

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 - December 2022****1. Short term plan****Maintenance and de-bottlenecking of existing Sewerage Network**

No.	Activity	Implementing agency	Time line	Progress in the month of October-2022	Progress in the month of November-2022	Progress in the month of December-2022	% 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.
							100%	a. Completed



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	Aranoor	0%	5%	85%	<p>b. a) Providing RCC lining for the existing two wells. Lining for first well completed. 2 Pump sets erected in first well and commissioned. Pumping main also completed. Lining for 2nd well partly completed. b) Diesel generator – to be supplied by contractor. Work terminated at the risk and cost of the contractor. Work in progress. Probable date of completion 28.02.2023</p>
2.1.3	5 MLD sewage treatment plant at Medical College	Kerala Water Authority	May 2020				100%	Work Completed on 8.8.21.



2.1.4	Installation of adequate pumps in Mudavanmughal and Enchakkal pumping stations.	Kerala Water Authority	March 2020				100%	Pump sets installation at Enchakkal and Mudavanmughal pump house 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%	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	Kerala Water Authority	Dec 2020				100%	Work completed.



	diverted to main sewer line. Sewage generated in Thoppil area shall be diverted main sewer line							
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 RiverKaramana	Kerala Water Authority	Completed				100 % completed	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	completed				100% completed	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 2020		0%	0%	98%	Works completed – 75No. (Rs. 15.41cr) AMRUT-44, State plan-28 MLA ADF/SDF-3 In progress – 1No. (Rs. 3.cr.) AMRUT work. Expected to be

0%



								completed by 31.01.2023
	Total works in progress/completed (76No.) 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 2020	0%	1.5%	98%		Works completed - 22 No. (Rs. 5.86 cr.) AMRUT-10, State plan-11 MLA ADF/SDF-1
	In progress/Ongoing (24No.)							In progress –2 No. (Rs. 11.35 cr.) AMRUT works Expected date of completion 31.03.23
				0.5%				Land acquisition process



	Tendering/ To be arranged (1No.) Land acquisition -1 In progress-2					To be arranged	To be arranged- 1-Nos. (Rs. 7.885 cr.) Land Aquisition in progress-1 Nos	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 work to be 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 2021-22 and tendered. Work order issued. Expected date of completion 31.05.23
2.1.11	Procurement of sewer cleaning machines and equipment maintenance	Kerala Water Authority	Mar 2020	0%	0%	0%	100%	Work completed.



The document is digitally approved. Hence signature is not needed.

2. Long Term Works

Sl No.	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							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 discussed in the Chief Secretary, GoK' s meeting dated 21/06/2022 the work of Preparation of DPRs has to be done internally. Mean while the terminated firm M/s REPL filed a complaint against KWA in the Hon'ble High court of Kerala (WP(C) No 26031 of the year 2022) and obtained a stay against KWA at first up to 22.08.22 which is then got
3.1.2	Extension of sewerage system to Block H to R							
3.1.3	Extension of sewerage system to Newly added areas of 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	Procurement of equipments for maintenance of sewerage system							





3.1.7 Additional STP requirement

Kerala Water Authority

Three years

extended up to 14.09.22 against taking any coercive actions. The work of DPR preparation of sewerage system to the uncovered areas of TMC is now being carried out internally by KWA. The total wards were divided in to 9 clusters. Cluster 1 comprises of 5 wards - Attukal, Kalady, Kallipankulam, Ambalathara and kamaleswaram wards - The DPR for cluster 1 was submitted on 13/10/2022 forobtaining AS. The DPR for cluster III comprises of Thiruvallom, Poonkulam and Vellar wards is under preparation. Cluster 3 originally consisting of Thiruvallam, Poonkulam and Vellar is the second in the priority list and is taken up. This Cluster is then modified by adding more wards and is divided into 3 zones. Zone 1 consisting of Puthenpally and Part of Muttathara (until STP) is taken up on priority based on Thiruvananthapuram Corporation's demand. The DPR for Cluster 3 Zone 1 is prepared consisting of Puthenpally and Muttathara (Part) Wards and submitted to Corporation on 02.12.22. The DPR of Cluster 3 Zone 2 and Zone 3 is under preparation and will be submitted on 16.01.2023.

Total Amount required :		5000 Crores				
<p>**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 was prepared earlier but needs modification in lieu of the change in demography. Hence designs was to be prepared for 57 wards including 23 wards for which no designs are available. Consultant appointed for preparing Detailed Project Report (M/s REPL) 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. Accordingly, the risk and cost amount was requested from the firm for rearranging the work. As discussed in the Chief Secretary, GoK' s meeting dated 21/06/2022 the work of Preparation of DPRs has to be done internally. The Chief Secretary during the meeting has directed to black list the firm. The terminated firm M/s REPL filed a complaint against KWA in the Hon'ble High court of Kerala and obtained a stay against KWA at first up to 22.08.22 which is then got extended up to 14.09.22. The DPR preparation of sewerage system to the uncovered areas of TMC is now being carried out internally by KWA. The total wards were divided in to 9 clusters. Cluster 1 comprises of 5 wards - Attukal, Kalady, Kallipankulam, Ambalathara and kamaleswaram wards. The DPR for cluster 1 was submitted for obtaining Administrative Sanction on 15.10.2022. The DPR preparation for cluster III comprising of 3 wards namely Thiruvallom, Poonkulam and Vellar is in progress. Cluster 3 originally consisting of Thiruvallam, Poonkulam and Vellar is the second in the priority list and is taken up. This Cluster is modified by adding more wards Puthenpally, Manikkavilakom, Poonthura, Bheemapally, Bheemapally East and Muttathara part and is divided into 3 zones. Zone 1 consisting of Puthenpally and Part of Muttathara (until STP) is taken up on priority based on Thiruvananthapuram Corporation demand. This DPR is prepared for Cluster 3 Zone 1 consisting of Puthenpally and Muttathara (Part) Wards. The DPR of Cluster 3 Zone 2 and Zone 3 is under preparation and expected to be submitted on 16.01.22 Survey works for Zone 1, Zone 2 & Zone 3 completed .</p>						



ACTION PLAN FOR RIVER KARAMANA, KERALA-DECEMBER 2022

1. Short term Plan

Maintenance and de-bottlenecking of existing sewerage network

No.	Activity	Implementing Agency	Time line	Progress in the month of October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% 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%	
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 Arannoor	Kerala Water Authority	May-20		80%	5%	85%	Completed. 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 2nd well partly completed . B) Diesel generator- to be supplied by contractor. Work terminated at the risk and cost of the contractor. Work in progress. Probable date of completion 28.02.2023.
2.1.3	5 MLD sewage treatment plant at Medical College	Kerala Water Authority	May-20				100%	
2.1.4	Installation of adequate pumps in Mudavanmughal and Enchakkal pumping stations	Kerala Water Authority	Mar-20				100%	
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%	

No.	Activity	Implementing Agency	Time line	Progress in the month of October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% works completed	Details of works remaining
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%	
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%	
2.1.8	Divert the sewer line from the School compound of Government Karamana High School	Kerala Water Authority	Awarded				100%	
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				98%	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 Expected to be completed by 31.01.2023 for one AMRUT work
	Total works in progress/Completed (76 No.) Works dropped (2No.)							Dropped – 2 No. (Rs. 1.52cr.) State plan-2
2.1.10	Extension of sewer network wherever technically feasible in new areas of existing blocks	Kerala Water						Works completed - 22 No. (Rs. 5.86 cr.) AMRUT-10, State plan-11 MLA ADF/SDF-1

No.	Activity	Implementing Agency	Time line	Progress in the month of October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% works completed	Details of works remaining
2.1.10	In progress/Ongoing (24No.)	Authority	May-20	0.50%	0.00%	0.5%	97%	In progress –1No. AMRUT-2 (Details included in Excel sheet attached) State plan-0 Expected date of completion 31.03.23.
	Tendering/ To be arranged (1No.) Land acquisition -1 In progress-2							To be arranged
2.1.11	Procurement of sewer cleaning machines and equipment maintenance	Kerala Water Authority	Mar-20				100%	Work completed

Solid Waste Management Action Plan

Activity	Implementing Agency	Unit	Time for Completion	Progress in the month of October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% Works Completed	Details of work remaining
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No.	Activity	Implementing Agency	Time line		Progress in the month of October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% works completed	Details of works remaining
2.2.1	Slaughter house and poultry waste	Thiruvananthapuram Corporation	Rendering Plant	Mar-21	75%	80%	82%	85%	<p>Slaughter house kunnukuzhy- 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.</p> <p>Poultry waste- TMC has started collecting poultry waste coming under jurisdiction of 25 HI Office from 1 st November 2019with online tracking of vehicles. The entire poultry waste generated in whole Corporation area is collected and sent to rendering plant at Elloor. Report September 2022 awaiting. Will be completed on 31st March 2023.</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	90%	90%		100%	<p>Kumarichanda: Market Renovation completed. Pilot project implemented fortreatment 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. Moonnathumukku 2. Poonthura-HI Office 3. Cheriyan muttam-Poonthura 4. Beemapa lly Compou nd 5. Tsunami Colony		45%	45%		50%	

No.	Activity	Implementing Agency	Time line		Progress in the month of October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% works completed	Details of works remaining
	garbage generated in the poonthura slum area between Karamana river and sea		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						13Location 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 STP at Muttathara and by providing Decentralized STP where the re 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 October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% 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, Tvp 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. So it is included in KWA DPR.

