanical related work. Currently STP is working partially, therefore steps have been taken to speed up the partial functioning. Informed that mechanical and civil related works may completed within 2 months.</p>	<p>The construction work of STP at Advaita Ashram is in progress. The agreement for the civil works has been completed at present and the work will start immediately. Electrical work is reserved for retendering. Investments have been made for mechanical related work. Currently STP is working partially, therefore steps have been taken to speed up the partial functioning. Informed that mechanical and civil related works may completed within 2 months.</p>		
A(b)	Augmentation and Revamping	Aluva	2021	A proposal was	A proposal was	A proposal was		

	of existing STP at Aluva Market and to increase the capacity of STP so as to treat more sewage generated in the municipality	Municipality		submitted for 0.03MLD ETP. Revised DPR for increasing capacity to .07 MLD will be submitted. Adding waste from fish stall along with abattoir is considered.	submitted for 0.003MLD ETP. 45 lakh preliminary DPR has been prepared. Suchithwa mission has directed to revise and submit the DPR as 7 KLD.It is informed that 0.3 MLD in previous minutes is recorded s wrong and 0.003(3 KLD) is the correct value.	submitted for 0.003MLD ETP. 45 lakh preliminary DPR has been prepared. Suchithwa mission has directed to revise and submit the DPR as 7 KLD.It is informed that 0.3 MLD in previous minutes is recorded s wrong and 0.003(3 KLD) is the correct value.		
A(b)	Discharge of sewage from township to the River through drain near Periyar Hotel shall be stopped.	Aluva Municipality	2020					
A(b)	Identification of the establishments/commercial complexes/flats/houses/hotel setc who is discharging the sewage to the public drain and to collect fine based on polluter pay principle	Aluva Municipality, KSPCB	2020	Out of 4 inspections one case was found on the month of December. And they paid the fine that imposed, which is Rs 25000. Also 4 inspections were done regarding the	8 inspections were conducted on last month. No new cases were found.	8 inspections were conducted on last month. No new cases were found		

				illegal waste dumping and imposed Rs 5000 as fine and paid				
A(a)(iv)	Periodical inspection in the Industries, Flats, hotels monitoring of STP,ETP	KSPCB	Periodical					
C(ii)	Installation of modern abattoirs	Aluva Municipality	March 2021	DPR proposal prepared by IRTC (Accredited Agency) for the installation of machines has been submitted for the approval	DPR proposal prepared by IRTC (Accredited Agency) for the installation of machines has been submitted for the approval	DPR proposal prepared by IRTC (Accredited Agency) for the installation of machines has been submitted for the approval		
A(b)	Procurement of sewer cleaning machines and equipment maintenance	Aluva Municipality	March 2020	Drainage cleaning activities are done everyday. JCBs are also used for carry out the waste. The excavated waste is then disposed in Thumboormuzhi compost.	Drainage cleaning activities are done everyday. JCBs are also used for carry out the waste. The excavated waste is then disposed in Thumboormuzhi compost	Drainage cleaning activities are done everyday. JCBs are also used for carry out the waste. The excavated waste is then disposed in Thumboormuzhi compost		
E	Installation of cameras at the waste dumping spots	Aluva Municipality	2020	25 lakhs rupee-worth cameras have been established for monitoring waste dumping site	For monitoring the dumping sites, 53 cameras costing 25 lakh has been installed.	For monitoring the dumping sites, 53 cameras costing 25 lakh has been installed.		
A(b)	Construction of retaining wall	Kalamasse	Sept		Completed the	Completed the		

	with HDPE liner at Kalamassery dumping yard in order to prevent the leachate discharge from the yard to ThoombungalThodu	ry Municipality	2019		construction of retaining wall with HDPE liner and compound wall at dumping yard	construction of retaining wall with HDPE liner and compound wall at dumping yard		
C(ii)	Installation of plastic shredding unit	Kalamassery Municipality	June 2019		A plant is already established and operational. Shred is carried by CLCK and is taken to Palakkad cement factory	A plant is already established and operational. Shred is carried by CLCK and is taken to Palakkad cement factory		
A(a)(iv)	Constitution of squads for night surveillance for finding the unauthorized dumping of sewage at NAD wet lands Kalamassery	Kalamassery Municipality, Police department	2020	NAD not provided CCTV. Night squad fine Rs. <b>1939440</b>	NAD not provided CCTV. Night squad fine Rs. <b>1970940</b>	NAD not provided CCTV. Night squad fine Rs. <b>1970940</b>		
A(b)	Installation of common STP for Kalamassery Municipality and ETP at Municipal Market	Kalamassery Municipality	December 2019	75 cents land identified at North Kalamassery for sewage and septage treatment plant	75 cents land identified at North Kalamassery for sewage and septage treatment plant	75 cents land identified at North Kalamassery for sewage and septage treatment plant		
A(a)(iv)	Monitoring and surveillance of industries in Kalamassery Industrial Estate in order to prevent unauthorized discharges to Muttar River	KSPCB	2019					

C(ii)	Installation of modern abattoirs including poultry and meat rendering plants.	Kalamasse ry Municipality, Industries Department (for land allotment)	2021	A letter dated 03.10.22 has forwarded to the govt. for allotment of land for the construction of modern abattoirs	A letter dated 03.10.22 has forwarded to the govt. for allotment of land for the construction of modern abattoirs	A letter dated 03.10.22 has forwarded to the govt. for allotment of land for the construction of modern abattoirs		
A(b)	Identification of the establishments/commercial complexes/flats/houses/hotels etc who is discharging the sewage to the public drain	Kalamasse ry Municipality	2020	Inspection conducted on 24/09/2020, 22/07/2021, 13/08/2021, 01/01/2022, 10/01/2022, 11/01/2022, 12/01/2022 & notice issued to 49 persons. 12 persons cleared  violations. Second notice issued to 2 persons and rectified the defect. Inspection conducted on 28.07.2022, fresh notice issued to 5 persons, 1 person cleared violation. Inspection conducted on 15.09.2022, fresh notice issued to 1 person .	Inspection conducted on 24/09/2020, 22/07/2021, 13/08/2021, 01/01/2022, 10/01/2022, 11/01/2022, 12/01/2022 & notice issued to 49 persons. 12 persons cleared  violations. Second notice issued to 2 persons and rectified the defect. Inspection conducted on 28.07.2022, fresh notice issued to 5 persons, 1 person cleared violation.	Inspection conducted on 24/09/2020, 22/07/2021, 13/08/2021, 01/01/2022, 10/01/2022, 11/01/2022, 12/01/2022 & notice issued to 49 persons. 12 persons cleared  violations. Second notice issued to 2 persons and rectified the defect. Inspection conducted on 28.07.2022, fresh notice issued to 5 persons, 1 person cleared violation. Inspection conducted on 15.09.2022, fresh		



				<p>Inspection conducted on 29.12.2022, 5 persons cleared violation .</p> <p>Inspection conducted on 16.02.2023, 1 person fresh notice issued. 7 outlet of houses, 3 outlet of establishment in may 2023</p>	<p>Inspection conducted on 15.09.2022, fresh notice issued to 1 person . Inspection conducted on 29.12.2022, 5 persons cleared violation .</p> <p>Inspection conducted on 16.02.2023, 1 person fresh notice issued. 7 outlet of houses, 3 outlet of establishment in may 2023</p>	<p>notice issued to 1 person . Inspection conducted on 29.12.2022, 5 persons cleared violation .</p> <p>Inspection conducted on 16.02.2023, 1 person fresh notice issued. 7 outlet of houses, 3 outlet of establishment in may 2023</p>		
E	Installation of cameras at the waste dumping spots	Kalamasse ry Municipality	2020	<p>Camera installed on 10 locations. 2 portable (mobile) camera has installed for identifying waste dumping spot. Rs 36560 /- levied till date</p>	<p>Camera installed on 10 locations. 2 portable (mobile) camera has installed for identifying waste dumping spot. Rs 36560 /- levied till date</p>	<p>Camera installed on 10 locations. 2 portable (mobile) camera has installed for identifying waste dumping spot. Rs 36560 /- levied till date</p>		
A(b)	Identification of sources of sewage discharged to drain near Pathalam bridge and	Eloor Municipality,	2020	<p>Inspections are done time to time. Waste discharging</p>	<p>Inspections are done time to time. No new waste</p>	<p>Inspections are done time to time. No new waste discharging</p>		

	action to stop the discharge which reach river Periyar from hotels, labour camps etc In case the quantity of sewage generated is assessed to be more STP need to be installed	KSPCB (for monitoring)		outlets from shops were identified and proper arrangements are made as remedy. No new waste discharging findings were caught	discharging findings were caught	findings were caught		
E	Installation of cameras at the waste dumping spots	Eloor Municipality	2020	The project is being implemented at a cost of Rs.44 lakh to install 104 cameras. Work has started after identifying the locations for the camera. Keltron cameras have been established near HIL company and Aarattukadavu	Keltron cameras have been established near HIL company and Aarattukadavu. The e-tender for 3 projects has been completed(Rs.44,00,000/- )as per the plan 2023-24 for the camera installation at various areas of municipality. Tender received firms have been engaged in agreements therefore camera installations works are still in progress.	Keltron cameras have been established near HIL company and Aarattukadavu. The e-tender for 3 projects has been completed(Rs.44,00,000/- )as per the plan 2023-24 for the camera installation at various areas of municipality. Tender received firms have been engaged in agreements therefore camera installations works are still in progress.		

A(a)(iv)	Periodical inspection in the Industries, Flats, hotels for monitoring of STP,ETP located in Cochin corporation	KSPCB	periodical	Inspection ongoing	Inspection ongoing	Inspection ongoing		
A(a)	Inventory of sources of pollution through a rapid study/Study for identification of pollution sources at Edapallythodu	Kochi Municipal Corporation	3 months	To find the source of discharge, a squad was formed under Engineering and health and regular inspections are carried out. Identified sources will be informed. Desilting works have been completed	( Did Not Attend The meeting)  To find the source of discharge, a squad was formed under Engineering and health and regular inspections are carried out. Identified sources will be informed. Desilting works have been completed	( Did Not Attend The meeting)  To find the source of discharge, a squad was formed under Engineering and health and regular inspections are carried out. Identified sources will be informed. Desilting works have been completed		
E	issuing notice to the defaulters	Kochi Municipal Corporation	4 months					
A(a)(iv)	Periodical inspection in the flats, hotels, shops located along the river	Kochi Municipal Corporation	periodical	A thorough inspection was carried out in the establishments near the river. 76 outlets of institutions have been closed. Made	A thorough inspection was carried out in the establishments near the river. 76 outlets of institutions have been closed. Made	A thorough inspection was carried out in the establishments near the river. 76 outlets of institutions have been closed. Made them to take PCB consent. A		

				them to take PCB consent. A fine of 3 lakh have been imposed.	them to take PCB consent. A fine of 3 lakh have been imposed.	fine of 3 lakh have been imposed.		
A(b)	Identification of natural drains/thodu reaching river Periyar and cleaning of weeds, grasses etc	Irrigation department	2 years	Cleaning of 20 canals and 13 sub canals under Eloor municipality on the banks of Periyar in Kalamassery constituency and 40 canals under Paravur constituency situated on the banks of Periyar in Karumallor, Kunnukara and Alangad Panchayath , which comes under the auspices of minor irrigation office are under progress. The proposal for the cleaning of the Onithod which connected from Periyar has been submitted to the government by the Ernakulum district collector from minor irrigation office. Permission	Cleaning of 20 canals and 13 sub canals under Eloor municipality on the banks of Periyar in Kalamassery constituency and 40 canals under Paravur constituency situated on the banks of Periyar in Karumallor, Kunnukara and Alangad Panchayath , which comes under the auspices of minor irrigation office are under progress. The proposal for the cleaning of the Onithod which connected from Periyar has been submitted to the government by the Ernakulum district collector from minor irrigation office. Permission not received.	Cleaning of 20 canals and 13 sub canals under Eloor municipality on the banks of Periyar in Kalamassery constituency and 40 canals under Paravur constituency situated on the banks of Periyar in Karumallor, Kunnukara and Alangad Panchayath , which comes under the auspices of minor irrigation office are under progress. The proposal for the cleaning of the Onithod which connected from Periyar has been submitted to the government by the Ernakulum district collector from minor irrigation office. Permission not received. Irrigation Division has submitted		