No.	Activity	Implementing Agency	Time line		Progress in the month of October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% 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						Rs.1871670/- fine collected from 2019 to 2022 till date.
2.2.6	Biodegradable waste (DPR)	Thiruvananthapuram Corporation	Bio- Composter		82%	82%		82%	Installed 51,000 bins in total. Tender invited for installation of 25,000 bio compost bins. Proposal approved by the health standing committee. Proposal placed in the health standing committee and forwarded to purchase committee for negotiation. Will be completed on 30.01.2023.
2.2.7		Thiruvananthapuram Corporation	Thumboormuzhi aerobic bins		60%	60%	63%	65%	Total 154 locations Completed. (Total - 159 units) Santhikavadam - 3 units, Manathala - 3 units,ITI chackai – 11 bins Kalladimukham -32bins.Neerazhi Market, Ulloor – 6 bins Thumba station kadavu – 4 units Womens college– 4 bins completed will be handovered soon. Sanskrithi College – 5 bins Near Peroorkada Market-35 Kamaleshwaram, Karamana PRS opposite, Cotton hill PS, Cotton hill HSS-25 Poojapura-10 Inside Pratheeksha flat-16 Manvila Market-5 Work in progressKuravankonam – 4 bins
2.2.8		Thiruvananthapuram Corporation	Community biogas		60%	60%		65%	
2.2.9		Thiruvananthapuram Corporation	Organic Waste Converter						Dropped
2.2.10		Thiruvananthapuram Corporation	Portable biogas						Dropped

No.	Activity	Implementing Agency	Time line	Progress in the month of October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% works completed	Details of works remaining
2.2.11		Thiruvananthapuram Corporation	Portable aerobins		75%	75%	100%	Project completed
2.2.12		Thiruvananthapuram Corporation	Ring compost					Dropped
2.2.13		Thiruvananthapuram Corporation	Segregation bins					Dropped.
2.2.14		Thiruvananthapuram Corporation	RRC		40%	40%	40%	Total 2 locations. (i)Work in Manacaud site completed. Tendering activities for electrification
2.2.15		Thiruvananthapuram Corporation	Plastic Recycling unit					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%
2.2.19	Thiruvananthapuram Corporation		Swaps shops		90%	95%	98%	Work completed. Revised estimate approved by council. Final part bill will be
2.2.20	Thiruvananthapuram Corporation		PET bottle crushing					Project dropped
2.2.21	Thiruvananthapuram Corporation		Community level unit Napkin destroyer		10%	10%	10%	Dropped.
2.2.22	Thiruvananthapuram Corporation		Animal Crematorium at Kattela					Project dropped
2.2.23	Thiruvananthapuram Corporation		Urban Gardening					Project dropped

No.	Activity	Implementing Agency	Time line	Progress in the month of October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% works completed	Details of works remaining
2.2.24		Thiruvananthapuram Corporation	Upgradation of present facilities		100%	100%	100%	Completed
2.2.25		Thiruvananthapuram Corporation	Capacity Building & IEC					Meeting conducted with participation of all thumburmuzhi workers on 29.10.2022.
2.2.26		Thiruvananthapuram Corporation	Viability gap Fund					Issue of third 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 place Corporation collected an amount of Rs.1379305/- as fine From 01.01.2022.

Monitoring

	Activity	Implementing Agency	Time line	Water quality in July/	Water quality in August /	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 October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% 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 - 2 month Orange - 14 month Green - 3 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 October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% 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						
	Total Amount required		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

No.	Activity	Implementing Agency	Time line		Progress in the month of October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% works completed	Details of works remaining
	Long Term measures proposed by Thiruvananthapuram	Implementing Agency	Time line	Progress in the month of October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% 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.								
Desilting and Development									
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

o/c

STATE WATER MONITORING PROGRAMME (SWMP) 2022

Analysis Report for the month of DECEMBER-2022

KARAMANA

Name of River		SAMPLE ID					
Date and Time of Sample collection		12-07-2022					
Method of analysis							
Sl no.	Parameters	SAMPLE ID					
		Pennara	Aravikara	Mangalakadavu	Pallathukadavu	Thiruvallam	Moornattumukku
1	Temperature/Degree Celsius	27	27	26	27	27	26
2	pH	6.9	7	6.9	7.4	7.3	7
3	Turbidity, NTU	1.1	3.4	4.3	3.4	3.2	3.6
4	Electrical Conductivity,µmhos/cm	40	60	82	120	208	190
5	DO,mg/L	7.6	7.9	9.8	6.5	6.5	6.8
6	BOD,mg/L	0.2	0.9	3.1	1.7	2.2	1.1
7	NH3-N,mg/L	NDL	NDL	NDL	NDL	NDL	NDL
8	Nitrate-N,mg/L	NDL	NDL	NDL	NDL	NDL	0.9
9	Chloride,mg/L	4	12	14	20	40	16
10	Phosphate,mg/L	NDL	NDL	NDL	NDL	NDL	NDL
11	Total Alkalinity as CaCO3,mg/L	12	8	16	30	40	32
12	Total Hardness as CaCO3,mg/L	16	12	20	32	52	48
13	Calcium Hardness as CaCO3,mg/L	12	8	16	20	36	40
14	Magnesium Hardness as CaCO3,mg/L	4	4	4	12	16	8
15	Sodium,mg/L	2.1	6.3	7.3	10.6	21	8.5
16	Potassium,mg/L	0.8	2.0	3.1	5.6	5.6	4.4
17	Boron,mg/L	0	0	0	0	0	0
18	SAE	0.111962	0.459627	0.622197	0.462298	0.711387	0.320548
19	Total Coliforms/cfu/100ml	ND	600	800	2400	4700	21400
20	Faecal Coliforms/cfu/100ml	100	200	400	1100	2100	10800
21	Faecal Streptococci/cfu/100ml	ND	ND	ND	ND	ND	ND

Assistant Environmental Scientist



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		
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">• Specifying accountability of nodal authorities not below the Secretary level• Chief Secretaries may have an accountable person attached in their office for this purpose		
	<ul style="list-style-type: none">• Monitoring at State level must take place		
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none">• Secretary, Ministry of Jal Shakti• Member Secretary, CPCB		

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&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 & 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 PAMBA, KERALA

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of November -2022	Progress in the month of December-2022	% 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 de- centralized solid waste treatment facility	Mannar Panchayat, Kadapra/ Niranam Panchayath	31.03.2021	Mannar Panchayath not submitted report	Mannar Panchayath not submitted report		Inauguration of functioning.

				<p>Kadapra Panchayath has resolved to identify all polluting sources involved in pollution of river resources and initiation of penal action against them</p>	<p>Kadapra Panchayath 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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				<p>Niranam Gramapanchayat is an upper Kuttanad area , so no such dry land suitable for solid waste treatment plant is available</p>	<p>Niranam Gramapanchayat is an upper Kuttanad area , so no such dry land suitable for solid waste treatment plant is available</p>		
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C	Establishment of Material Collection Facility	Mannar Panchayat, Kadapra/ Niranam Panchayath	31.03.2021	Mannar Panchayath not submitted report Material Collection Facility is fully functional in Kadapra Grama Panchayath	Mannar Panchayath not submitted report Material Collection Facility is fully functional in Kadapra Grama Panchayath	100%	Construction of permanent MCF building, collection and transportation of Non-bio degradable Materials to RRF for processing.
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				MCF construction completed 13 mini MCF implimentedc in all wards in Niranam Panchayath	MCF construction completed 13 mini MCF implimentedc in all wards in Niranam Panchayath		
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C	Resource Recovery Facility	Mannar Panchayat, Kadapra/ Niranam Panchayath	31.03.2021	<p>Mannar Panchayath not submitted report</p> <p>Resource recovery facility is working as a centralised arrangement at BlockPanchayath level in Kadapra Grama Panchayath</p>	<p>Mannar Panchayath not submitted report</p> <p>Resource recovery facility is working as a centralised arrangement at BlockPanchayath level in Kadapra Grama Panchayath</p>	100%	Collection and transportation of Non-bio degradable Materials to RRF for processing
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				<p>It will be suitable if RRF is established at Block level in Niranam Grama Panchayath</p>	<p>It will be suitable if RRF is established at Block level in Niranam Grama Panchayath</p>		
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C	Installing household and community level solid waste management units	Mannar Panchayat	31.03.2021	Mannar Panchayath not submitted report	Mannar Panchayath 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	Mannar Panchayath not submitted report	Mannar Panchayath not submitted report		Continuing
C	Construction of small sewage treatment plant with screening, septic tank and disinfection to the storm water drain of	Kadapra Panchayat	31.12.2020	The Panchayath has its resolution considered that sewage treatment plants is currently not needed within Panchayath area around Parumala	The Panchayath has its resolution considered that sewage treatment plants is currently not needed within Panchayath area around Parumala		

	Parumala Town						
C	Construction of small sewage treatment plant with screening, septic tank and disinfection to the storm water drain of Mannar Town	Mannar Panchayat	31.12.2020	Mannar Panchayath not submitted report	Mannar Panchayath not submitted report	0%	Not applicable
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				
	Greenery development Plantation plan. Plantation on both sides of the river, setting up	Irrigation department	31.03.2021				

	biodiversity parks on flood plains by removing encroachment						
C (b) (ii)	Green Protocol implementation in all Offices institution & Public function	Mannar, Kadapra/ Niranam Panchayat	31.05.2020	Mannar Panchayath not submitted report Green protocol has been implemented in Public offices of Kadapra Gramapanchayat	Mannar Panchayath not submitted report Green protocol has been implemented in Public offices of Kadapra Gramapanchayat	100%	Continuation of Green Protocol .

				<p>Necessary instruction are given to all offices and institution to strictly comply with the green protocol and is regularly monitored in Niranam Grama Panchayath</p>	<p>Necessary instruction are given to all offices and institution to strictly comply with the green protocol and is regularly monitored in Niranam Grama Panchayath</p>		
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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 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	Not submitted report	Not submitted report			

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 November ,2022	Progress in the month of December,2022	% 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 November 2022	NOC has not been issued to industries for Ground Water extraction during December 2022	Demand based	1.As per the GEC estimation all the blocks in the District has beencategorized 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 4 sites completed and 5 sites tendered. Technical Sanction obtained for 3 sites.	Artificial Recharge Structure 9 sites tendered and 9 sites selection notice issued..	Demand based	All the blocks in the district is categorized as SAFEas per GEC estimation. Kadapra-Niranam Area is not feasible for Ground WaterRecharge. 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 remedial actions in case of contaminated ground water tube wells/bore wells or hand pumps	. Groundwater sample collection during the month of November 2022 from monitoring wells (borewells and open wells) collected and sent to Analytical Lab Thiruvananthapuram for chemical analysis soon	Groundwater sample collection during the month of December 2022 from monitoring wells (borewells and open wells) collected and sent to Analytical Lab Thiruvananthapuram for chemical analysis soon.	Periodical assessment(Regular programme) Chemical analysis result of groundwater samples collected during November-2020 reveals that the gw quality is good and potable.	(i)Maintaining a network of observation wells in various hydrogeomorphic units 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



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കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

KERALA STATE POLLUTION CONTROL BOARD

ജില്ലാ ഓഫീസ്, OPP ജനറൽ ആശുപത്രി, KKNairRoad, കുന്തിമുക്ക് താലൂക്കിൽ, പത്തനംതിട്ട 689645
DISTRICT OFFICE, OPP. GENERAL HOSPITAL, KKNairRoad, KUNNITHOTTATHIL Bldgs, PATHANAMTHITTA 689645

web site: www.keralapcb.nic.in – for Online registration, visit-krocmms.nic.in/KSPCB

No. PCB/PTA/TG-3/2001

11.01.2023

From

Environmental Engineer(I/C)

To

The Member Secretary
Kerala State Pollution Control Board
Pattom P. O.
Thiruvananthapuram

Sub:- Pamba River Monitoring report and the analysis report of Pamba-
Njunangar -DECEMBER,2022 reg:-

Madam,

I am forwarding herewith the Pamba River monitoring report and the analysis report of Pamba-Njunangar for the month of DECEMBER ,2022 for your kind information and necessary action.