				<p>not received. Irrigation Division has submitted estimates for rehabilitation of the following streams under Ernakulam.</p> <p>1. Kuthuthodu (IRR/IA/EST/8495/2022_5_8_7) Rs. 74.40 lakh</p> <p>2.Edathodu (IRR/IA/EST/8495/2022_5_11_10) Rs. 9/- lakh</p> <p>These works have not been approved.The cleaning of Vliyachal canal and Erazhichal in Eloor municipality is in progress under Minor irrigation department</p>	<p>Irrigation Division has submitted estimates for rehabilitation of the following streams under Ernakulam.</p> <p>1. Kuthuthodu (IRR/IA/EST/8495/2022_5_8_7) Rs. 74.40 lakh</p> <p>2.Edathodu (IRR/IA/EST/8495/2022_5_11_10) Rs. 9/- lakh</p> <p>These works have not been approved.The cleaning of Vliyachal canal and Erazhichal in Eloor municipality is in progress under Minor irrigation department.</p>	<p>estimates for rehabilitation of the following streams under Ernakulam.</p> <p>1. Kuthuthodu (IRR/IA/EST/8495/2022_5_8_7) Rs. 74.40 lakh</p> <p>2.Edathodu (IRR/IA/EST/8495/2022_5_11_10) Rs. 9/- lakh</p> <p>These works have not been approved.The cleaning of Vliyachal canal and Erazhichal in Eloor municipality is in progress under Minor irrigation department.</p>		
C(iii)	Clearing of weeds, grasses at the river bank in order to ensure the smooth flow of water	Irrigation department	3 years	The project Operation Vahini 2022 is carried out to clean and desilt drainsand hand drains. As part of this project, works on some tributaries	The project Operation Vahini 2022 is carried out to clean and desilt drainsand hand drains. As part of this project, works on some	The project Operation Vahini 2022 is carried out to clean and desilt drainsand hand drains. As part of this project, works on some tributaries of Periyar have been completed		

				of Periyar have been completed and also the cleaning of 17.5km of Edamula-Muttar-Varapuzha reach which is a part of Periyar is under completion. Proposals have been issued for cleaning activities Edayar and Methanam. If permission is granted, they will also be taken up	tributaries of Periyar have been completed and also the cleaning of 17.5km of Edamula-Muttar-Varapuzha reach which is a part of Periyar is under completion. Proposals have been issued for cleaning activities Edayar and Methanam. If permission is granted, they will also be taken up	and also the cleaning of 17.5km of Edamula-Muttar-Varapuzha reach which is a part of Periyar is under completion. Proposals have been issued for cleaning activities Edayar and Methanam. If permission is granted, they will also be taken up		
D(a)	Maintaining of Minimum flow in river during lean period and periodical operation of Regulators at River in-order to maintain minimum flow.	Irrigation department	3 years	Periodically maintained for the minimum flow of water by operating the shutter properly at pathalam lock cum regulator	Periodically maintained for the minimum flow of water by operating the shutter properly at pathalam lock cum regulator	Periodically maintained for the minimum flow of water by operating the shutter properly at pathalam lock cum regulator		
A(b)	Common Effluent Treatment Plant at Edayar Industrial Estate	Industries department	2022					
A(b)	Construction of internal roads and proper drainage in Edayar	Industries department		Completed the constructed roads	Completed the constructed roads	Completed the constructed roads and		

	industrial estate	ent		and drainage works in the locality of Edayar which comes under the project of MSECDP and costed 9 crore. 6.54 crore rupees has been sanctioned to PWD for works to be completed and construction of 34 lakh rupees drainage is under progress. 45% of work is completed. Process for the construction of internal road which worth Rs 6.20 crore is in progress	and drainage works in the locality of Edayar which comes under the project of MSE-CDP and costed 9 crore. 6.54 crore rupees has been sanctioned to PWD for works to be completed and construction of 34 lakh rupees drainage is under progress. 50% of work is completed. Process for the construction of internal road which worth Rs 6.20 crore is in progress	drainage works in the locality of Edayar which comes under the project of MSE-CDP and costed 9 crore. 6.54 crore rupees has been sanctioned to PWD for works to be completed and construction of 34 lakh rupees drainage is under progress. 50% of work is completed. Process for the construction of internal road which worth Rs 6.20 crore is in progress		
A(b)	Installation of common discharge pipe line at downstream of Pathalam Regulator Bridge	Industries department, Irrigation department	3 years					
E	Installation of Night vision	KSPCB	2020	Installation	Installation	Installation Completed	100	

	surveillance cameras at the River Bank side			Completed	Completed			
A(a)(iv)	Periodical Monitoring of Eloor, Edayar, Kalamassery Industrial belts	KSPCB	2020	Routine inspection is going on. Night Surveillance also carried out continuously.	Routine inspection is going on. Night Surveillance also carried out continuously.	Routine inspection is going on. Night Surveillance also carried out continuously.		
A(a)(iv)	Monitoring of quality of water at various intake point	Kerala Water Authority	2020					
A(a)(iv)	Installation of additional continuous online River water monitoring station	KSPCB	2022	New water monitoring station has been set up at theUpstream side of the Pathalam bund. The online data of water monitoring is available in the office. Quality of water at upstream is satisfactory	New water monitoring station has been set up at theUpstream side of the Pathalam bund. The online data of water monitoring is available in the office. Quality of water at upstream is satisfactory	New water monitoring station has been set up at theUpstream side of the Pathalam bund. The online data of water monitoring is available in the office. Quality of water at upstream is satisfactory	100	
A(b)	Identification of the establishments/commercial complexes/flats/houses/hotels etc who is discharging the sewage to the public drain	KadungallurPanchayath	2020	Waste discharging units are been identifies. Fine and notices were issued to them	Waste discharging units are been identifies. Fine and notices were issued to them	Waste discharging units are been identifies. Fine and notices were issued to them		
E	Installation of cameras at the waste dumping spots	KadungallurPanchay	2020	The 17 lakh project to install camera is	For the monitoring of dumping spots,	For the monitoring of dumping spots, 50 lakh		



		ath		underway and technical sanction got approved.The monitoring squad has identified 30 spots and 18000 rupees charged been charged as fine on december	50 lakh rupees project is submitted for installing camera. Out of which 25 lakhs should be collected in the form of donation. 50 lakhs to be amended to 30 lakhs is under consideration. The amount received in the form of CSR as contribution will be announced in the next meeting.. It is decided to negotiate with other companies about the remaining amount..The donation amount has been revised to 5 lakh	rupees project is submitted for installing camera. Out of which 25 lakhs should be collected in the form of donation. 50 lakhs to be amended to 30 lakhs is under consideration. The amount received in the form of CSR as contribution will be announced in the next meeting.. It is decided to negotiate with other companies about the remaining amount..The donation amount has been revised to 5 lakh		
A(b)	Identification of the establishments/commercial complexes/flats/houses/hotels etc who is discharging the sewage to the public drain	ChoornikkaraPanchayath	2020	150 soak pits have been constructed to prevent dumping of sewage from houses into the river, and no other problems exist.	150 soak pits have been constructed to prevent dumping of sewage from houses into the river, and Rs 10,000 is charged	150 soak pits have been constructed to prevent dumping of sewage from houses into the river, and Rs 10,000 is charged as fine.		

					as fine.			
E	Installation of cameras at the waste dumping spots	ChoornikkaraPanchayath	2020	For the monitoring of dumping spots, 50 lakh rupees project is submitted for installing camera. Out of which 25 lakhs should be collected in the form of donation. 50 lakhs to be amended to 30 lakhs is under consideration. The amount received in the form of CSR as contribution will be announced in the next meeting.. It is decided to negotiate with other companies about the remaining amount..The donation amount has been revised to 5 lakh	For the monitoring of dumping spots, 50 lakh rupees project is submitted for installing camera. Out of which 25 lakhs should be collected in the form of donation. 50 lakhs to be amended to 30 lakhs is under consideration. The amount received in the form of CSR as contribution will be announced in the next meeting.. It is decided to negotiate with other companies about the remaining amount..The donation amount has been revised to 5 lakh.	For the monitoring of dumping spots, 50 lakh rupees project is submitted for installing camera. Out of which 25 lakhs should be collected in the form of donation. 50 lakhs to be amended to 30 lakhs is under consideration. The amount received in the form of CSR as contribution will be announced in the next meeting.. It is decided to negotiate with other companies about the remaining amount..The donation amount has been revised to 5 lakh.		

### LONG TERM MEASURES

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
A(b)	Construction of walkway, ring roads etc at the Periyar River bank at industrial belt.	Irrigation department	4 years	An investigation work has been started for the construction of surveillance road and dyke wall on the side of industrial belt. The dyke wall design design can be finalized after considering the investigation report and availability of space. Investigation process shall be completed within 2 months.	Completed soil investigation work for the construction of dyke wall. The survey works are still pending. The dyke wall design can be finalized after considering the investigation report and availability of space.	Completed soil investigation work for the construction of dyke wall. The survey works are still pending. The dyke wall design can be finalized after considering the investigation report and availability of space.		
C(i)	Fencing of the river banks along the stretches of waste disposal (Edamula	Cochin Municipal Corporation	1-2 years		Explanation will be given in next meeting	This work is put up in budget, will be		

	stretch)					commenced after election declaration.		
C(iii)	Beautification of the river stretches (Edamula stretch)	Cochin Municipal Corporation	1-2 years	Explanation will be given in next meeting ( Did not attend the meeting)	Explanation will be given in next meeting	This work is put up in budget, will be commenced after election declaration.		