Yours Faithfully

ENVIRONMENTAL ENGINEER(I/C)

Encl. As above

STATE WATER MONITORING PROGRAMME (SWMP) 2022
ANALYSIS REPORT FOR THE MONTH OF DECEMBER

Name of River		PAMBA				
Date & Time of sampling collection		17.12.2022				
Method of analysis		APHA				
Sl.No	parameters	PULINKKUNNU	THAKAZHY	EDATHUA	CHEGGANNOOR	KOHENCHERRY
1	Weather	Clear	Clear	Clear	Clear	Clear
2	Colour	clear	clear	clear	clear	clear
3	Temperature, °C	29	28	28	27	27
4	DO, mg/L	5.8	6.0	5.9	6.2	6.1
5	pH	6.3	6.4	6.1	6.2	6.6
6	Electrical Conductivity, µ/cm	60.0	63.85	60.34	48.36	49.62
7	BOD, mg/L	1.5	0.9	1.2	0.8	1.1
8	Nitrate, mg/L	0.134	0.238	0.217	0.433	BDL
9	FC, CFU/100mL	150	100	120	130	160
10	TC, CFU/100mL	460	310	370	390	490

11	FS, CFU/100mL	Nil	*	Nil	Nil	Nil	Nil	Nil
12	Turbidity, NTU	2.4		2.5	2.1	2.3	0.8	
13	Phenolphthalene Alkalinity, mg/L	Nil		Nil	Nil	Nil	Nil	
14	Total Alkalinity, mg/L	10		10	11	10	11	
15	Chloride mg/L,	10		14	12	10	10	
16	COD	3.2		3.2	6.4	3.2	3.2	
17	TKN	0.16		0.25	0.15	0.15	0.20	
18	NH ₃ N, mg/L	0.152		0.136	0.193	0.117	0.176	
19	Total Hardness, mg/L	24		24	24	20	24	
20	Calcium, mg/L	14		14	14	12	14	
21	Magnesium, mg/L	10		10	10	8	10	
22	Sulphate, mg/L	1.7		2.4	1.8	2.2	2.3	
23	Sodium, mg/L	5.2		7.6	6.2	5.3	4.5	
24	Potassium, mg/L	0.412		0.997	0.873,	0.319	0.312	

25	Total Dissolved Solids, mg/L	34	42	38	34	34
26	TFS, mg/L	29	37	33	29	29
27	TSS, mg/L	25	32	28	24	24
28	Phosphate, mg/L	BDL	BDL	BDL	BDL	BDL
29	Boron, mg/L	BDL	BDL	BDL	BDL	BDL
30	Fluoride	0.16	0.18	0.2	0.11	0.42
31	% of Sodium	12.8599911	17.600883	15.0693	13.8796266	11.3416818
32	SAR	0.461498	0.67449	0.5502	0.51526	0.399373


 ASSISTANT SCIENTIST

STATE WATER MONITORING PROGRAMME (SWMP) 2022
ANALYSIS REPORT FOR THE MONTH OF DECEMBER

Name of River		PAMBA									
Date & Time of sampling collection		17.12.2022									
Method of analysis		APHA									
Si.no		RANNI	ATHIKAYAM	VADASSERIKKARA	PAMBA (D/S)	THRIVENI (U/S)	KAKKIYAR	KOCHUPAMBA	NIJUNAGAR		
1	Weather	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	
2	Colour	clear	clear	clear	clear	clear	clear	clear	clear	clear	
3	Temperature, °C	25	25	26	28	27	26	26	26	26	
4	DO, mg/L	6.0	6.4	5.9	6.8	7.2	7.4	7.5	6.4	6.4	
5	pH	6.2	6.3	6.4	6.5	6.1	6.7	6.7	6.3	6.3	
6	Electrical Conductivity, µ/cm	44.76	50.65	45.69	62.39	52.15	62	52	76	76	
7	BOD, mg/L	1.3	0.8	1.7	0.9	0.5	0.6	0.5	1.5	1.5	
8	Nitrate, mg/L	BDL	BDL	BDL	0.293	0.186	0.192	BDL	0.898	0.898	
9	FC, CFU/100mL	150	110	120	1400	430	700	600	4400	4400	
10	TC, CFU/100mL	460	340	380	3900	1300	1200	300	2100	2100	

11	FS, CFU/100mL	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
12	Turbidity, NTU	1.3	1.4	1.5	2.8	2.1	1.3	0.7	3.8				
13	Phenolphthalene Alkalinity, mg/L	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil				
14	Total Alkalinity, mg/L	10	11	10	11	10	11	10	12				
15	Chloride mg/L,	8	10	8	12	10	10	8	18				
16	COD	3.2	3.2	3.2	4.4	3.2	3.2	3.2	6.4				
17	TKN	0.7	0.4	0.18	0.25	0.15	0.18	0.3	0.29				
18	NH ₃ N, mg/L	BDL	BDL	0.132	0.136	0.113	0.194	0.188	0.798				
19	Total Hardness, mg/L	22	24	20	22	20	24	20	30				
20	Calcium, mg/L	12	14	10	14	12	14	10	18				
21	Magnesium, mg/L	10	10	10	8	8	10	10	12				
22	Sulphate, mg/L	1.5	1.7	1.5	2.8	2.4	1.6	1.5	2.8				
23	Sodium, mg/L	4.6	4.5	5.5	6.6	5.4	5.6	5.4	8.6				
24	Pottassium, mg/L	0.272	0.382	0.215	0.419	0.217	0.298	0.236	0.442				

25	Total Dissolved Solids, mg/L	30	34	30	42	36	38	30	54
26	TFS, mg/L	25	29	25	37	31	33	25	49
27	TSS, mg/L	20	24	20	32	26	28	20	44
28	Phosphate, mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
29	Boron, mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Fluoride	0.18	0.28	0.5	0.25	0.2	0.18	0.28	0.43
31	% of Sodium	12.284359 3	11.329922	15.2654924	17.3432	15.67921	13.7361227	15.0244871	16.4656723
32	SAR	0.426401	0.399373	0.534712	0.61179	0.52499	0.496998	0.52499	0.682669


ASSISTANT SCIENTIST

MONTHLY ANALYSIS REPORT OF POLLUTED RIVER STRETCHES DECEMBER-2022

STATION : MANNAR

Sampling date : 05.12.2022

SI.NO	PARAMETERES	ITTINAYARKADAVU BRIDGE KUTTAMPEROOR	KOTTAKAL KADAVU BRIDGE KORATTIKADAVU	PARUMALA BRIDGE	MANNAR BRIDGE
1	Temp. (°C)	27	27	28	27
2	pH	6.4	6.4	6.6	6.5
3	Conductivity (µS/cm)	48.62	52.34	54.74	42.73
4	DO (mg/l)	5.1	4.6	4.9	5.4
5	BOD (mg/l)	1.2	1.4	1.7	1.1
6	COD (mg/l)	6.4	6.4	6.4	6.4
7	TDS (mg/l)	30	32	34	30
8	TC (CFU/100ml)	880	390	380	240
9	FC (CFU/100ml)	290	130	120	80
10	FSC(CFU/100ml)	Nil	Nil	10	Nil

WATER QUALITY DATA OF POLLUTED RIVER STRETCHES DECEMBER- 2022

DISTRICT OFFICE, PATHANAMTHITTA

Date of Sampling: 05.12.2022

Sl.No	PARAMETERS	THAKZHY	EDATHUA	MANNAR
1	Temperature, °C	28	28	27
2	pH	6.4	6.1	6.3
3	Conductivity, µmhos/cm	63	60	50
4	Turbidity, NTU	2.5	2.1	2.1
5	Phenolphthalein Alkalinity, as CaCO ₃	Nil	Nil	Nil
6	Total Alkalinity, as CaCO ₃	10	11	9
7	Chloride, mg/l	14	12	12
8	COD, mg/l	3.2	6.4	6.4
9	TKN, mg/l	0.25	0.15	0.13
10	Ammoniacal-N, mg/l	0.136	0.193	0.097
11	Hardness, as CaCO ₃ mg/l	24	24	22
12	Calcium, as CaCO ₃ mg/l	14	14	12
13	Magnesium as CaCO ₃ , mg/l	10	10	10
14	Sulphate, mg/l	2.4	1.8	2.5
15	Sodium, mg/l	7.6	6.2	6.3
16	Total Dissolved Solids, mg/l	42	38	30
17	Total Fixed Solids, mg/l	37	33	25
18	Total Suspended Solids, mg/l	32	28	20
19	Phosphate, mg/l	BDL	BDL	BDL
20	Boron, mg/l	BDL	BDL	BDL
21	Potassium, mg/l	0.997	0.873	0.735
22	BOD, mg/l	0.9	1.2	1.1
23	Fluoride, mg/l	0.18	0.2	0.13
24	Dissolved Oxygen, mg/l	6.0	5.9	5.9
25	Nitrate-N, mg/l	0.238	0.217	0.309
26	Total Coliform, CFU/100 ml	310	370	300
27	Faecal Coliform, CFU/100 ml	100	120	100
28	SAR	0.67449	0.5502	0.58398
29	% of sodium	17.6005	15.0693	15.9764
30	Faecal Strepto Coccus,CFU/100 ml	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">• Specifying accountability of nodal authorities not below the Secretary level• Chief Secretaries may have an accountable person attached in their office for this purpose	22.01.2020	No industry/commercial activity
	<ul style="list-style-type: none">• Monitoring at State level must take place	22.01.2020	NIL
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none">• Secretary, Ministry of Jal Shakti• Member Secretary, CPCB	22.01.2020 Fortnightly commencing	NIL