### ACTION BY GROUND WATER DEPARTMENT

Sl. No.	Ref para item nos as per NGT Order no.673/2018 dated 20.09.2018	Activity	Progress in the month of January 2024	Progress in the month of February 2024	Progress in the month of March 2024	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks	NOT SUBMITTED				
2	B(ii)	Ground water recharging / rain water harvesting	NOT SUBMITTED				
3	B(iii)	Periodic ground waste quality assessment and remedial actions in case of contaminated ground water tube wells/bore wells or hand pumps	NOT SUBMITTED				
4	B(iv)	For regulating use of ground water for irrigation	NOT				

		purpose, adopting good irrigation practices	SUBMITTED				
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**KERALA STATE POLLUTION CONTROL BOARD**  
**ENVIRONMENTAL SURVEILLANCE CENTRE, ELOOR**  
**ANALYSIS REPORT OF RIVER PERIYAR - FEBRUARY 2024**  
Sampling point: VETTUKADAVU

Sl. No	Parameter	Unit	05.02.2024	25.02.2024
1	Temp	°c	30.1	33.1
2	pH		7.1	7.1
3	Conductivity	µS/cm	5581.00	5343.00
4	Turbidity	NTU	*	*
5	Chlorides	mg/L	1787.2	1588.6
6	Hardness	"	900.0	800.0
7	D.O.	"	5.2	2.9
8	Calcium	"	160.0	40.0
9	Magnesium	"	121.500	170.100
10	Ammoniacal Nitrogen	"	**	**
11	Phosphate	"	**	**
12	Total alkalinity	"	44.0	32.0
13	BOD	"	2.1	2.2
14	Sulphate	"	**	**
15	Nitrates	"	**	**
16	TC	cfu/100ml	700	400
17	FC	"	100	NIL
18	FS	"	NIL	NIL

\* TURBIDITY METER IS OUT OF ORDER

\*\* SPECTROPHOTOMETER IS OUT OF ORDER

  
**BINEESHA M.P.**  
Assistant Scientist

**KERALA STATE POLLUTION CONTROL BOARD**  
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**ANALYSIS REPORT OF RIVER PERIYAR - FEBRUARY 2024**  
**Sampling point: PATHALAM BRIDGE**

Sl. No	Parameter	Unit	05.02.2024	25.02.2024
1	Temp	°c	30.1	33.2
2	pH		7.5	7.2
3	Conductivity	µS/cm	172.30	75.76
4	Turbidity	NTU	*	*
5	Chlorides	mg/L	27.8	14.9
6	Hardness	"	23.0	15.0
7	D.O.	"	5.3	4.6
8	Calcium	"	7.2	4.4
9	Magnesium	"	1.215	2.910
10	Ammoniacal Nitrogen	"	**	**
11	Phosphate	"	**	**
12	Total alkalinity	"	28.0	20.0
13	BOD	"	2.7	1.4
14	Sulphate	"	**	**
15	Nitrates	"	**	**
16	TC	cfu/100ml	800	800
17	FC	"	200	300
18	FS	"	NIL	NIL

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**Sampling point: PUTHALAM KADAVU**

Sl. No	Parameter	Unit	05.02.2024	25.02.2024
1	Temp	°c	30.1	33
2	pH		7.3	7.4
3	Conductivity	µS/cm	143.10	73.53
4	Turbidity	NTU	*	*
5	Chlorides	mg/L	20.9	12.9
6	Hardness	"	16.0	14.0
7	D.O.	"	4.0	4.2
8	Calcium	"	6.0	4.0
9	Magnesium	"	0.143	0.970
10	Ammoniacal Nitrogen	"	**	**
11	Phosphate	"	**	**
12	Total alkalinity	"	38	20
13	BOD	"	0.9	1.0
14	Sulphate	"	**	**
15	Nitrates	"	**	**
16	TC	cfu/100ml	800	1100
17	FC	"	100	300
18	FS	"	NIL	NIL

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**ANALYSIS REPORT OF RIVER PERIYAR - FEBRUARY 2024**

Sampling point: PATHALAM BUND U/S

Sl. No	Parameter	Unit	05.02.2024	25.02.2024
1	Temp	°C	30	33
2	pH		7.9	7.0
3	Conductivity	µS/cm	257.00	92.29
4	Turbidity	NTU	*	*
5	Chlorides	mg/L	16.6	17.8
6	Hardness	"	32.0	17.0
7	D.O.	"	5.5	1.4
8	Calcium	"	8.0	4.4
9	Magnesium	"	2.916	1.45
10	Ammoniacal Nitrogen	"	**	**
11	Phosphate	"	**	**
12	Total alkalinity	"	26	18.0
13	BOD	"	1.8	1.1
14	Sulphate	"	**	**
15	Nitrates	"	**	**
16	TC	cfu/100ml	1000	600
17	FC	"	300	100
18	FS	"	NIL	NIL

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**ANALYSIS REPORT OF RIVER PERIYAR - FEBRUARY 2024**

Sampling point: PATHALAM BUND D/S

Sl. No	Parameter	Unit	05.02.2024	25.02.2024
1	Temp	°c	30.3	33.1
2	pH		7.9	7.1
3	Conductivity	µS/cm	10610.0	6049.0
4	Turbidity	NTU	*	*
5	Chlorides	mg/L	3673.7	1787.1
6	Hardness	"	1600.0	600.0
7	D.O.	"	4.0	4.4
8	Calcium	"	200.0	40.0
9	Magnesium	"	267.300	121.500
10	Ammoniacal Nitrogen	"	**	**
11	Phosphate	"	**	**
12	Total alkalinity	"	30.0	32.0
13	BOD	"	1.1	3.7
14	Sulphate	"	**	**
15	Nitrates	"	**	**
16	TC	cfu/100ml	600	300
17	FC	"	NIL	NIL
18	FS	"	NIL	NIL

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**ANALYSIS REPORT OF RIVER PERIYAR - FEBRUARY 2024**  
**Sampling point: MANJUMMAL BUND**

Sl. No	Parameter	Unit	05.02.2024	25.02.2024
1	Temp	°C	29.8	33
2	pH		7.8	7.4
3	Conductivity	µS/cm	152.8	181.10
4	Turbidity	NTU	*	*
5	Chlorides	mg/L	30.8	10.9
6	Hardness	"	20.0	16.0
7	D.O.	"	3.8	3.4
8	Calcium	"	7.6	2.8
9	Magnesium	"	0.243	1.701
10	Ammoniacal Nitrogen	"	**	**
11	Phosphate	"	**	**
12	Total alkalinity	"	36	24.0
13	BOD	"	2.4	1.0
14	Sulphate	"	**	**
15	Nitrates	"	**	**
16	TC	cfu/100ml	1200	1000
17	FC	"	400	400
18	FS	"	NIL	NIL

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**KERALA STATE POLLUTION CONTROL BOARD**  
**ENVIRONMENTAL SURVEILLANCE CENTRE, ELOOR**  
**ANALYSIS REPORT OF RIVER PERIYAR - FEBRUARY 2024**  
**Sampling point: ALUVA - MANAPPURAM**

Sl. No	Parameter	Unit	05.02.2024	25.02.2024
1	Temp	°C	30.1	32.9
2	pH		7.8	7.2
3	Conductivity	µS/cm	66.43	74.17
4	Turbidity	NTU	*	*
5	Chlorides	mg/L	14.9	12.9
6	Hardness	"	16.0	14.0
7	D.O.	"	4.8	3.1
8	Calcium	"	4.4	2.8
9	Magnesium	"	1.215	1.701
10	Ammoniacal Nitrogen	"	**	**
11	Phosphate	"	**	**
12	Total alkalinity	"	42.0	20.0
13	BOD	"	0.5	1.6
14	Sulphate	"	**	**
15	Nitrates	"	**	**
16	TC	cfu/100ml	1200	800
17	FC	"	600	300
18	FS	"	NIL	NIL

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**BINEESHA M.P.**  
Assistant Scientist

**Analysis report of polluted river stretches-R Periyar, R- Chithrapuzha,R-Kadambrayar, R-Chalakudy For the month of FEBRUARY 2024**

STNCode	Sampling Date	Sampling Time	StnName	Type Of Water Body	Name Of Water Body	River Basin
17	22.02.2024	11:15	Periyar at Eloor	River	Periyar River	
1338	06.02.2024	10:30	Periyar at SDP Aluva	River	Periyar River	
2334	13.02.2024	10:50	Periyar at Pathalam	River	Periyar River	
2335	13.02.2024	12:10	Periyar at Kalamassery	River	Periyar River	
3468	06.02.2024	11:00	Periyar at KWA Aluva	River	Periyar River	
2337	03.02.2024	11.15	Kadambrayar At Brahmapuram	River	Kadambrayar River	
2338	03.02.2024	11:50	Kadambrayar At Manackakadavu	River	Kadambrayar River	
1573	03.02.2024	10:45	Chithrapuzha At Irumpanam	River	Chithrapuzha River	
1154	06.02.2024	12:30	Chalakudy at Pulikkakadavu	River	Chalakudy River	

Sl. No.	Parameters	Values								
		Station Code								
		17	1338	2334	2335	3468	2337	2338	1573	1154
1	Temperature, °C	30	27	27	29	27	28	28	27	28
2	Dissolved Oxygen, mg/l	5.2	5.5	5.5	5.7	5.6	3.5	3.6	2.2	7.4
3	pH	8.5	6.8	7	6.6	6.5	7.4	7.6	8.3	7
4	Conductivity, µmhos/cm	1836	52	10740	70	52	96	115	249	350
5	BOD, mg/l	1.3	1	3	1.5	0.8	3	2.3	3.2	1.9
6	Nitrate-N, mg/l	0.08	0.42	0.06	0.21	0.3	BDL	BDL	BDL	0.3
7	Turbidity, NTU	5.5	3.1	7.9	4.7	2.9	10.4	11.7	8.6	3
8	Total Alkalinity, as CaCO <sub>3</sub>	80	16	60	16	17	29	23	30	50
9	Chloride, mg/l	490	8	3000	12	4	11	18	37	91
10	COD, mg/l	3.0	2.0	6	3	2	8	6	10	4.0
11	TKN, mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12	Ammoniacal-N, mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Total Hardness, as CaCO <sub>3</sub> mg/l	180	13	1220	16	18	29	24	30	90
14	Calcium, as CaCO <sub>3</sub> mg/l	140	9	900	7	10	18	14	24	50
15	Magnesium as CaCO <sub>3</sub> , mg/l	40	4	320	9	8	11	10	7	40
16	Sulphate, mg/l	39	0	120	0	0	0	0	18	0
5.8	Sodium, mg/l	280	4.2	1690	6.2	2.2	6	10	22	48
18	Total Dissolved Solids, mg/l	1210	30	6400	38	29	54	64	137	245
19	Total Fixed Solids, mg/l	1100	20	4520	25	20	35	55	98	170
20	Total Suspended Solids, mg/l	28	BDL	20	BDL	BDL	BDL	BDL	10	12
21	Phosphate, mg/l	0.11	0.09	0.14	0.04	0.1	0.14	0.14	3.3	0.05
22	Boron, mg/l	BDL	0.04	BDL	BDL	BDL	0.01	0.03	0.01	BDL
23	Potassium, mg/l	90.3	0.72	102.00	1.2	0.62	2	5	8	5.2
24	Fluoride, mg/l	NA	NA	NA	NA	NA	NA	NA	NA	NA
25	Total Coliform, MPN/100 ml	1700	4300	410	1200	3400	1500	2700	4000	700
26	Feecal Coliform, MPN/100 ml	840	2700	170	630	1700	430	700	2000	140
27	Feecal Streptococci, MPN/100ml	120	170	150	70	100	130	110	240	100

POLLUTED RIVER STRETCH MONITORING PROGRAM (FEBRUARY- 2024)												
Station Name		RIVER KORAYAR AT KANJIKODE										
Type of Water body		RIVER										
Completed by		DO, PALAKKAD										
Agency		Kerala State Pollution Control Board										
1	Station Code	2	3	2	6							
2	Date and time of sample taken (DD/MM/YY, HH/MM)	01-02-2024										
3	Weather	1	1	:	2	0						
4	Approximate depth of main stream	Cloudy		Clear ✓			Windy		Raining			
5	Color & Intensity	< 50 cm		50 – 100 cm ✓			>100 cm		Flood			
6	Odour	Clear ✓		Turbid			Green		Brown			
7	Floating Matter	1 = Light		2 = Moderate ✓			3 = High					
8	Visible effluent discharges in proximity	None ✓		Fishy			H <sub>2</sub> S		Other			
9	Human activities around the station	Floating Algae		Floating sludge			Oil & Grease		Water Hyacinth			
10	Location details	Industrial		Municipal sewage			None ✓					
11	Flow rate	Cattle wading ✓		Tourism spot			Fishing		Bathing ✓		Other	
12	Major polluting source	U/s of town or		D/s of town or			Pilgrim center/Bathing		None			
13	Uses of water in downstream	30 m <sup>3</sup> /s										
14	Uses of water in downstream	Irrigation		Drinking water source ✓			Fishing		Domestic			
15	Uses of water in downstream	Organized water source		Cultivation			Bathing Ghat		Others			

Sl.No	Determinant	Value
1	Temperature, °C	29
2	Dissolved Oxygen, mg/l	6.56
3	pH	8.23
4	Conductivity, µmhos/cm	821
5	BOD, mg/l	2.53
6	Nitrate-N, mg/l	0.426
7	Turbidity, NTU	BDL
8	Phenolphthalein Alkalinity, as CaCO <sub>3</sub> mg/l	BDL
9	Total Alkalinity, as CaCO <sub>3</sub> mg/l	205
10	Chloride, mg/l	123.99
11	COD, mg/l	7.59
12	TKN, mg/l	0.006
13	Ammoniacal-N, mg/l	BDL
14	Hardness, as CaCO <sub>3</sub> mg/l	240
15	Calcium, as CaCO <sub>3</sub> mg/l	162
16	Magnesium as CaCO <sub>3</sub> , mg/l	78
17	Sulphate, mg/l	30
18	Calcium (Ca <sup>2+</sup> ), mg/l	64.8
19	Magnesium (mg <sup>2+</sup> ), mg/l	18.95
20	Sodium, mg/l	69
21	Total Dissolved Solids, mg/l	460
22	Total Fixed Solids, mg/l	285
23	Total Suspended Solids, mg/l	BDL
24	Phosphate, mg/l	0.294
25	Boron, mg/l	BDL
26	Potassium, mg/l	20
27	Fluoride, mg/l	0.326
28	Total Coliform, MPN/100 ml	400
29	Fecal Coliform, MPN/100 ml	100
30	Fecal streptococci , MPN/100 ml	ABSENT
31	% Sodium	36.09
32	SAR	1.94

POLLUTED RIVER STRETCH MONITORING PROGRAM (FEBRUARY- 2024)												
Station Name		KALPATHYPUZHA AT KALPATHY										
Type of Water body		RIVER										
Completed by		DO, PALAKKAD										
Agency		Kerala State Pollution Control Board										
1	Station Code	3	4	6	0							

2	Date and time of sample taken (DD/MM/YY, HH/MM)	01-02-2024									
3	Weather	Cloudy	Clear ✓	Windy	Raining						
4	Approximate depth of main stream	< 50 cm	50 – 100 cm	>100 cm✓	Flood						
5	Color & Intensity	Clear ✓	Turbid	Green	Brown						
		1 = Light	2 = Moderate ✓	3 = High							
6	Odour	None ✓	Fishy	H <sub>2</sub> S	Other						
7	Floating Matter	Floating Algae	Floating sludge	Oil & Grease	Water Hyacinth						
8	Visible effluent discharges in proximity	Industrial	Municipal sewage ✓	None							
9	Human activities around the station	Cattle wading ✓	Tourism spot	Fishing	Bathing ✓	Other					
10	Location details	U/s of town or	D/s of town or	Pilgrim center/Bathing	None						
11	Flow rate	20 m <sup>3</sup> /s									
12	Major polluting source	Industrial effluent	MSW ✓	PW	None	Other					
13	Uses of water in downstream	Irrigation	Drinking water source ✓	Fishing	Domestic						
		Organized water source	Cultivation	Bathing Ghat	Others						

Sl.No	Determinant	Value
1	Temperature, °C	28
2	Dissolved Oxygen, mg/l	6.36
3	pH	8.03
4	Conductivity, µmhos/cm	266
5	BOD, mg/l	2.86
6	Nitrate-N, mg/l	0.348
7	Turbidity, NTU	BDL
8	Phenolphthalein Alkalinity, as CaCO <sub>3</sub> mg/l	BDL
9	Total Alkalinity, as CaCO <sub>3</sub> mg/l	90
10	Chloride, mg/l	25.98
11	COD, mg/l	8.58
12	TKN, mg/l	0.006
13	Ammoniacal-N, mg/l	BDL
14	Hardness, as CaCO <sub>3</sub> mg/l	106
15	Calcium, as CaCO <sub>3</sub> mg/l	65
16	Magnesium as CaCO <sub>3</sub> , mg/l	41
17	Sulphate, mg/l	10.8
18	Calcium (Ca <sup>2+</sup> ), mg/l	26
19	Magnesium (Mg <sup>2+</sup> ), mg/l	9.96
20	Sodium, mg/l	14.8
21	Total Dissolved Solids, mg/l	106
22	Total Fixed Solids, mg/l	67
23	Total Suspended Solids, mg/l	BDL
24	Phosphate, mg/l	0.23
25	Boron, mg/l	BDL
26	Potassium, mg/l	3.1
27	Fluoride, mg/l	0.316
28	Total Coliform, MPN/100 ml	600
29	Fecal Coliform, MPN/100 ml	200
30	Fecal streptococci, MPN/100 ml	20
31	% Sodium	22.63
32	SAR	0.63

**National Mission for Clean Ganga**

**Format for Submission of Monthly Progress Report by States/UTs  
(Hon'ble NGT in the matter of OA No.673/2018 dated 06.12.2019)**

**RIVER TIRUR, MALAPPURAM**

<b>S. No.</b>	<b>Activity to be monitored</b>	<b>Timeline</b>	<b>Submission of progress by state/UT-Compliance status</b>
1	Ensure 100% treatment of sewage at least in-situ remediation		
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured		
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning		
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none"><li>• Specifying accountability of nodal authorities not below the Secretary level</li><li>• Chief Secretaries may have an accountable person attached in their office for this purpose.</li></ul>		
	<ul style="list-style-type: none"><li>• Monitoring at State level must take place</li></ul>		
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none"><li>• Secretary, Ministry of Jal Shakti</li><li>• Member Secretary, CPCB</li></ul>		



6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>I Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>II <u>Status of STPs, I&amp;D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>III <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management &amp; Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p>		<p>Last updated report submitted was on , 2024 February 22nd.</p> <p>(i) Identified 17 drains out of which 9 were additionally identified on 11.07.2019</p> <p>(ii) <u>Tirur Fish Market STP</u>– 45 KLD- Not working condition. Accordingly conducted site inspection by Board on 16.02.2024 to evaluate progress, No progress found. Since about 3 years repeated directions are being issued for time bound renovation of fish market STP.</p> <p>(ii) <u>Tirur municipal Bus Stand STP</u>-50 KLD –Present status-working condition, send letter to suchitwa mission for technical evaluation and approvals. Site inspection by Pollution Control Board was done on 16.02.2024 for sampling.</p> <p>iii) NIL</p> <p>(iv) De centralised treatment facilities, Disposal using sanitary landfills, composting operations, MRF, MCF etc. Slaughter house- completed civil work. Electrical installation works started.</p>
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<p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p> <p>(vii) Ground water regulation</p> <p>(viii) Adopting good irrigation practices,</p> <p>(ix) Protection and management of food plain Zones (FPZ),</p> <p>(x) Rain water harvesting,</p> <p>(xi) Maintaining minimum Environmental flow of river</p> <p>(xii) Plantation on both sides of the river</p> <p>(xiii) Setting up biodiversity parks on flood plains by removing encroachment</p>		<p>(v) Attached as Annexure II-Analysis report during the month of February 2024</p> <p>(vi) Actions are being initiated to prevent illegal waste dumping. BMW are being disposed scientifically through IMAGE. Municipality have MRF, MCF facilities</p> <p>(vii) NA</p> <p>(viii) Complying</p> <p>(ix) NA</p> <p>(x) Complying</p> <p>(xi) Complying</p> <p>(xii) NA</p> <p>(xiii) Reported that encroachment survey is completed and now the process of laying survey stones is in progress.</p>
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## ACTION PLAN FOR RIVER TIRUR, KERALA

<b>1</b>	<b>2 IRRIGATION DEPARTMENT</b>							
No.	Activity	Implementing agency	Time line	Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
1.1.1	Strengthening the right side bund of Tirur- Ponnani puzha at Porur, ward no.I Tirur Municipality	Irrigation Department	6 Months	Investigation workreport of the collective regulator has been received and the estimate will be prepared in connection with it.	Progressing	65%		In Progress
1.1.2	Cleaning and development of old Ponnani thodu at Thazhepalam	Irrigation Department	6 Months		Progressing	Updates not received		
1.1.3	Repair and Rehabilitation of Koottayi Regulator cum Bridge across Thirur-Ponnani	Irrigation Department	18 Months	Work got stuck due to conditions at site.	No Progress	No Progress		

	Puzha in Mangalam Grama panchayatin Malappuram Dist							
<b>3</b>	<b>4 TIRUR MUNICIPALITY – SHORT TERM ACTION PLAN</b>							
No.	Activity	Implementing agency	Time line	Progress in the month of December2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
1.2.1	Provide septic tank for nearest houses	Tirur Municipality	Dec 2019	Completed	Completed	Completed	100	NIL
1.2.2	Establishment of Solid waste Treatment Plant  ThumboorMozhi Model Aerobic Bin	Tirur Municipality	March 2020	Completed	Completed	Completed	100	NIL
1.2.3	Establishment of Non Degradable waste treatment Plant, Resource Recovery facility Centre, Plastic Shredding Unit Segregation shed	Tirur Municipality	March 2020	Completed	Completed	Completed	100	NIL
1.2.4	Slaughter House	Tirur Municipality	December 2020	In Progress	Slaughter house ETP rendered but only one participated. So retender process started.	Updates not received	90%	ETP Work Submitted for TS to Suchitwa Mission, TVM

1.2.5	Fencing on Bridgeside Thalakkadathur Bridge	Tirur Municipality	December 2020	Completed	Completed	Completed	100	NIL
1.2.6	Installation of CCTV Camera near the river Bank Thalakkadathur Bridge	Tirur Municipality	May 2020	Completed	Completed	CCTV Installation will be done by Keltron Soon	Progressing	
1.2.7	Planting of Bamboo seedlings on the river bank (Thazhepalam)	Tirur Municipality	June 2020	Completed	Completed	Completed	100	NIL
1.2.8	Renovation of Effluent treatment plant at fish Market AMC Granted ETP with Aeorobic System	Tirur Municipality Tirur Municipality	June 2019	O&M was not mentioned in the repair tender call for ETP work,hence O&M was also included in the letter &only one company participated in it,company informed that O&M amount 90000/month+GST,the huge amount cannot be sanctioned without the report of technicalcommittee	Fish market STP workstarted,will be completed by the end of February 24.	Updates not received	Renovation work under process	
1.2.9	Setting up of STP at Private Bus stand	Tirur Municipality	June 2020	STP work completed.	Progressing. Send letter to suchitwa mission for technical evaluation and approvals.	Updates not received	Completed	(See minutes)

1.2.10	Setting up of a new drain after demolishing the old one. The old one was the hub of the waste water outlet of the shops and other establishments. The proposed drain is constructing in the middle of the road so as to avoid intrusion of pipes from outside	Tirur Municipality	June 2020	Completed	Completed	Completed	100	Completed
1.2.11	Identification of illegal outlets into storm water drains and fine shall be imposed on such units	Tirur Municipality			Fine imposing mechanism going on	Updates not received	20 Notices.	