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&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 & 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>	<p>21.12.2019</p> <p>2020-2021</p> <p>2019-2020</p> <p>2020-2021</p> <p>2020-2021</p>	<p>Drains contributing to river pollution were 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>Water quality analysis result of the stretch up to December 2022 is enclosed. Awareness campaigns initiated.</p> <p>No groundwater pollution is noted in the area action yet to 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 October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% works completed	Details of works remaining
A(a)	Monitoring of river water quality	Kerala State Pollution Control Board	Continuing project	Result attached	Result attached	Result attached	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, surveillance cameras at vantage points	Irrigation department	31.03.2021				0%	Work to be initiated
C	Preventing illegal discharge of septage and other waste water into the river. Formation of River Protection Group	Panchayath, Police , KSPCB	31.05.2020.	NIL	NIL	NIL	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%	100%	100%	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%	100%	100%	100%	0
C	Installing household & community level solid and domestic sewage waste management	Kalloopara, Eraviperoor, Puramattom, Kaviyoor, Peringara, Kuttoorpanchayaths	31.12.2020	NA	NA	NA	NA	NA
C	Door to door collection of solid waste & Material Collection Facilities (MCF) & Resource Recovery Facilities (RRF)	Kalloopara, Eraviperoor, Puramattom, Kaviyoor, Peringara, Kuttoorpanchayaths	31.12.2020	NA	NA	NA	NA	NA

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 October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% 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					
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**ANALYSIS REPORT OF DRAINS OF MANIMALA BETWEEN KALLOOPARA AND THONDRA
DECEMBER-22**

<i>SI NO</i>	<i>BOTTLE NO.</i>	<i>Name of Drains</i>	<i>PH</i>	<i>BOD</i>	<i>COD</i>	<i>TC</i>	<i>FC</i>
1	TK1	Panayampalathodu	6.5	1.8	-	2800	1300
2	TK2	PadathupalamThodu	6.7	2.3	-	2100	1000
3	TK3	Thottappuzha	6.5	2.3	-	900	500
4	TK4	Kuttapuzha under Kattodubridge	6.7	0.5	-	1400	600
5	TK5	Kadavumbara	6.7	1.4	-	1000	600
6	TK6	Drain under Varappalam Bridge	6.7	5	-	1500	800
7	TK7	Drain under kallupalam Bridge	6.5	1.3	-	1500	700
8	TK8	Komalamthodu	6.8	1.3	-	3400	1600
9	TK9	Vennikulam Valiyathodu	6.5	2.3	-	1200	500
10	TK10	Paduthodu	6.5	0.7	-	1000	400
11	TK11	Mallappally Valiyathodu	7.1	1.9	-	2000	900

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		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">• Specifying accountability of nodal authorities not below the Secretary level		NA

	<ul style="list-style-type: none"> Chief Secretaries may have an accountable person attached in their office for this purpose 		
	<ul style="list-style-type: none"> Monitoring at State level must take place 		
6	<p>Progress report may be furnished by the State/UTs to</p> <ul style="list-style-type: none"> Secretary, Ministry of Jal Shakti Member Secretary, CPCB 	<p>Monthly (preferably before 20th of every month)</p>	NA

<p>6.1</p>	<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&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>2019-2020</p>	<p>Drains contributing to river pollution were Identified-The drains are seasonal and water quality is above the required limit, no in-situ Treatment is required</p> <p>Since the area does not contain any industry and so do not require any CETP, this action point is revised</p> <p>The adjoining local bodies are in the stage of developing and establishing adequate solid waste management facilities. Also, the solid waste dumping issues were not identified in the stretch during the field visit held during past one year.</p> <p>Water quality analysis results of December 2022 is enclosed.</p> <p>Awareness campaign to be initiated</p>
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	<p>(iv)<u>Status of Solid Waste Management & 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>No ground water pollution is noted in the area so action yet to be initiated.</p> <p>Adopted.</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> <p>Action will be initiated.</p>
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	<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>		
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ACTION PLAN FOR RIVER PAMBA, KERALA

No. (as per Action Plan)	Activity	Implement ing agency	Time line	Progress in the month of October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% works completed	Details of works remaining
A(a)	No industries	-	-				-	-
A(a)	Monitoring of river water quality	Kerala State Pollution Control Board	Continuing project	Result attached	Result attached	Result attached	100%	Nil
C(ii)	Establishment of decentralized solid waste treatment facility	Mannar Panchayat, Kadappanirana Panchayath	30.08.2022	Construction of 2 aerobic compost units completed (One each in Grama Panchayat Office compound and near Mannar Private Bus Stand. The work was executed by M/s Floret Technologies, Thiruvananthapuram. An	Construction of 2 aerobic compost units completed (One each in Grama Panchayat Office compound and near Mannar Private Bus Stand. The work was executed by M/s		100%	Inauguration of functioning .

				amount of Rs. 13,60,000/- was allocated in the annual plan of Mannar GP for this project. Action Plan on solid waste Management is approved by Grama Panchayat Committee on 27/08/2021	Floret Technologies, Thiruvananthapuram. An amount of Rs. 13,60,000/- was allocated in the annual plan of Mannar GP for this project. Action Plan on solid waste Management is approved by Grama Panchayat Committee on 27/08/2021			
C	Establishment of Material Collection Facility	Mannar Panchayat,	30.08.2022	Collection of Non-biodegradable plastic materials from houses and institutions is conducted by Haritha Karma Sena(HKS). Non- biodegradable plastic materials has bCollection, segregation and transportation of non-biodegradable plastic materials is continuing. About 12 tonnes of plastic materials handed over to Clean Kerala Company(CKC) so far. About	Collection of Non-biodegradable plastic materials from houses and institutions is conducted by Haritha Karma Sena(HKS). Non- biodegradable plastic materials has bCollection, segregation and transportation of non-biodegradable plastic materials is		100%	Constructio n of permanant MCF building.

				<p>500 kg of plastic materials is kept ready for transportation. Construction of Two mini MCFs in each ward in all the 18 wards of Mannar GP is completed. Plastic Waste management Bylaw (Final) has been passed by Mannar GP on 19/06/2021.</p>	<p>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. Construction of Two mini MCFs in each ward in all the 18 wards of Mannar GP is completed. Plastic Waste management Bylaw (Final) has been passed by Mannar GP on 19/06/2021.</p>			
C	Resource Recovery Facility	Mannar Panchayat, Kadappa/Nirana mPanchayath	30.08.2021	<p>As there is no RRF in Mavelikkara Block Panchayat in which Mannar GP belongs, nearby Chengannur Block Panchayat has agreed to receive the plastic materials collected and transported by Mannar GP. Mannar GP has</p>	<p>As there is no RRF in Mavelikkara Block Panchayat in which Mannar GP belongs, nearby Chengannur Block Panchayat has agreed to receive the plastic materials</p>		100%	

				started stockpiling of plastic waste materials collected through HKS in a hall above the Vridhdhasadanam owned by GP and segregated and transported to Clen Kerala company. Plastic Waste management Bylaw (Final) has been passed by Mannar GP on 19/06/2021	collected and transported by Mannar GP. Mannar GP has started stockpiling of plastic waste materials collected through HKS in a hall above the Vridhdhasadanam owned by GP and segregated and transported to Clen Kerala company. Plastic Waste management Bylaw (Final) has been passed by Mannar GP on 19/06/2021.			
C	Installing household and community level solid waste manage	Mannar Panchayat	30.08.2022	Collection of Non-biodegradable plastic materials from houses and institutions is conducted by Haritha Karma Sena(HKS). Collection, segregation and transportation of non-biodegradable plastic materials is continuing. About 12 tonnes of plastic materials	Collection of Non-biodegradable plastic materials from houses and institutions is conducted by Haritha Karma Sena(HKS). Collection, segregation and transportation of non-biodegradable		100%	Operation of Aerobic compost unit.

	ment units			<p>handed over to Clean Kerala Company(CKC) so far. About 500 kg of plastic materials is kept ready for transportation. Construction of Two mini MCFs in each ward in all the 18 wards of Mannar GP is completed. Plastic Waste management Bylaw (Final) has been passed by Mannar GP on 19/06/2021. Action Plan on solid waste Management is approved by Grama Panchayat Committee on 27/08/2021.</p>	<p>plastic materials is 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. Construction of Two mini MCFs in each ward in all the 18 wards of Mannar GP is completed. Plastic Waste management Bylaw (Final) has been passed by Mannar GP on 19/06/2021. Action Plan on solid waste Management is approved by Grama Panchayat Committee on 27/08/2021.</p>			
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C	Door to door collection and transportation of municipal solid waste	Mannar Panchayat	30.08.2022	Collection of Non-biodegradable plastic materials from houses and institutions is conducted by Haritha Karma Sena(HKS). Collection, segregation and transportation of non-biodegradable plastic materials is 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. Construction of Two mini MCFs in each ward in all the 18 wards of Mannar GP is completed. Plastic Waste management Bylaw(final) has been passed by Mannar GP on 19/06/2021. Action Plan on solid waste Management is approved by Grama Panchayat Committee on 27/08/2021.	Collection of Non-biodegradable plastic materials from houses and institutions is conducted by Haritha Karma Sena(HKS). Collection, segregation and transportation of non-biodegradable plastic materials is 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. Construction of Two mini MCFs in each ward in all the 18 wards of Mannar GP is completed. Plastic Waste management Bylaw(final) has been		100%	The process has to be repeated through the year.
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					passed by Mannar GP on 19/06/2021. Action Plan on solid waste Management is approved by Grama Panchayat Committee on 27/08/2021.			
C	Construct ion of small sewage treatmen t plant with screening , septic tank and disinfecti on to the storm water drain of Parumala Town	Kadapr aPanch ayat	31.12.2020					

C	Construct ion of small sewage treatment plant with screening , septic tank and disinfecti on to the storm water drain of Mannar Town	Mannar Pancha yat	30.08.2020	Due to the lack of space and fund, construction of small STP is not included in the annual plan of Mannar Grama Panchayat. It will be suitable if the Govt . takes necessary steps in this matter.	Due to the lack of space and fund, construction of small STP is not included in the annual plan of Mannar Grama Panchayat. It will be suitable if the Govt . takes necessary steps in this matter.		0%	Not applicable
C	Constructi on of compound wall with fencing	Irrigatio n depart ment	31.03.2021					

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					

	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/ Nirana mPanchayat	30.06.2020	Green Protocol is strictly observed in Mannar GP and other offices as well as public functions . Strict instruction in writing is given to owners of auditoriums , assembly halls, etc to comply with Green protocol while conducting ceremonies. Rs. 1,50,000/- has been allocated for a project for the setting up of cloth bag/paper bag unit so that use of plastic carry bags can be discouraged . Green	Green Protocol is strictly observed in Mannar GP and other offices as well as public functions . Strict instruction in writing is given to owners of auditoriums , assembly halls, etc to comply with Green protocol while conducting ceremonies. Rs. 1,50,000/- has been allocated for a project for		100%	Continuation of Green Protocol .