**5**

**6 Cheriyamundam Grama panchayat**

No.	Activity	Implementing agency	Time line	Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
1.3.1	Fencing on bridge side Thalakkadatur	Cheriyamundam Grama panchayat	March 2020	completed	completed	completed	100	NIL

**4. Kerala State Pollution Control Board**

No.	Activity	Implementing agency	Time line	Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February	% works completed	Details of works remaining
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						2024		
1.4.1	River water quality Monitoring- Thalakkadathur National Water Quality Programme(NWMP)	KSPCB	Ongoing; Monthly frequency				Ongoing monthly frequency	
1.4.2	River water quality Monitoring State Water monitoring programme (SWMP)	KSPCB	Ongoing; Monthly frequency				Ongoing seasonal	
1.4.3	Inspection and effluent quality monitoring of the flats, Industrial units, Service stations, hospitals, auditorium, hotels in Municipal area		Ongoing; Interval; Red – 1 month, Orange- 3 months, Green- 6 months				Ongoing	
	<b>5.Ground Water Department</b>							
No.	Activity	Implementing agency	Time line	Progress in the month of December2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining

1.5.1.	<p>Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks</p> <p>(Earlier status : As per Groundwater resources of Kerala, 2017 estimate a total number of 2 blocks (Tirur and Kuttippuram) comes under the Tirur river basin. These two blocks are semi-critical blocks and the stage of groundwater extraction ranges from 77.75 % to 77.92%)</p>	Ground water Department		No permits issued	No permits issued	No permits issued	NA	NA
					NO ACTION INCLUDE UNDER THIS PLAN BY GROUND WATER DEPARTMENT	NO ACTION INCLUDE UNDER THIS PLAN BY GROUND WATER DEPARTMENT		
1.5.2	<p>Ground water recharging / rain water harvesting</p> <p>(Earlier status : The average pre -monsoon groundwater level ranges from 6.14mbgl - 8.49 mbgl.)</p>			NO ACTION INCLUDED UNDER THIS PLAN BY GROUND WATER DEPARTMENT	NO ACTION INCLUDE UNDER THIS PLAN BY GROUND WATER DEPARTMENT		NA	NA
1.5.3	Periodic ground waste quality assessment and remedial actions in case of			NA	NA	NA	NA	NA



	contaminated ground water tube wells/bore wells or handpumps  (Earlier status : No observation well along the river stretches)							
1.5.4	For regulating use of ground water for irrigation purpose, adopting good irrigation practices (Earlier status : The total irrigation draft in the area ranges from 49.14 - 870.97 ha.m.)			NO ACTION INCLUDED UNDER THIS PLAN BY GROUND WATER DEPARTMENT	NO ACTION INCLUDED UNDER THIS PLAN BY GROUND WATER DEPARTMENT	NO ACTION INCLUDED UNDER THIS PLAN BY GROUND WATER DEPARTMENT	NA	NA

**6. ACTION PLAN BY VARIOUS GRAMA PANCHAYATHs- Thalakkad, Vettom, Mangalam**

No.	Activity	Implementing agency	Time line	Progress in the month of December2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
1.6.1	Protection of Tirur Ponnani River	Thalakkad grama panchayath handover fund to District Panchayat	31.03.2020	Completed	Completed	Completed	100	NIL
1.6.2	Installation of CC TV camera on Yetterikadavu Kunjulikkadavu	Vettom - KS SECURITY SYSTEM	Spill over due to lack of fund	completed	completed	completed	100	NIL

	Mangattiri Bridge, Aikkanchiri Bridge, Paravanna Bridge							
1.6.3	Installation of CC TV camera	Mangalam grama panchayath Win Plus Agency, Kondotty	Completed	completed	completed	completed	100	NIL
1.6.4	Haritha Keralam Tirur-Ponnani puzha protection	Mangalam grama panchayath Nirmithi Kendra, Kozhikkodu	31.03.2020	No progress	No progress Due to audit objection.	Updates not received	70% protection of wall completed	Landscaping work remaining as per estimate

**National Mission for Clean Ganga**  
**Format for Submission of Monthly Progress Report by States/UTs**  
**(Hon'ble NGT in the matter of OA No.673/2018 dated 06.12.2019)**  
**RIVER KADALUNDI, MALAPPURAM**

<b>S. No.</b>	<b>Activity to be monitored</b>	<b>Timeline</b>	<b>Submission of progress by state/UT-Compliance status</b>
1	Ensure 100% treatment of sewage at least in-situ remediation		
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured		STP Repairing project DPC approved and sent to TS.
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning		Action plan prepared
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none"> <li>● Specifying accountability of nodal authorities not below the Secretary level</li> <li>● Chief Secretaries may have an accountable person attached in their office for this purpose.</li> </ul>		
	<ul style="list-style-type: none"> <li>● Monitoring at State level must take place</li> </ul>		
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none"> <li>● Secretary, Ministry of Jal Shakti</li> <li>● Member Secretary, CPCB</li> </ul>		

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&amp;D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management &amp; Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi) Preventing dumping of waste and scientific waste management including bio-medical</p>	<p>Last updated report submitted was on February 22<sup>nd</sup>, 2024</p> <p>(I) Identified 3 drains on 10/12/2018 at the Hajiyar pally stretch. Already Screen Net installed to both side of the bridge and periodic inspection &amp; drainage of cleaning doing.</p> <p>(ii) Malappuram municipality – 30KLD. Consent given on 24<sup>th</sup> January 2024 for revamping activities. Action plan prepared through KWA</p> <p>(iii) NIL</p> <p>(iv) Activities progressing with decentralized source level treatment method and 2506 devices are distributed. New Project approved for 6000Ring compost unit. Project Approved .Got T.S.E. Tender.</p> <p>(v) Attached Analysis Report for the month of February 2024. More activities are progressing under the “Thelineer Ozhukum Navakeralam“ scheme</p> <p>(vi) Actions being initiated to prevent illegal waste dumping. Bio-Medical Waste collecting through IMAGE.</p>
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	<p>waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p> <p>(vii)Ground water regulation</p> <p>(viii) Adopting good irrigation practices,</p> <p>(ix) Protection and management of food plain Zones (FPZ),</p> <p>(x) Rain water harvesting,</p> <p>(xi)Maintaining minimum Environmental flow of river</p> <p>(xii) Plantation on both sides of the river</p> <p>(xiii) Setting up biodiversity parks on flood plains by removing encroachment</p>		<p>Municipality has one MRF and 3 MCF's. Dry Waste Collecting through HKS and stored in these facilities from where recyclable materials are handed over to authorised recyclers and rejects, to KEIL through Clean Kerala Company.</p> <p>(vii)NA</p> <p>(viii)Complying</p> <p>(ix)NA</p> <p>(x)Complying</p> <p>(xi)Complying</p> <p>(xii)NA</p> <p>(xiii)NA</p>
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	the Valiyathodu - Blocking of discharge of liquid waste							
1.7	Identification of illegal outlets into storm water drains and fine imposed on such units.	Malappuram Municipality	Ongoing	Completed	Completed	Completed	Completed	Inspections Continuing
1.8	Biodegradable waste  Bio bins - 908  Bucket compost - 1445  Thumboormuzhi Aerobic bins - 4  Biogas plant -186 Submitted proposal for 8000 ring compost systems	Malappuram Municipality	  March 2020  March 2020  March 2020  March 2020	In Progress	In Progress	In progress	In progress	In progress
1.9	Non biodegradable waste  MCF  Plastic shredding and Bailing  Echo Kiosk	Malappuram Municipality	  March 2020  Completed  March 2020	Completed	Completed	Completed	Completed	Completed
						40 mini MCF has been approved	Completed	Completed
1.10	Identification and monitoring of illegal activities CC TV Network installation	Malappuram Municipality	March 2020	Ongoing	In progress	In progress	In progress	In progress

## 2.Kerala State Pollution Control Board

No.	Activity	Implementing agency	Time line	Progress in the month of December2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
2.1	River water quality Monitoring- Thirurangadi, Hajiyarpally National Water Quality Programme(NWMP)	KSPCB	Ongoing; Monthly frequency	100%	100%	100%	Ongoing monthly frequency 100%	NIL
2.2	River water quality Monitoring - Thirurangadi, Kooriyad, Manikut, Hajiyarpally, Anakkayam, Oravambrum - State Water monitoring programme (SWMP)	KSPCB	Ongoing; Monthly frequency	100%	100%	100%	100%	NIL
2.3	Inspection and effluent quality monitoring of the flats, industrial units, service stations, hospitals, hotels etc. in Malappuram Municipal area	KSPCB	Ongoing; Interval; Red - 1 month, Orange- 3 months,	100%	100%	100%	100%	




			Green- 6 months					
	<b>3.Ground Water Department</b>							
No.	Activity	Implementing agency	Time line	Progress in the month of December2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
3.1.	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks (Earlier status : As per Groundwater resources of Kerala, 2017 estimate a total number of 3 blocks (Mankada, Vengara and Malappuram) comes under the Kadalundi river basin. Out of three blocks Malappuram and Vengara are semi-critical blocks and the rest is a safe one, stage of groundwater extraction ranges	Ground water Department		<b>No action included in the approved action plan to be performed by Ground Water Department</b>	<b>No action included in the approved action plan to be performed by Ground Water Department</b>	<b>No action included in the approved action plan to be performed by Ground Water Department</b>	NIL	NIL

	from 69.43 % to 79.84%)							
3.2	<p>Ground water recharging / rain water harvesting</p> <p>(Earlier status : The average pre -monsoon groundwater level ranges from 7.59mbgl - 13.57 mbgl. Groundwater Department has implemented 3 no of roof top rain water recharging through recharge pit schemes in Vengara block.)</p>	Ground water Department		<b>No action included in the approved action plan to be performed by Ground Water Department</b>	<b>No action included in the approved action plan to be performed by Ground Water Department</b>	<b>No action included in the approved action plan to be performed by Ground Water Department</b>	NIL	NIL
3.3	<p>Periodic ground waste quality assessment and remedial actions in case of contaminated ground water tube wells/bore wells or hand pumps</p> <p>(Earlier status : Groundwater Department has 6 observation dug wells and 14 bore wells in the river stretch. (report attached ) (Map No: 7 attached))</p>	Ground water Department		<b>No action included in the approved action plan to be performed by Ground Water Department</b>	<b>No action included in the approved action plan to be performed by Ground Water Department</b>	<b>No action included in the approved action plan to be performed by Ground Water Department</b>	NIL	NIL
3.4	For regulating use of ground water for irrigation purpose, adopting good irrigation practices	Ground water Department		<b>No action included in the approved action plan to be performed by Ground Water Department</b>	<b>No action included in the approved action plan to be performed by Ground Water Department</b>	<b>No action included in the approved action plan to be performed by Ground Water Department</b>	NIL	NIL

	(Earlier status : The total irrigation draft in the area ranges from 979.683 - 1857.49 ha.m.)				<b>be performed by Ground Water Department</b>	<b>performed by Ground Water Department</b>		
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**ANALYSIS REPORT OF POLLUTED STRETCH POINTS IN TIRUR RIVER  
FEBRUARY 2024**

SI NO	Name of point	PARAMETERS				
		pH	DO (mg/l)	BOD (mg/l)	COD (mg/l)	FC(cfu/100ml)
1	Drain near Tirur Railway station	7.3	3.7	1.1	4.2	240
2	Thazhepalam drain	8.0	5.6	1.0	3.8	160
3	Naduvilangadi drain (old ponnanihodu)	Dried				
4	Annassery drain	Dried				
5	Canal at CV Land	Dried				
6	Canal at Mangalam thuruth	7.2	4.3	1.3	5.0	200
7	Canal at Pullooni	8.2	4.8	1.4	5.4	360
8	Drain near Mangattiri bridge	Dried				
9	Drain near Ettirikkadavu bridge	7.0	5.3	2.8	7.7	80
10	Epothingal	6.8	3	0.9	3.6	240
11	Asarikkadav	6.6	2.3	1.0	4.3	200
12	Kandanathkadav	6.8	2.5	0.7	2.6	200
13	Pancharamoola	Dried				
14	Kakadav	6.9	4.5	0.9	3.6	300
15	Kanathkadav	6.7	2.4	2.2	7.3	240
16	Drain near tirur railway station	Dried				
17	Payyanangadi (kadayithodu)	Dried				

  
 Assistant Scientist

**ANALYSIS REPORT OF POLLUTED STRETCH POINTS IN  
KADALUNDY RIVER FEBRUARY 2024 ALONG HAJIYARPALLY**

Sl.No	Name of point	PARAMETERS				
		pH	DO (mg/l)	BOD(mg/l)	COD (mg/l)	FC (cfu/100 ml)
1	Valiyangadi drain	6.5	5	0.86	3.5	120
2	Valiyangadi bypass drain	Dried				
3	Valiyathod drain	8.0	6.0	1.3	5.7	400
4	Hajiyarpally	6.8	6.7	0.8	3.2	80



Assistant Scientist



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**Kerala State Pollution Control Board, District Office, Kozhikode**

**NATIONAL MISSION FOR CLEAN GANGA**

**Format for submission of monthly progress report by state/UTs**

**(Hon'ble NGT in the matter of OA.No.673/2018 dated 6/12/2018) For**

**the month of FEBRUARY 2024– Kallayi polluted river stretch**

Sl.No.	Activity to be monitored	Timeline	Submission of progress by state/UT-compliance status
1	Ensure 100% treatment of sewage at least in-situ remediation		
2	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STP must be ensured.		
3	Timeline for completing all steps of action plans including completion of setting up STP and their commissioning		
4	Chief secretaries may setup appropriate monitoring mechanisms at the state level <ul style="list-style-type: none"><li>● Specifying accountability of nodal authorities not below the secretary level</li><li>● Chief secretaries may have an accountable Person attached in their office for this purpose</li></ul>		
	<ul style="list-style-type: none"><li>● Monitoring at the state level must take place</li></ul>		

5	<p>Progress report may be furnished by the state/UTs to</p> <ul style="list-style-type: none"> <li>● Secretary,ministry of Jal Shakti</li> <li>● Member secretary,CPCB</li> </ul>		
5.1	<p>Progress report may be comprised of details along with completion timeline on:</p> <p>(i) Identification of polluting source including drains contributing to river pollution and action as per NGT order on in situ treatment.</p> <p>(ii) <u>status of STPs,I&amp;D and sewage networks</u> Details of Existing Infrastructure,Gap Analysis,Proposed along with completion timeline</p> <p>(iii) <u>status of CETPs</u></p> <p>Details of existing CETP and ETP infrastructure,Gap analysis,proposed along with completion timeline,No.of industries and complying status.</p> <p>(iv) <u>status of solid waste management&amp;details of processing facilities</u></p> <p>Details of existing infrastructure,Gap analysis proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river,its tributaries,drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi) preventing dumping of waste and scientific waste management including bio-medical waste plastic waste and decentralizing waste processing,including waste</p>		

	<p>generated from hotels,ashrams etc.</p> <ul style="list-style-type: none"><li>(vii) Ground water regulation</li><li>(viii) Adopting good irrigation practices</li><li>(ix) protection and management of flood plain zones(FPZ),</li><li>(x) Rainwater harvesting</li><li>(xi) Maintaining minimum environmental flow of river</li><li>(xii) Plantation on both sides of the river</li><li>(xiii) Setting up bio diversity parks on flood plains by removing encroachment</li></ul>		<p style="text-align: center;"><b>Monthly progress report enclosed</b></p>
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## ACTION PLAN FOR RIVER KALLAYI , KERALA

### Kozhikode Corporation

No.	Activity	Implementing agency	Time line	Progress in the month of NOVEMBER 2023	Progress in the month of DECEMBER 2023	Progress in the month of JANUARY 2024	Progress in the month of FEBRUARY 2024	% works completed	Details of works remaining
1	Identification of illegal outlets into storm water drain and issue Notice to such units	Kozhikode Corporation	30.12.2020		.		12 illegal outlet into storm water.Fine remitted Rs 90000/-. No progress reported.	Continuing random inspections and imposing fine regularly	On going
2	Waste to energy project proposed at Njeliyamparamba	KSIDC	30.06.2021						Not reported
3	Establishment of Aerobic compost units	Kozhikode Corporation	Completed and functioning				New project going on		

4	Segregation of solid waste at source-level and treatment of household wastes	Kozhikode Corporation	30.06.2019				Biodegradable waste managements equipment installed in household level 1. Bockashi bucket-3243 2. geebin-5575 3. Biogas-138 4. Ring compost-2446 5. Pipe compost-1110	100% Coverage	
5	Setting up of rendering treatment plant for chicken stall wastes	Kozhikode Corporation	30.06.2019	On going	On going		Rendering plant installed in Thamarassery Panchayath(Fresh cut rendering plant).Chicken waste generated from chicken stalls under Kozhikode corporations are being transported to rendering plant at Thamarassery.	100% Coverage	

6	Implementation of Green protocol unit	Kozhikode Corporation	30.06.19				On going		
7	Setting up of common STP of (13MLD)  7.1 At Kothi bridge - 6 MLD plant proposed  7.2 At Avikkal - 7 MLD plant proposed	Kozhikode Corporation	31.03.2020				The corporation is trying to restart the projects.Hence Estimate was recast and submitted to the SLTC/SHPSC for revised administrative sanction.The SLTC dated 27.09.2023 has considered this project and recommended the SHPSC for further Approvals.Total station survey completed construction of Fencing and the, Soil investigation has been completed.Site		

							<p>cleared. Presently the work has been stopped due to a stay order from the Munsif Court. For both the proposals work can be restarted only after resolving court case</p>		
8	Implementation of STP at Kottooli (13.5 MLD)			<p>After receiving Council approval, the project was submitted to the Government for Administrative sanction. The AS was deferred and directed to revise the proposal to increase the number of connections. KWA is revising the proposal.</p>	<p>27 MLD STP and 220 KLD FSTP as a co-treatment, with an associated network of 50km.</p>		<p>No progress reported.</p>		

9	Cleaning of Canoli canal	Kozhikode Corporation	Periodical	on going process.			On going		Continuous - seasonal
10	Purchasing of Solar Boat for Canoli canal cleaning	Kozhikode Corporation	31.03.2020				Project dropped		
11	Installation of CCTV Camera for the Identification and monitoring of illegal activities	Kozhikode Corporation					On going		
12	Establishment of Mobile Septage Units	Kozhikode Corporation	31.03.2020				Project dropped		
13	Action taken against dumping of wastes into river and public places	Kozhikode Corporation	On going action		66 Nos. Fine remitted Rs. 263500/-		No progress reported	Continuing random inspections and imposing fine regularly	
14	Cleaning of B.K canal	Kozhikode Corporation	31.03.2020				Completed on 31.05.2021	100%	

15	<p>Establishment of treatment plant at Medical college (3MLD plant)</p> <p>15.1-2 MLD plant proposed</p> <p>15.2-1 MLD plant proposed</p>	Kozhikode Corporation	31.03.2020		<p>2 MLD STP work was completed and started working</p> <p>1 MLD STP works were restarted at the site on 11.10.2023 and are expected to be completed by 15.12.2023</p>		No progress reported	100%	20%
16	Construction of drains at Y.M.RC Ayyankarcolony	Kozhikode Corporation	31.03.2020		<p>The work has started and is in progress. Sidewall construction 30 m completed. Expected to be completed by 28.02.2024. 963 m drainage Construction is remaining.</p>		No progress reported	60%	40%

17	Treatment facility for waste water in central Market	Kozhikode Corporation							Not reported
18	Establishment of comfort stations	Kozhikode Corporation							Not reported
19	Provide facility for MRF,RRF,Super MRF Three units existing  19.1 Njeliyanparamb 19.2 Industrial estate 19.3 Mayor Bhavan jayanthi nagar colony	Kozhikode Corporation					3.MRF and 5.MCF are already existing. New project going on. No further progress reported		
20	Identification of illegal outlets from house to storm water drain and issue Notice to such Houses	Kozhikode Corporation			12			On going - Continuous process	
21	Establishment of Plastic shredding unit	Kozhikode Corporation					Project started		
22	Establishment of slaughtering unit	Kozhikode Corporation					Project under Consideration		Not reported

23	Cleaning of drains in Kozhikode Town	Kozhikode Corporation					On going - Continuous process		
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## Perumanna Grama Panchayath

No .	Activity	Implementing agency	Time line	Progress in the month of NOVEMBER 2023	Progress in the month of DECEMBER 2023	Progress in the month of JANUARY 2024	Progress in the month of FEBRUARY 2024	% works completed	Details of works remaining
1	Outlets into storm Water drain and issue notice	Perumanna Panchayat, kozhikode	Continues process					Inspection Conducting regularly	
2	Establishment of six aerobic compost units in panchayat	Perumanna Panchayat , Kozhikode through MGNREGS	12/2021					100% Work of completed	5 units will be started if public place is available
3	Collection and segregation of solid waste in the river	Perumanna Panchayat	Continues process in every year					74% Work completed	
4	Setting up of residential treatment plant for chicken stall waste	Perumanna Panchayat	Continues process			Resolution passed by panchayat board to execute an agreement with fresh cut, Thamarasser y, KKD		91%	

5	Setting up of 360 soak pit plant in all houses near the river area and panchayat	Perumanna Panchayat through MGNREGS	12/2021				As of now 119 No.s completed. No further progress reported after the month of July		
6	Implementation of 360 compost unit near river side and panchayat	Perumanna Panchayat , Kozhikode through MGNREGS	12/2021				As of now 126 No.s completed. No further progress reported after the month of July		
7	Implementation of water flow project ( Aluvangal Thazham Perumbatta Elamanapadam, Valiyapadam. Mampuzhthode Naveekarana, project no 260/2021 project cost 16.67 Lakhs).	Perumanna Panchayat	12/2021				Technical sanction obtained. Tender procedure completed. Included in 2021-22 plan as spillover project.		