				<p>Audit was conducted in Mannar GP Office and other 13 Government Offices within the Panchayat Area. 11 offices were certified to have fulfilled Green Audit parameters. Certificates were awarded to the successful offices and Suchitwa Padavi Declaration in Mannar GP was conducted 26/01/2021.</p>	<p>the setting up of cloth bag/paper bag unit so that use of plastic carry bags can be discouraged . Green Audit was conducted in Mannar GP Office and other 13 Government Offices within the Panchayat Area. 11 offices were certified to have fulfilled Green Audit parameters. Certificates were awarded to the successful offices and Suchitwa Padavi Declaration in Mannar GP was conducted 26/01/2021.</p>			
D(a)	Issues relating to E-flow, maintaining minimum	Irrigation department	30.11.2020					

	environmental flow of river (by having watershed management provisions)							
D (b)	Irrigation practices	Irrigation department	30.04.2020					
E	Awareness programmes for sections of public	Kerala State Pollution Control Board	31.05.2020	Awareness classes were conducting	Awareness classes were conducting	Awareness classes were conducting	100%	
C	Management of municipal, plastic, hazardous ,	LSGD	31.03.2021	Draft by-law of Plastic Waste Handling has been passed by the Grama panchayat Committee on 05/02/2021. Collection, segregation and transportation of non-	Draft by-law of Plastic Waste Handling has been passed by the Grama panchayat Committee on 05/02/2021.		100%	The process is to be repeated periodically .

	<p>biomedical and electrical waste</p>			<p>biodegradable plastic materials is 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 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 IMAGE (IMA Goes + Eco-</p>	<p>Collection, segregation and transportation of non-biodegradable plastic materials is 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 Panchayat</p>			
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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 (2022-2023)

Sl. No	Name of Drain	Parameters																	
		pH			Electrical Conductivity (µS/cm)			BOD(mg/l)			COD(mg/l)			TC(Nos/100ml)			FC		
	Months	OCT	NOV	DEC	OCT	NOV	DEC	OCT	NOV	DEC	OCT	NOV	DEC	OCT	NOV	DEC	OCT	NOV	DEC
1	Parumala Drain	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2	MannarTown Drain	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	Kuriyathkadavu Thodu	6.33	6.6	7.24	49.03	43.58	64.3	0.3	0.3	1.5	-	-	-	2500	3000	500	1000	1400	200
4	Karuvelil Thodu	6.73	6.73	7.15	43.39	42.3	98.29	0.7	0.1	2.2	-	-	-	800	1200	1500	400	600	800
5	Nochithodu	6.52	6.52	7.15	85.13	124.2	45.35	1.1	4.6	0.5	-	-	-	1900	2000	400	800	900	200
6	Pattaparambil Thodu	6.52	6.57	7.07	64.8	44.14	119.8	4.9	0.5	3.1	-	-	-	2400	2800	1000	1200	1500	600
7	Kappiyarissery Thodu	6.66	6.35	7.15	65.73	98.18	155.4	2.4	1.6	3.3	-	-	-	2000	2100	2000	800	1100	900
8	Kombankery Thodu	6.9	6.6	6.92	31.41	43.21	106.5	0.2	0.4	3.2	-	-	-	1200	1500	1200	700	800	500
9	Perackalthodu	6.8	6.5	7.05	39.32	91.36	145.7	0.2	1.3	3.1	-	-	-	2200	2300	200	1000	1200	0
10	Erathodu	6.86	6.3	7.03	29.49	51.91	49.25	0.6	0.9	0.9	-	-	-	1800	1600	1900	1000	800	900
11	Kolarayaru	6.84	6.73	7	28.65	39.93	42.91	0.9	1.1	0.9	-	-	-	1200	1400	400	900	800	100

Analysis report of polluted river stretches-R Periyar, R- Chithrapuzha, R-Kadambrayar For the month of NOVEMBER 2022

STNCode	Sampling Date	Sampling Time	StnName	TypeWaterBody	NameOf WaterBody
17	11.11.2022	10:00	Periyar at Eloor	River	Periyar River
1338	08.11.2022	10:30	Periyar at SDP Aluva	River	Periyar River
2334	04.11.2022	10:30	Periyar at Pathalam	River	Periyar River
2335	04.11.2022	11:40	Periyar at Kalamassery	River	Periyar River
3468	08.11.2022	10:50	Periyar at KWA Aluva	River	Periyar River
2337	02.11.2022	11:15	Kadambrayar At Brahma	River	Kadambrayar River
2338	02.11.2022	10:45	Kadambrayar At Manack	River	Kadambrayar River
1573	02.11.2022	11:40	Chithrapuzha At Irumpan	River	Chithrapuzha River

Sl. No.	Parameters	Values							
		Station Code							
		17	1338	2334	2335	3468	2337	2338	1573
1	Temperature, °C	28	29	28	29	28	29	29	29
2	Dissolved Oxygen, mg/l	6	5.9	6.2	5.3	6.5	4.1	7.3	4.7
3	pH	7	7.3	6.1	6.8	7.3	7.2	6.5	7.3
4	Conductivity, µmhos/cm	119	46	146	62	43	244	450	143
5	BOD, mg/l	2.3	1.8	0.4	1.2	0.8	2.2	1.7	2
6	Nitrate-N, mg/l	0.14	0.05	0.05	0	0.1	0.37	7.54	0.02
7	Turbidity, NTU	2.7	1.9	3	4.2	1.6	1.2	3.6	2.2
8	Total Alkalinity, as CaCO ₃	25	15	22	16	14	40	20	35
9	Chloride, mg/l	18	4	32	7.3	3.8	47.5	93.5	22.8
10	COD, mg/l	5.6	4.8	8.8	6.4	4	8	8.8	8
11	TKN, mg/l	0.18	0.08	0.1	0	0.15	0.5	10.08	0.09
12	Ammoniacal-N, mg/l	0	0	0	0	0	0	4	0.01
13	Total Hardness, as CaCO ₃ mg/l	28	14	28	17	13	48	124	36

14	Calcium, as CaCO ₃ mg/l	14	8	10	12	7	5	16	15
15	Magnesium as CaCO ₃ , mg/l	14	6	18	5	6	43	108	21
16	Sulphate, mg/l	2.39	0.73	1.14	0.73	0.41	9.02	42.32	1.35
17	Sodium, mg/l	9.43	2.17	15.56	3.8	1.96	24.94	48.37	11.82
18	Total Dissolved Solids, mg/l	65	26	80	35	24	135	290	78
19	Total Fixed Solids, mg/l	50	20	62	26	18	100	280	60
20	Total Suspended Solids, mg/l	24	16	22	18	12	28	36	20
21	Phosphate, mg/l	0.41	0.42	0.46	0.35	0.42	1.77	49.34	0.49
22	Boron, mg/l	0	0.04	0	0	0	0.05	0	0.1
23	Potassium, mg/l	2.06	1.15	1.67	1.48	1.14	4.09	4.5	4.25
24	Fluoride, mg/l	0.13	0.13	0.15	0.14	0.11	0.7	4.16	0.18
25	Total Coliform, MPN/100 ml	3100	4300	1400	4700	470	2600	2300	2000
26	Feecal Coliform, MPN/100 ml	1200	1300	1000	2000	390	2400	2100	540
27	Feecal Streptococci, MPN/100ml	48	170	130	170	24	94	79	120

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

<i>Sl. No.</i>	<i>Activity to be monitored</i>	<i>Timeline</i>	<i>Submission of progress by State/UT- Compliance status</i>
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">• Specifying accountability of nodal authorities not below the Secretary level• Chief Secretaries may have an accountable person attached in their office for this purpose		
	<ul style="list-style-type: none">• Monitoring at State level must take place		
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none">• Secretary, Ministry of Jal Shakti• Member Secretary, CPCB		

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&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 & 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>		
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	<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 PERIYAR, KERALA
SHORT TERM MEASURES***

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the months of December 2022	Progress in the months of January 2022	% works completed	Details of works remaining
1.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	Estimate for STP is to be received from Civil, Electrical and Mechanical division. Estimate from Civil and Electrical division has been received. Estimate from Mechanical division yet to be received.	Civil work has been tendered. Estimate for electrical work has been prepared but T.S is not yet received. Estimate for Mechanical work has been prepared by Dredger Division. Tender procedures will be started soon.		
2.A(b)	Augmentation and Revamping of existing ETP at Aluva Market and to increase the capacity of ETP so as to treat more sewage generated in the municipality	Aluva Municipality	2021	There is an existing ETP project. DPR of 3 Lakhs rupees has been approved by DPC. Tender procedures in progress	ETP project is under consideration. Project has been move forward to prepare DPR of Rs 3 lakhs. Tender has been called for the work but no one have taken the		

					tender. Directions has been given to accredited agency via letter to prepare estimate including DPR in the Nagarasanjiplan. The estimate is under process.		
3.A(b)	Discharge of sewage from Hotels to the River through drain near Periyar	Aluva Municipality	2020	Health Squad inspection in progress	Health Squad inspection in progress.	100%	
4.A(b)	Identification of the establishments/commercial complexes/flats/houses/hotels etc who is discharging the sewage to the public drain and to collect fine based on polluter pay principle	Aluva Municipality, KSPCB	2020	Inspection in progress. Identified 140 households and 124 establishments discharging waste water to public drain. Outlets of 14 establishments have been closed.	Inspection in progress. Identified 140 households and 124 establishments discharging waste water to public drain. Outlets of 14 establishments have been closed.		
5.A(a)(iv)	Periodical inspection in the Industries, Flats, hotels monitoring of STP,ETP	KSPCB	Periodical	Aluva Municipality has no industries	Aluva Municipality has no industries		
6.C(ii)	Installation of modern abattoirs	Aluva Municipality	March 2021	For the establishment of modern abattoirs, a structural work completed building has been identified. For the preparation	For the establishment of modern abattoirs, a structural work completed building has been		

				of DPR, it has been put up for council approval. Establishment of abattoir will include in this year's project.	identified. For the preparation of DPR, it has been put up for council approval. Establishment of abattoir will include in this year's project.		
7.A(b)	Procurement of sewer cleaning machines and equipment maintenance	Aluva Municipality	March 2020	Purchased sewer cleaning machines. Cleaning work in progress.	Purchased sewer cleaning machines. Cleaning work in progress.		
8.E	Installation of cameras at the waste dumping spots	Aluva Municipality	2020	Cameras are being installed by Health wing as purchase. No need of Technical sanction. 25 Lakhs rupees have been approved by DPC. 52 points have been identified for installing camera. E-Tender has been invited. Last date of E-Tender submission is 28.01.2023.	Cameras are being installed by Health wing as purchase. No need of Technical sanction. 25 Lakhs rupees have been approved by DPC. 52 points have been identified for installing camera. E-Tender has been invited.		

9.A(b)	Construction of retaining wall with HDPE liner at Kalamassery dumping yard in order to prevent the leachate discharge from the yard to ThoombungalThodu	Kalamassery Municipality	Sept 2019	Completed	Completed	100%	
10.C(ii)	Installation of plastic shredding unit	Kalamassery Municipality	June 2019	One plant is already installed and functioning.	One plant is already installed and functioning.	100%	
11.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 has not installed CCTV. Night surveillance in progress. A vigilance group constituting NAD representatives, Health Committee chairman and 4 ward counselors has been formed for inspection. Inspection in progress. Defaulters are being identified using the cameras available with municipality. A total amount of Rs.698560/- levied as fine.	Culprits who were dumping wastes were identified using the cameras installed by municipality. Rs 6000 were imposed as fine in this month. Rs 74560/- were imposed from culprits who had thrown plastic wastes near roads..		
12.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	75 cents land identified at North Kalamassery for sewage and		

				treatment plant. Procedures for soil testing in progress. DPR is prepared by KWA. DPR procedures in progress	septagetreatment plant. Procedures for soil testing in progress. DPR is prepared by KWA. DPR procedures in progress		
13.A(a)(iv)	Monitoring and surveillance of industries in Kalamassery Industrial Estate in order to prevent unauthorized discharges to Muttar River	Kalamassery Municipality	2019	Inspection conducted in 8 establishments and one unit was found having unauthorized discharge. Notice has been issued for the same.	Inspection conducted in 8 establishments and one unit was found having unauthorized discharge. Notice has been issued for the same.		
14.C(ii)	Installation of modern abattoirs including poultry and meat rendering plants.	Kalamassery Municipality, Industries Department (for land allotment)	2021	Industries department has informed that land is not available in the industrial estate. This has been informed the collector via letter. It has been instructed to report the same to the Government.	Industries department has informed that land is not available in the industrial estate. This has been informed the collector via letter. It has been instructed to report the same to the Government.		

15.A(b)	Identification of the establishments/commercial complexes/flats/houses/hotelse tc who is discharging the sewage to the public drain	Kalamassery Municipality	2020	During the inspection conducted in August month, 54 households were found having unauthorized discharge and notice was issued. 13 units have cleared the violation.	During the inspection conducted in August month, 54 households were found having unauthorized discharge and notice was issued. 13 units have cleared the violation.		
16.E	Installation of cameras at the waste dumping spots	Kalamassery Municipality	2020	Camera installed on 10 locations. 2 portable (mobile) cameras has installed for identifying waste dumping spot. Rs 27070/- have been levied as fine last month.	Camera installed on 10 locations. 2 portable (mobile) cameras has installed for identifying waste dumping spot. Rs Rs 1000/- has been imposed as fine in the month of January. Total amount of Rs.31,560/- have been levied as fine.		
17.A(b)	Identification of sources of sewage discharged to drain near Pathalam bridge and action to stop the discharge which reach river Periyarfrom hotels, labour camps etc. In case the quantity of sewage generated is assessed to be more STP need to be installed	Eloor Municipality, KSPCB (for monitoring)	2020	Inspection in progress	Inspection in progress. Notices have been given to shops. Reply from their end has received. Unauthorized outlets are closed. Septic tank – soak pit facility is recommended for		

					all the newly sanctioned commercial buildings.		
18.E	Installation of cameras at the waste dumping spots	EloorMunicipality	2020	<p>Keltron have installed cameras at the waste dumping spots namely the premises of Aerobic biobin near HIL Company and bin near ManjummelArattukadvu. Due the software issue the cameras are not working most time. Keltron has agreed to rectify the issues. From 03.11.2022, the camera installed near ManjummelArattukadvu is not working and same has been informed Keltron.</p>	<p>The Cameras were installed in the land near HIL & Arattukadavu which was found as Dump sites. But presently those dump sites were cleared without any waste dumping. An amount of Rs.13,020/- were imposed on culprits who dumped wastes during the month of January.</p>		
19.A(a)(iv)	Periodical inspection in the Industries, Flats, hotels for monitoring of STP,ETP located in Cochin corporation	Kochi Municipal Corporation	Periodical	<p>Inspection in progress. Fine imposed Rs.3383,360/- against dumping of waste in public places and waterbodies from October 2021-December 2022</p>	<p>An amount of Rs.48,810/- were imposed as fine from culprits. Total amount of Rs.37,92,000/- was collected as fine till date. In accordance with the closing of unauthorized outlets an</p>		

					<p>amount of Rs.1,75,000/- were collected as fine. During this month an amount of Rs.15,000/- was levied from 2 hotels. Hearing was conducted before prosecution. In that hearing directions were given to provide temporary arrangements till the installation of proper STP. Two more flats are there to remit the fine. A flat association had asked for 15 days time for completion of STP construction and also informed that the said STP will be completed soon. Their outlet will be closed soon. During second inspection 16 more household outlets and 18 more flats were identified.</p>		
20.A(a)	Inventory of sources of pollution through a rapid study/Study for identification of pollution sources at Edapallythodu	Kochi Municipal Corporation	3 months	Survey completed by HI and JHI of KMC. Location of waste disposal in TP canals and Edappallythodu	Survey completed by Hland JHI of KMC. Location of waste disposal in TP canals and edappallythodu were identified. Closing		

				was identified. Closing of outlet exposed to drains of TP canals is taken as a joint work by Engineering and Health wing of KMC. Work mainly focused on four zones. They are Central zone,Edappally zone,Pachalam zone and Vytilla zone.	of outlet exposed to drains of TP canals is taken as a joint work by Engineering and health wing of KMC.Work mainly focused on four zones. They are Central zone, Edappally zone, Pachalam zone and Vytilla zone. Responsibility of closing outlet of drain was entrusted to engineering wing and necessary advance has been released for concerned Assistant engineer/Overseer. Details of closed outlets to Edappallythodu – 4 outlets of households and 6 outlets from flats.		
21.E	Issuing notice to the defaulters	Kochi Municipal Corporation	4 months	Inspection is going on. Further actions are taken.	Inspection is going on. Further actions are taken.		
22.A(a)(iv)	Periodical inspection in the flats, hotels, shops located along the river	Kochi Municipal Corporation	Periodical	Inspection in progress	Inspection in progress		Being carried out periodically
23.A(b)	Identification of natural drains/thodu reaching river Periyar and cleaning of weeds, grasses etc.	Irrigation department	2 years	4 polluted streams have been identified. The Estimate has been submitted for restoration works.	4 polluted streams have been identified. The Estimate has been submitted for restoration works.		Detailed estimate submitted to higher authority

				Financial sanction was not yet received. Onjithodu soil test conducted. Streams have been included in Operation Vahini.	Financial sanction was not yet received. Onjithodu soil test conducted. Streams have been included in Operation Vahini.		for FS. FS not obtained.
24.C(iii)	Clearing of weeds, grasses at the river bank in order to ensure the smooth flow of water	Irrigation department	3 years	The cleaning of river tributaries and desilting is jointly implemented by Local self government department and irrigation through Operation Vahini. Once this cleaning and desilting is completed the water table will increase and which in turn reduces the pollution. Measures are being taken to ensure the natural flow of the river. Desilting work in progress. For the remaining work, request have been submitted to RRC along with the DPR. Financial sanction to be received. The DIC has informed to clear off the grasses and weeds which are obstructing the smooth flow of drains in the industrial estate. DIC has informed that	The cleaning of river tributaries and desilting is jointly implemented by Local self government department and irrigation through Operation Vahini. Once this cleaning and desilting is completed the water table will increase and which in turn reduces the pollution. Measures are being taken to ensure the natural flow of the river. Desilting work in progress. For the remaining work, request have been		

				<p>instruction has been given to Estate Manager and Associations regarding this. All the 28 units have completed the clearing work. River side units have cleared the weeds and grass within their compound.</p>	<p>submitted to RRC along with the DPR. Financial sanction to be received. The DIC has informed to clear off the grasses and weeds which are obstructing the smooth flow of drains in the industrial estate. DIC has reported that they have directed Estate Manager to ensure that the units near Periyar river banks are clearing the grass in their unit premises periodically.</p>		
25.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	Shutters are being operated periodically at the Pathalam lock cum regulator to maintain the flow of river	Shutters are being operated periodically at the Pathalam lock cum regulator to maintain the flow of river		

26.A(b)	Common Effluent Treatment Plant at Edayar Industrial Estate	Industries department	2022	<p>For the establishment of CETP a government order has come sanctioning Rs. 37.5 Crore to DIC. KWA is entrusted to implement the project. DPR for the same has been submitted. The project is under Government consideration. In the approved amount operational maintenance cost and GST was not included. In the Chief Secretary's meeting held on 23.08.2022, for the revision of CETP project proposal 3 months time has been allotted.</p>	<p>For the establishment of CETP a government order has come sanctioning Rs. 37.5 Crore to DIC. KWA is entrusted to implement the project. DPR for the same has been submitted. The project is under Government consideration. In the approved amount operational maintenance cost and GST was not included. In the Chief Secretary's meeting held on 23.08.2022, for the revision of CETP project proposal 3 months time has been allotted.</p>		
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27.A(b)	Construction of internal roads and proper drainage in Edayar industrial estate	Industries department	Work progressing	For the construction of internal roads and drainage in Edayar industrial estate, Rs. 6.54 crore has been handed over to PWD. The work will be starting soon.	The construction of roads & drains in Industrial Development Area in Edayar was not yet started. A meeting was arranged with P.W.D on 23.01.2023. They have intimated that the work will be started soon.		
28.A(b)	Installation of common discharge pipe line at downstream of Pathalam Regulator Bridge	Industries department, Irrigation department	3 years	It was decided to include the project of installing the common discharge pipeline in the DPR of CETP. Under this circumstance, the work comes under the responsibility of KWA.	It was decided to include the project of installing the common discharge pipeline in the DPR of CETP. Under this circumstance, the work comes under the responsibility of KWA.		
29.E	Installation of Night vision surveillance cameras at the River Bank side	KSPCB	2020	The CCTV cameras and accessories have been installed. 7 new cameras have been installed. Maintenance of two cameras in progress.	The CCTV cameras and accessories have been installed. 7 new cameras have been installed. Maintenance work of two cameras is completed. It will be		

					fixed soon.		
30.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.		
31.A(a)(iv)	Monitoring of quality of water at various intake point	Kerala Water Authority	2020	Status not reported	Status not reported		
32.A(a)(iv)	Installation of additional continuous online River water monitoring station	KSPCB	2022	The maintenance works of Online monitoring station in the downstream side of Pathalam Bund have been completed and is working. Online monitoring station in the upstream side has been installed. Connection work to display board in progress.	The maintenance works of Online monitoring station in the downstream side of Pathalam Bund have been completed and is working. Online monitoring station in the upstream side has been installed. Connection work to display board in progress.		
33.A(b)	Identification of the establishments/commercial complexes/flats/houses/hotels etc who is discharging the sewage to the public drain	Kadungallur Panchayath	2020	5 ward members have been appointed for monitoring the defaulters. Also, the respective ward members and Standing	Joint inspections were done by Heath Inspector & Asha workers.		