8	Cleaning of Mambuzha river ( project name : Mambuzha water flow restoration, project no 01/2018-19	District Panchayat , Kozhikode	2018-2019				Work has been completed by District Panchayat, Kozhikode		
9	Establishment of 18 nos of mini MCF in different wards including Payyadi methal where the river is flowing	Perumanna Panchayat , Kozhikode through MGNREGS	12/2021				As of now 11 No.s completed. No further progress reported after the month of July		
10	Collection of plastic Waste from the river	Perumanna Panchayat	Continuous process				Process will be done every year		

## Peruvayal Grama Panchayath

No .	Activity	Implementing agency	Time line	Progress in the month of NOVEMBER 2023	Progress in the month of DECEMBER 2023	Progress in the month of JANUARY 2024	Progress in the month of FEBRUARY 2024	%works completed	Details of works remaining
1	Outlet in storm water drain and issued notice	Peruvayal G P	Continu ous process	20 Notice issued			Ongoing		
2	Establishment of 5b units anaerobic composed unit in panchayat.	Peruvayal GP through MGNREGS	04/2023 to 03/2021						work will commence on third week of November 2023
3	Setting up of rendering plant for chicken solid waste	Peruvayal G P	Continuous process				Commence on 01/03/2024		
4	Setting up of 379 soak pit plant in all houses	Peruvayal G P	04/2023 to 03/2024				On going		

5	Cleaning of Mambuzha river ( Mambuzha renovation) project no :190/2017-18	District panchayat Kozhikode	2017-2018				Completed by Panchayath		
6	Establishment of 8 numbers of mini MCF	Peruvayal GP through MGNREGS	04/2023 TO 03/2024				As of now 6 mini MCF completed. No further progress reported after the month of October	25%	6 will start immediately
7	Collection of plastic waste from the river	Peruvayal GP	Continuous process				As of now 3 times collected. No further progress reported after the month of October	100%	On going
8	Collection and segregation of solid waste in the river	Peruvayal GP	Continuous process				As of now 3 times collected. No further progress reported after the month of October		On going
9	Establishment of Bio gas plant	Peruvayal GP	2023-24				As of now 26 numbers completed. No further progress reported after the month of October	70%	Work will be completed by the end of April 2024

10	Well recharge	Peruvayal GP through MGNREGS	2023-24				As of now 63 numbers completed. No further progress reported after the month of October	60%	Work will be completed by the end of April 2024
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## Mavoor Grama Panchayat

No.	Activity	Implementing agency	Time line	Progress in the month of NOVEMBER 2023	Progress in the month of DECEMBER 2023	Progress in the month of JANUARY 2024	Progress in the month of FEBRUARY 2024	%Work completed	Details of work remaining
1	Transportation of waste management to refinement unit	Konnari Advanced Polymers Limited	2022-23				Completed	100%	
2	Cleaning of Cherupuzha (Kuniyakadav to Thenghilakadav)	Mavoor GP	2022-23				Completed	100%	1500 mtr
3	Valayannor Thodu cleaning	MGNREGS	2022-23				Completed		115 mtr
4	Arayancode kalchira Thodu Cleaning	MGNREGS	2022-23				On going		115 mtr
5	Vellaram Kandi Chirakkal thazham thodu	Mavoor GP	2023-24				completed	100%	
6	Ring compost	Mavoor GP	2023-24				On going		
7	Kadayan thodu	MGNREGS	2023-24				completed	100%	

8	Chalippadam Punchappadam thodu	MGNREGS	2023-24				Completed	100%	
9	Puthiyottil thazham Elaram thodu	MGNREGS	2023-23				Completed	100%	



## OLAVANNA GRAMAPANCHAYAT

No	Activity	Implementing Agency	Time line	Progressing the month Of NOVEMBER 2023	Progress In The Month Of DECEMBER 2023	Progress In The Month Of JANUARY 2024	Progress In The Month Of FEBRUARY 2024	% Works Completed	Details Of Remaining Work
1	Collection of plastic waste from the river	Olavanna Gramapanchayat	Continuous process		9 Times collected		Process continuing	96%	
2	Collection of segregation of solid waste in the river	Olavanna Gramapanchayat	Continuous process		9 Times collected		Process continuing	96%	
3	Cleaning of Mambuzha river	Olavanna Gramapanchayat	Continuous process				Process continuing	93%	
4	Well recharge	Olavanna Gramapanchayat through MGNREGS	4/2023 To 3/2024				As of now 1 no's completed.	1 No`s	Work will be completed by the end of March 2024
5	Setting up of soak pit in houses	Olavanna Gramapanchayat through MGNREGS	4/2022 To 3/2024				As of now 14 no's completed.	14 No`s	Work will be completed by the end of March 2024

6	Action taken against dumping of waste in to river	Olavanna Gramapanchayat	Continuous process				On going	95%	Process continuing
7	Collection of non-biodegradable waste	Harith karma sena	Throughout the year						Process continuing

## IRRIGATION DEPARTMENT

No	Activity	Implementing Agency	Timeline	Progress In The Month Of DECEMBER 2023	Progress In The Month Of JANUARY 2024	Progress In The Month Of FEBRUARY 2024	% Works Completed	Details Of Remaining Work
1	Desilting of Kallayi river from Kaduppini to Kothi in Kozhikode Corporation	Irrigation department	31.03.2021			Kozhikode municipal corporation deposited Rs. 790 lakhs for desilting Kallai river under urban agglomeration scheme on 06.03.2021. Now the work is under tender process		
2	Provide fencing on the sides of the Bridge	Irrigation department	31.03.2021			DPR Submitted to Superintending Engineer for Rs.47.52 lakhs for fencing of 3 bridges vide this office letter No.D1/GL/NGT/2019 dtd.28-01-2023. AS accorded for providing chain		

						linked fencing for 1 bridge (Kothi Bridge) vide Order No. AS/59D/23/33130 Dated:07-02-2024 of Chief Engineer,Irrigation &Administration, Thiruvananthapuram		
3	Dredging , Desilting & removal of weeds from E K canal ( 11.21 km)	Irrigation department	31.07.2019			Work entrusted to Kerala Waterways & Infrastructure Ltd(KWIL)		
4	Bio park in Kozhikode District	Irrigation department				Land for the proposed bio park is to be demarcated by the Revenue authorities after necessary boundary survey and subsequent bio cover works are to be done by the Social Forestry Department		
5	Flood prone mapping in Kozhikode District	Irrigation department				Action to be taken by the Hydrology Wing of Irrigation Department as this needs data collection, scientific analysis and modeling skills.		

## Kerala State Pollution Control Board

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of DECEMBER 2023	Progress in the month of JANUARY 2024	Progress in the month of FEBRUARY 2024	% works completed	Details of works remaining
1	River water quality monitoring-Kallayi river National Water Quality Monitoring Programme (NWMP)	KSPCB	Ongoing ; monthly frequency					
2	River water quality monitoring-Kallayi rivers State Water Monitoring Programme,KSPCB fund(SWMP)	KSPCB	Ongoing. Seasonal monitoring- pre-monsoon , monsoon , post-monsoon					
3	Inspection and effluent quality monitoring of the flats,industrial units,service stations, hospitals, Hotels etc. In Malappuram Municipal area	KSPCB	Ongoing  Interval: Red- 1 month.  Orange-3months. Green-6months.					

## Suchitwa Mission

No. (as per Action Plan)	Activity	Implementing agency	Timeline	Progress in the month of DECEMBER 2023	Progress in the month of JANUARY 2023	Progress in the month of FEBRUARY 2024	% works completed	Details of works remaining
1	Board displaying messages against dumping to be placed in river banks	Suchitwa Mission	15.07.19					

## Action Plan by Ground Water Department

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of DECEMBER 2023	Progress in the month of JANUARY 2024	Progress in the month of FEBRUARY 2024	% works completed	Details of works remaining
B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones / blocks ( Earlier status: As per Ground water resources of Kerala,2017 estimate,Kozhikode Block comes under the Kallai river basin and the block is safe with stage of ground water Extraction 68.49% )	Ground Water Department		Nil	Nil	Nil		
B(ii)	Ground water recharging/ rain water harvesting (Earlier status:The average pre - monsoon ground water level is 7.23 mbgl. Ground water Department has implemented 3 no of dug well recharge schemes at Kozhikode block)	Ground Water Department		Nil	Nil	Nil		
B(iii)	Periodic ground waste quality assessment and remedial actions in case of contaminated ground water tube wells/ bore wells or hand	Ground Water Department		Nil	Nil	Nil		

	pumps (Earlier status-Ground water Department has 1 observation Piezometer (BW) in the river stretch.)							
B(iv)	For regulating use of ground water for irrigation purpose, adopting good irrigation practices (Earlier status -The total irrigation draft in the Block area is 488.76 ha.m.)	Ground Water Department		Nil	Nil	Nil		



## Action plan by irrigation Department

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of DECEMBER 2023	Progress in the month of JANUARY 2024	Progress in the month of FEBRUARY 2024	% works completed	Details of works remaining
E	Dredging and desilting	Irrigation Department	3 years			Rs.790 lakhs deposited by kozhikode corporation for desilting of kallayi river under urban agglomeration on 06.03.2021.The work is under retender process.		
E	E-flow ( by micro water shed management)	Irrigation Department	3 years			Action to be taken by the hydrology wing of irrigation department as this needs data collection, scientific analysis and modeling skills. The matter has been communicated to the Hydrology wing Assistant Engineer at Kozhikode.		

E	Flood plain zone ( protection and management)	Irrigation Department	3 years			Action to be taken by the hydrology wing of irrigation department. The matter has been communicated to the Hydrology wing.		
E	Greenery development ( plant in trees on the banks)	Irrigation Department	3 years					



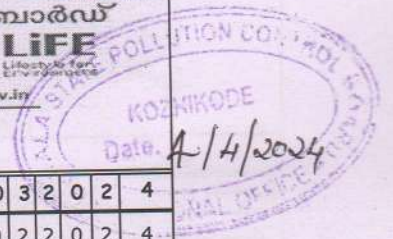
# KERALA STATE POLLUTION CONTROL BOARD

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

കോഴിക്കോട് റീജിയണൽ ഓഫീസ്  
REGIONAL OFFICE, KOZHIKODE



Phone: 0495-2300744 Mail: pcbrokkd@gmail.com Website: kspcb.kerala.gov.in  
3<sup>rd</sup> FLOOR, ZAMORIN'S SQUARE, LINK ROAD, KOZHIKODE - 673 002



## ANALYSIS REPORT OF RIVER WATER

<b>Report No.</b>	<b>K</b>	<b>R</b>	<b>O</b>	<b>R</b>	<b>4</b>	<b>9</b>	<b>5</b>	<b>7</b>	<b>/</b>	<b>1 to 5</b>	<b>Date:</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>4</b>	
Date of Sample Collection	1	4	0	2	2	0	2	4			Date of receipt of the sample	1	4	0	2	2	0	2	4	
											Time	Hours:	1	4	:	3	0			
Sampled by:	RL ,KKD										Sample ID	KL1, KL2, KL3, KL5,& KL6								
Sampling Method	APHA1060B,a										Sample Lab Code	KROS 4957/1-5								
Sample container	PC 2.5 L										Ref.letter No.	PCB/KKD/DO/ Polluted River Stretch/2018 Vol. IV, Dated 14.02.2024								
Source:	KALLAI RIVER WATER										Received from:	EE,DO,KKD								
											Period of analysis:	14.02.2024-28.02.2024								
Specific sampling location:	GIVEN BELOW										No. of samples	5								
											Analysed by:	NKT/AKG/AM/SP								
Sample preservation:	Ice box										Method:Standard Methods for the examination of Water and Wastewater, APHA AWWA WEF (22 <sup>nd</sup> Ed.)									
sl no	Parameters			unit	Method No.			SAMPLE ID												
								<b>KL 1</b>	<b>KL 2</b>	<b>KL 3</b>	<b>KL 5</b>	<b>KL 6</b>								
1	pH			-	APHA 4500-H+,B			6.81	7.1	7.25	7.37	7.74								
2	CONDUCTIVITY			µmhos/cm	APHA 2510B			19640	24170	26060	32770	42280								
3	BOD			mg/L	IS3025 (Part 44)			3.6	2.87	3.8	4.07	1.87								
4	DISSOLVED OXYGEN			mg/L	APHA 4500-O,C			4.1	4.7	4.1	3.9	6.5								
5	TOTAL COLIFORM,			CFU/100ml	APHA 9222B			215000	205000	245000	265000	120000								
6	FECAL COLIFORM			CFU/100ml	APHA 9222D			80000	60000	115000	135000	65000								
7	FECAL STREPTOCOCCUS			CFU/100ml	APHA 9230 C			6000	4500	8000	19500	1000								
8	TEMPERATURE			°C	APHA 2550B			27	27	27	27	28								

Test method variation: None

Remarks: LDL-Lower Detection Limit BDL-Below Detection Limit

KL1-KALLAI RIVER AT PALATHUMKANDI BRIDGE,POKKUNNU,KL2-KALLAI RIVER AT KADUPPINI BRIDGE, K.L3- KALLAI RIVER AT MANKAVU BRIDGE, KL5- KALLAI RIVER AT KALLAI BRIDGE & KL6- KALLAI RIVER AT KOTHI BRIDGE, THEKKEPURAM .

*D. S. S. S.*  
2/3/24  
Scientist in charge





KERALA STATE POLLUTION CONTROL BOARD

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

REGIONAL OFFICE, KOZHIKODE

3<sup>rd</sup> FLOOR, ZAMORIN'S SQUARE, LINK ROAD, KOZHIKODE - 673 002

ANALYSIS REPORT OF RIVER WATER

Table with columns for Report No., Date, Date of Sample Collection, Time, Sampled by, Sampling Method, Sample container, Source, Specific sampling location, Sample preservation, Parameters, Method No., and SAMPLE ID (KL 1 to KL 6).

Test method variation: None

Remarks: LDL-Lower Detection Limit BDL-Below Detection Limit

KL1-KALLAI RIVER AT PALATHUMKANDI BRIDGE, POKKUNNU, KL2-KALLAI RIVER AT KADUPPINI BRIDGE, K.L3- KALLAI RIVER AT MANKAVU BRIDGE, KL5- KALLAI RIVER AT KALLAI BRIDGE & KL6- KALLAI RIVER AT KOTHI BRIDGE, THEKKEPURAM .

Handwritten signature and date 6/2/24, Scientist in charge





**KERALA STATE POLLUTION CONTROL BOARD**  
കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

കോഴിക്കോട് റീജണൽ ഓഫീസ്  
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3<sup>rd</sup> FLOOR, ZAMORIN'S SQUARE, LINK ROAD, KOZHIKODE - 673 002



**ANALYSIS REPORT OF RIVER WATER**

<b>Report No.</b>	<b>K R O R 4 9 8 7 / 1 to 5</b>	<b>Date:</b>	<b>3 0 0 3 2 0 2 4</b>
Date of Sample Collection	1 4 0 3 2 0 2 4	Date of receipt of the sample	1 4 0 3 2 0 2 4
Sampled by:	RL ,KKD	Time	Hours: 1 5 : 0 0
Sampling Method	APHA1060B,a	Sample ID	KL1, KL2, KL3, KL5,& KL6
Sample container	PC 2.5 L	Sample Lab Code	KROS 4987/1-5
Source:	KALLAI RIVER WATER	Ref.letter No.	PCB/KKD/DO/ Polluted River Stretch/2018 Vol. IV. Dated 14.03.2024
Specific sampling location:	GIVEN BELOW	Received from:	EE,DO,KKD
Sample preservation:	Ice box	Period of analysis:	14.03.2024-27.03.2024
		No. of samples	5
		Analysed by:	SNS/NSS/HPV/SP
		Method:Standard Methods for the examination of Water and Wastewater, APHA AWWA WEF (22 <sup>nd</sup> Ed.)	

sl no	Parameters	unit	Method No.	SAMPLE ID					
				KL 1	KL 2	KL 3	KL 5	KL 6	
1	pH	-	APHA 4500-H+,B	7.05	7.44	7.57	7.65	7.92	
2	CONDUCTIVITY	µmhos/cm	APHA 2510B	33300	36680	34080	36940	52100	
3	BOD	mg/L	IS3025 (Part 44)	1.2	3.1	2.4	3.7	2.8	
4	DISSOLVED OXYGEN	mg/L	APHA 4500-O,C	7.9	5.3	6.1	5.1	5.5	
5	TOTAL COLIFORM,	CFU/100ml	APHA 9222B	50000	100000	170000	70000	12000	
6	FECAL COLIFORM	CFU/100ml	APHA 9222D	30000	60000	80000	30000	10000	
7	FECAL STREPTOCOCCUS	CFU/100ml	APHA 9230 C	2000	6000	8000	2500	1000	
8	TEMPERATURE	°C	APHA 2550B	27	27	28	28	28	

Test method variation: None

Remarks: LDL-Lower Detection Limit BDL-Below Detection Limit

KL1-KALLAI RIVER AT PALATHUMKANDI BRIDGE,POKKUNNU,KL2-KALLAI RIVER AT KADUPPINI BRIDGE,  
K.L3- KALLAI RIVER AT MANKAVU BRIDGE, KL5- KALLAI RIVER AT KALLAI BRIDGE & KL6- KALLAI RIVER  
AT KOTHI BRIDGE, THEKKEPURAM .

*[Signature]*  
30/3/24  
Scientist in charge

## National Mission for Clean Ganga

**Format for Submission of Monthly Progress Report by States/UTs  
(Hon'ble NGT in the matter of OA No.673/2018 dated 06.12.2019)**

### **RIVER UPPALA, KASARGOD**

S. No.	Activity to be monitored	Timeline	Submission of progress by State/UT- Compliance status
1	Ensure 100% treatment of sewage at least in-situ remediation		
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured		
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning		
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none"><li>• Specifying accountability of nodal authorities not below the Secretary level</li><li>• Chief Secretaries may have an accountable person attached in their office for this purpose</li></ul>		
	<ul style="list-style-type: none"><li>• Monitoring at State level must take place</li></ul>		
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none"><li>• Secretary, Ministry of Jal Shakti</li><li>• Member Secretary, CPCB</li></ul>		
6.1	Progress Report may be comprised of details along with completion timelines on: (I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.		

<p>(II) <u>Status of STPs, I&amp;D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management &amp; Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p> <p>(vii) Ground water regulation</p> <p>(viii) Adopting good irrigation practices</p> <p>(ix) Protection and management of food plain Zones (FPZ)</p>		
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(x) Rain water harvesting		
(xi) Maintaining minimum Environmental flow of river		
(xii) Plantation on both sides of the river		
(xiii) Setting up biodiversity parks on flood plains by removing encroachment		

**ACTION PLAN FOR RIVER UPPALA, KASARAGOD DISTRICT, KERALA**  
**MONTHLY PROGRESS REPORT FOR THE MONTH OF February 2024**  
**RIVER UPPALA, KASARGOD**

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2023	Progress in the month of January 2024	Progress in the month of February 2024	% works completed	Details of works remaining
C(ii)	Material collection facility. Operation	Mangalpady Grama Panchayath	2019	NA	NA	NA	NA	NA
C	Waste management including purchase of vehicle to collect waste.	Mangalpady Grama Panchayath/ Green Space Private company	2019- 2020	NA	NA	NA	NA	NA
E	Installation of camera	Mangalpady Grama Panchayath	March 2020	NA	NA	NA	NA	NA
C	Electrification of material collection facility	Manjeshwaram Grama Panchayat	2019-2020	<b>Electrified</b>	<b>Electrified</b>	<b>Electrified</b>	100%	Completed
C	Transportation of collected waste	Manjeshwaram Grama Panchayat	March 2020	25165 KG Rejected Waste Transported	28450 KG Rejected Waste Transported	19860 KG Rejected Waste Transported	100%	Completed



E	Installation of camera	Manjeshwaram Grama Panchayat	March 2020	Connected To Police Station and panchayath office.	Connected To Police Station and panchayath office.	Connected To Police Station and panchayath office.	100%	Completed
C	Tying of net on both sides of the bridge	Irrigation Department	2019-2020	DPR submitted to Chief Engineer (Price ID: 2019/10825/IA) for approval. Informed that as the proposed NH upgrade works are going on and these works are to be carried out along with the bridges which are part of the NH ,it would not be desirable to Carry to these works now. It is hereby notified that NH department itself undertakes and executes the said works in connection with the upgradation of NH 66.	DPR submitted to Chief Engineer (Price ID: 2019/10825/IA) for approval.Informed that as the proposed NH upgrade works are going on and these works are to be carried out along with the bridges, which are part of the NH, it would not be desirable to carry to these works now. it is hereby notified that NH department itself undertakes and executes the said works in connection with the upgradation of NH 66.	DPR submitted to Chief Engineer (Price ID: 2019/10825/IA) for approval.I informed that as the proposed NH upgrade works are going on and these works are to be carried out along with the bridges, which are part of the NH, it would not be desirable to carry to these works now. it is hereby notified that NH department itself undertakes and executes the said works in connection with the upgradation of NH 66.		Work still under process.
E	Continuous vigil on waste dumping on roads	Police Department	100% Completed					
A(a)	Water quality monitoring	KSPCB	Being done regularly					

Sd/-

Environmental Engineer

UPPALA RIVER - UPPALA BRIDGE (Existing NWMP Station)			
Sampling Point		Uppala Bridge	
NWMP Station Code		2306	
Latitude		12°41'41.7"N	
Longitude		74°54'16.9"E	
Date of Sampling		07.02.2024	
Nature and flow of the river		Moderate flow, water level decreased	
Sl.No	Parameters	Unit	Uppala Bridge
1	Temperature	° C	31.4
2	pH	-	7.34
3	Conductivity	µmhos/cm	40000
4	Turbidity	NTU	0.8
5	BOD	mg/l	2.5
6	Dissolved Oxygen	mg/l	7.1
7	Total Coliforms	cfu/100ml	20
8	Feecal Coliforms	cfu/100ml	0
9	Feecal Streptococcus	cfu/100ml	0
10	Chlorides	mg/l	4600
11	Total Alkalinity	mg/l	700
12	Total Hardness	mg/l	4600
13	Calcium Hardness	mg/l	2600
14	Magnesium Hardness	mg/l	2000
15	Calcium	mg/l	1040
16	Magnesium	mg/l	486.0
17	Total Dissolved Solids	mg/l	23000
18	Sodium	mg/l	2500
19	Potassium	mg/l	10.48

UPPALA RIVER - UPPALA RIVER NEAR BHAGAVATHI TEMPLE (Bhagavathi Gate) - (Proposed NWMP Station)			
Sampling Point		Uppala River Near Bhagavathi Temple (Bhagavathi Gate)	
Distance from existing NWMP Station		878.66 m	
Latitude		12°41'20.1"N	
Longitude		74°54'34.0"E	
Date of Sampling		07.02.2024	
Nature and flow of the river		Water level decreased, moderate flow	
Sl.No	Parameters	Unit	Uppala River Near Bhagavathi Temple
1	Temperature	° C	31.2
2	pH	-	7.27
3	Conductivity	µmhos/cm	15000
4	Turbidity	NTU	0.6
5	BOD	mg/l	1.0
6	Dissolved Oxygen	mg/l	6.9
7	Total Coliforms	cfu/100ml	12
8	Feecal Coliforms	cfu/100ml	0
9	Feecal Streptococcus	cfu/100ml	0
10	Chlorides	mg/l	1300
11	Total Alkalinity	mg/l	200
12	Total Hardness	mg/l	840
13	Calcium Hardness	mg/l	430
14	Magnesium Hardness	mg/l	410
15	Calcium	mg/l	172
16	Magnesium	mg/l	99.630
17	Total Dissolved Solids	mg/l	10500
18	Sodium	mg/l	850
19	Potassium	mg/l	4.3

Sd/-  
Assistant Scientist