				Committee chairman have been entrusted for identification of defaulters. Inspection in progress. Notice issued to defaulters			
34.E	Installation of cameras at the waste dumping spots	Kadungallur Panchayath	2020	6 cameras have been installed near Onjithodu. Total Rs. 25000/- have been levied as fine.	6 cameras have been installed near Onjithodu. Waste diposal was controlled to 100% . An amount of Rs. 2000/- have been levied as fine in this month.		
35.A(b)	Identification of the establishments/commercial complexes/flats/houses/hotelse tc. who is discharging the sewage to the public drain	Choornikkara Panchayath	2020	Inspection and monitoring is performed regularly to identify the offenders. Issual of notice to those offenders is also being done regularly. 4 flats have been identified and reported to KSPCB.	Inspection and monitoring is performed regularly to identify the offenders. Issual of notice to those offenders is also being done regularly. 4 flats have been identified and reported to KSPCB.		
36.E	Installation of cameras at the waste dumping spots	Choornikkara Panchayath	2020	12 Cameras have been already installed on waste dumping spots. One more camera installation is left. The fund for remaining camera will be arranged	Rs. 2 lakhs were allocated for camera installation. As per the availability of Sponsors work will be completed within 31 st March.		

				through sponsorship.			
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LONG TERM MEASURES

No. (as per Action Plan)	Activity	Implementin g agency	Time line	Progress in the month of November2022	Progress in the month of December 2022	% works completed	Details of works remaining
1.A(b)	Construction of walkway, ring roads etc at the Periyar River bank at industrial belt.	Irrigation department	4 years	Investigation and detailed Estimate Submitted and waiting for FS	Investigation and detailed Estimate Submitted and waiting for FS		FS not obtained for the work

2.C(i)	Fencing of the river banks along the stretches of waste disposal (Edamula stretch)	Cochin Municipal Corporation	1-2 years	<p>Edappally Thodu, which is a tributary of Periyar river touches Cochin Corporation Boundary for a small stretch. The other side of this thodu is belonging to LSGs like Kalamassery, Thrikkakkara, Eloor etc. The work of rejuvenation of Edappally Thodu is included under the IURWTS project of Kochi Metro Rail Limited. The progress of the works undertaken by KMRL is reported as follows.</p> <p>a) Applied for land acquisition works for various canal, it's on processing under revenue department.</p> <p>b) As no land acquisition is needed for market canal, work of it will be carried out this year. KIIFB is the funding agency for the work. Tender process for the work is going on.</p>	<p>The work of rejuvenation of Thevara-Perandoor (TP) Canal is included under the IURWTS project of Kochi Metro Rail Limited. The progress of the works undertaken by KMRL is reported as follows.</p> <p>b) Market canal, work will be carried out this year. KIIFB is the funding agency for the work. Tender bid had opened for the work on 30-09-2022 Tender has cancelled and going for retendering.</p>		
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3.C(iii)	Beautification of the river stretches (Edamula stretch)	Cochin Municipal Corporation	1-2 years	Beautification work has been included in the KMRL IURWTS project. Due to the prevailing public protest, land acquisition procedure is being delayed	Beautification work has been included in the KMRL IURWTS project. Due to the prevailing public protest, land acquisition procedure is being delayed. DPR will be prepared by Coastal Shipping Inland Navigation. The work will be commenced as soon as T.S is obtained.		
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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	Progress in the month of October 2022	Progress in the month of November2022	Progress in the month of December2022	% 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 water 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					

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 KARUVANNUR, THRISSUR

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">• Specifying accountability of nodal authorities not below the Secretary level• Chief Secretaries may have an accountable person attached in their office for this purpose		
	<ul style="list-style-type: none">• Monitoring at State level must take place		
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none">• Secretary, Ministry of Jal Shakti• Member Secretary, CPCB		

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&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 & 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 KARUVANNUR, KERALA
SHORT TERM MEASURES**

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of October 2022	Progress in the month Of November 2022	Progress in the month of December 2022	% works complete d	Details of works remainin g
Thirukuzhy thodu								
A(a)(iv)	Surveillance to restrict dumping of wastes into river and its branches	Vallachira Panchayat with the help of Police		-	-	-		
E	Cleaning and desilting of canal	Irrigation Department and Vallachira Panchayat	4months	ടി തോടി ന്റെ ഭൂരിഭാ ഗം നീളവു ം നിലവി ലില്ല എന്നു ം ശേഷി ക്കുന്ന ഏകദേ ശം 15 മീറ്ററേ റളം	ടി തോട ിന്റെ ഭൂരിഭ ാഗം നീള വും നില വിലി ല്ല എന്ന ും ശേ ഷി ക്കു ന്ന	ടി തോടി ന്റെ ഭൂരിഭാ ഗം നീളവ ും നിലവ ിലില്ല എന്നു ം ശേഷി ക്കുന്ന ഏകദേ ദശം 15	10 0	ni l

				<p>വരുന്ന ഭാഗം തൊഴി ലുറപ്പ് പദ്ധതികൾ ഉൾപ്പെടുത്തി എല്ലാ വർഷവും വൃത്തിയാക്കുന്നു എന്ന് പഞ്ചായത്ത് അധികൃതർ അറിയിച്ചിട്ടുണ്ട്.</p> <p>ആയതിനാൽ ടിപ്രവൃത്തി ആവശ്യമില്ല എന്ന ജനപ്രതിനിധികളും,</p>	<p>ഏകദേശം 15 മീറ്റേറാളം വരുന്ന ഭാഗം തൊഴിലുറപ്പ് പദ്ധതികൾ ഉൾപ്പെടുത്തി എല്ലാ വർഷവും വൃത്തിയാക്കുന്നു എന്ന് പഞ്ചായത്ത് അധികൃതർ അറിയിച്ചിട്ടുണ്ട്.</p> <p>ആയതിനാൽ ടിപ്രവൃത്തി ആവ</p>	<p>മീറ്റേറാളം വരുന്ന ഭാഗം തൊഴിലുറപ്പ് പദ്ധതികൾ ഉൾപ്പെടുത്തി എല്ലാ വർഷവും വൃത്തിയാക്കുന്നു എന്ന് പഞ്ചായത്ത് അധികൃതർ അറിയിച്ചിട്ടുണ്ട്.</p> <p>ആയതിനാൽ ടിപ്രവൃത്തി ആവ</p>		
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				<p>കർഷകരും അഭിപ്രായപ്പെട്ടു എന്ന വിവരം അസിസ്റ്റന്റ് എഞ്ചിനീയർ, മൈനർ ഇറിഗേഷൻ സെക്ഷൻ, ചേർപ്പ് സ്ഥല പരിഷോധനയ്ക്കു ശേഷം റിപ്പോർട്ട് ചെയ്തിട്ടുള്ളതായി എക്സിക്യൂട്ടീവ് എഞ്ചിനീയർ, മൈനർ</p>	<p>അറിയിച്ചിട്ടുണ്ട്. ആയതിനാൽ ടിപ്രവൃത്തി ആവശ്യമില്ല എന്ന ജനപതിനിധികളും, കർഷകർഷകരും അഭിപ്രായപ്പെട്ടു എന്ന വിവരം അസിസ്റ്റന്റ് എഞ്ചിനീയർ, മൈനർ ഇറിഗേഷൻ സെക്ഷൻ, ചേർപ്പ് സ്ഥല പരിഷോധനയ്ക്കു ശേഷം റിപ്പോർട്ട് ചെയ്തിട്ടുള്ളതായി എക്സിക്യൂട്ടീവ് എഞ്ചിനീയർ, മൈനർ ഇറിഗേഷൻ</p>	<p>ശ്രദ്ധിക്കുന്ന ജനപതിനിധികളും, കർഷകരും അഭിപ്രായപ്പെട്ടു എന്ന വിവരം അസിസ്റ്റന്റ് എഞ്ചിനീയർ, മൈനർ ഇറിഗേഷൻ സെക്ഷൻ, ചേർപ്പ് സ്ഥല പരിഷോധനയ്ക്കു ശേഷം റിപ്പോർട്ട് ചെയ്തിട്ടുള്ളതായി എക്സിക്യൂട്ടീവ് എഞ്ചിനീയർ, മൈനർ ഇറിഗേഷൻ</p>		
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				<p>ർ ഇറിഗേഷൻ ഡിവിഷൻ, തൃശ്ശൂർ അറിയ ിച്ചിട്ടു □ .</p>	<p>ഗഷ ൻ സെ ക്ഷൻ , ചേർ പ്പ് സ്ഥ ല പരിഭ ശാധ നയ് ക്കു ശേ ഷം റിപ്പോ ർട്ട് ചെയ് തിട്ടു ള്ളത ായി എക് സിക് ്യൂട്ടീ വ് എ ഞ്ചിന ീയർ, മൈ നർ ഇറിഗേഷൻ ഡിവിഷൻ, </p>	<p>തിട്ടുള്ള തായ 1 എക് സിക്യൂട്ടീവ് എഞ്ചിനീയർ, മൈനർ ഇറിഗേഷൻ ഡിവിഷൻ, തൃശ്ശൂർ അറിയ ിച്ചിട്ടു □ .</p>		
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					തൃശ്ശൂർ അറിയിച്ചിട്ടുണ്ട്.			
Thodu near Kadalassery bridge								
A(b)	Identification of pollution sources and surveillance to restrict dumping of wastes	Vallachira, Pudukad & Nenmanikkara Panchayats	1 month	Ongoing	Ongoing	Ongoing	100	0
E	Cleaning and desilting	Irrigation Department and Vallachira Panchayat	4months	ടി പ്രവൃത്തിയ്ക്കായി 2.7 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് ജൂലൈ 3.0 ൽ തയ്യാറാക്കി 15/09/2022 ന് ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും ഭരണവും തിരുവനന്തപുരത്തിന് സാമ്പത്തികാനുമതിയ്ക്കായി സമർപ്പിച്ചിട്ടുണ്ട് .				
Neerolithodu								
E	Cleaning and desilting	Irrigation Department	4months	ടി പ്രവൃത്തിയ്ക്കായി 10.00 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് ജൂലൈ 3.0 ൽ തയ്യാറാക്കി 15/09/2022 ന് ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും ഭരണവും തിരുവനന്തപുരത്തിന് സാമ്പത്തികാനുമതിയ്ക്കായി സമർപ്പിച്ചിട്ടുണ്ട് .				
Painkilikayal thodu								
E	Cleaning and desilting	Irrigation Department and Vallachira Panchayat	4months	ടി പ്രവൃത്തിയ്ക്കായി 15.00 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് ജൂലൈ 3.0 ൽ തയ്യാറാക്കി 15/09/2022 ന് ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും ഭരണവും തിരുവനന്തപുരത്തിന് സാമ്പത്തികാനുമതിയ്ക്കായി സമർപ്പിച്ചിട്ടുണ്ട് . നടപ്പിലാക്കുന്നതിന് ഫണ്ട് ലഭ്യമായിട്ടില്ല.				

		Kadathodu							
A(b)	Identification of pollution sources and surveillance to restrict the dumping of wastes	Vallachira & Nenmanikkara Panchayats	1 month	Ongoing	Ongoing	Not included in the Nenmanikkara Gramma panch ayath	100	0	
E	Cleaning and desilting	Irrigation Department	4months	ടി പ്രവൃത്തിയ്ക്കായി 9.5 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് ജൂൺ 3.0 ൽ തയ്യാറാക്കി 15/09/2022 ന് ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും ഭരണവും തിരുവനന്തപുരത്തിന് സാമ്പത്തികാനുമതിയ്ക്കായി സമർപ്പിച്ചിട്ടുണ്ട്.					
		Main Stream –along Karuvannur							
A(a)(iv)	Periodic Surveillance to restrict the dumping of waste into river and imposing Fine	Irinjalakkuda Municipality, Police Dept.		Presently no such dumping of waste. Square inspection ongoing well including night squad	Presently no such dumping of waste. Squad inspection ongoing well including night squad.	Presently no such dumping of waste. Squad inspection ongoing well including night squad.			
A(b)	Sanitation Survey	Irinjalakkuda Municipality	3 Months	100% Completed	100% Complete d	100% Completed			
A(b)	Closing of all un authorized outlets leading to the river	Irinjalakkuda		Inspection is going on.	Inspection is going on.	Inspection is going on.			

		Municipality		There is no unauthorized outlets leading to the river.	There is no unauthorized outlets leading to the river.	There is no unauthorized outlets leading to the river.		
A(b)	Closing of all un authorized outlets in the drain leading to the river	Irinjalakkuda Municipality		There is no unauthorized outlets in the drain leading to the river.	There is no unauthorized outlets in the drain leading to the river	There is no unauthorized outlets in the drain leading to the river		
E	Boards to display slogans against littering waste in various Places other IEC Activities Like posters, notices and classes	Irinjalakkuda Municipality	6 months	Installed boards along Karuvannur river side against littering waste and animal bath. Board installation process is going on in various places of municipal	Installed boards along Karuvannur river side against littering waste and animal bath. Board installation process is going on in various	Installed boards along Karuvannur river side against littering waste and animal bath. Board installation process is going on in various places of municipal		

				area. We used tp conduct surveys, distributed notices to all the houses near to the riverside.	places of municipal area. We used tp conduct surveys, distributed notices to all the houses near to the riverside.	area. We used tp conduct surveys, distributed notices to all the houses near to the riverside.		
Monitoring								
A(a)(iv)	River water quality monitoring	KSPCB	Ongoing; monthly frequency	Monitoring is going on September monthly basis	Monitoring is going on October monthly basis	Monitoring is going on October monthly basis		
A(b)	Inspection & effluent quality monitoring of the Flats, industrial units, service stations, hospitals,hotels etc	KSPCB	Ongoing	Going on September monthly basis.	Going on October monthly basis.	Going on October monthly basis.		
Long Term Plan								
A(b)	Sewage treatment facilities to all house holds	Vallachira Grama Panachayat	1 yr	Nil	Nil		100	0

A(b)	Construction of FSTP and STP	Irinjalakkuda Municipality	2 years	Construction of STP plant at General Hospital, Irinjalakuda – DPR approved by Suchitwa Mission	Construction of STP plant at General Hospital, Irinjalakuda – DPR approved by Suchitwa Mission	Construction of STP plant at General Hospital, Irinjalakuda – DPR approved by Suchitwa Mission		
C(ii)	Setting up of a modern crematorium at Mandarakkadavu, Arattupuzha	Vallachira Grama Panachayat	2 years	No Fund	No fund			100
C(ii)	Solid waste treatment facility	Vallachira Grama Panachayat	2 years		100%		Mini MCF	
C(ii)	Construction of Windrow composting plant	Irinjalakkuda Municipality	2 years	Windrow Compost plant having 4 ton capacity. Construction has been already completed. Presently it is functioning well and	Windrow Compost plant having 4 ton capacity. Construction has been already completed. Presently it is functioning	Windrow Compost plant having 4 ton capacity. Construction has been already completed. Presently it is functioning well and producing Bio manure for sale.		

				producing Bio manure for sale.	well and producing Bio manure for sale.			
E	Rejuvenation of Kanathodu	Irrigation Department	1 year	ടി പ്രവൃത്തിയ്ക്കായി 10.00 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് Price 3.0 ൽ തയ്യാറാക്കി 15/09/2022 ന് ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും ഭരണവും തിരുവനന്തപുരത്തിന് സാമ്പത്തികാനുമതിയ്ക്കായി സമർപ്പിച്ചിട്ടുണ്ട് .				
E	Installation of CCTV for Surveillance to prevent the dumping of waste in to the river	Irinjalakkuda Municipality	2 years	Police Department installed CCTV and currently functioning Near Karuvannur Bridge	Police Department installed CCTV and currently functioning Near Karuvannur Bridge	Police Department installed CCTV and currently functioning Near Karuvannur Bridge		

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 September 2022	Progress in the month of October 2022	Progress in the month of November 2022	% 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	According to the latest GEC report there is no critical / over exploited blocks in Thrissur Dt.	According to the latest GEC report there is no critical / over exploited blocks	According to the latest GEC report there is no critical / over exploited		

				in Thrissur Dt.	blocks in Thrissur Dt.		
2	B(ii)	Ground water recharging / rain water harvesting					
3	B(iii)	Periodic ground water quality assessment and remedial actions in case of contaminated ground water tube wells/bore wells or hand pumps	Water level data collected from GWD observation wells.	Water level data collected from GWD observation wells.	Water level data and water samples collected from GWD observation wells.		
4	B(iv)	For regulating use of ground water for irrigation purpose, adopting good irrigation practices	-	-	-	-	-

ACTION PLAN BY GRAMAPANCHAYATH

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of September 2022	Progress in the month of October 2022	Progress in the month of November 2022	% works completed	Details of works remaining
C	MANALIPUZHA RIVER PROTECTION -Jalaraksha Jeevaraksha - Manalipuzha conservation	Vallachira Grama Panchayath	1 year	Nil	Nil	Nil	1000m	500m

C	Setting up of Nursery for Bamboo seedlings in Kadalassery	MGNREGS	31.03.2020	TS SANCTIONED, BUT NOT PUBLIC PLACE	TS SANCTIONED, BUT NOT PUBLIC PLACE	TS SANCTIONED, BUT NOT PUBLIC PLACE	25	75
C	Side protection of Manalippuzha with organic materials available locally	MGNREGS	31.03.2020	Nil	Nil	Nil	25	75
C	Side Protection of Manalippuzha with Bamboo plants	MGNREGS	31.03.2020	Nil	Nil	Nil	100	0
C	Deepening & Protecting Muttikkal Thodu by Spreading Geo Textiles	MGNREGS	31.03.2020	600 m	600 m	600 m	100	0
C	Cluster 2-Kurumaly puzha sub river bed -Project document preparation	Puthukkad Panchayath	1 year	Documentation completed	Documentation completed	Documentation completed	100	Documentation completed
C	Manalippuzha River Protection-Jala Raksha, Jeeva Raksha , Survey and Tree Plantation	Nenmenikkara Grama Panchayat	31.03.2020	3.5 km survey	3.5 km survey out of 7 k.m.	3.5 km survey out	50 %	3.5 k.m. survey yet

				out of 7 k.m have been completed and survey posts have been fixed	have been completed and survey posts have been fixed.	of 7 k.m. have been completed and survey posts have been fixed.		to be completed
C	Manalipuzha River protection	MGNREGS	31.03.2020	3.5 km survey out of 7 k.m have been completed	3.5 km survey out of 7 k.m have been completed and survey posts have been	. 3.5 km survey out of 7 k.m. have been completed & survey posts have been fixed		As survey did not complete

				and survey posts have been fixed.	fixed.			
A(b)	Protection and reconstruction and protection of Paliyekkara Kayalathod	MGNREGS	31.03.2020	COMPLETED	COMPLETED	COMPLETED	100 %	COMPLETED
A(b)	Reconstruction and protection of Paliyekkara Karama Thodu	MGNREGS	31.03.2020	COMPLETED	COMPLETED	COMPLETED	100 %	COMPLETED

KARUVANUR

Date of sampling

03.11.2022

SL. NO	PARAMETER	UNIT	KT	MRK	KND	MDK	THR	KRV
1	PH		8.31	7.7	7.58	8.05	8.62	7
2	EC	µ/cm	112	134.4	145	210.2	149	82.97
3	BOD	mg/L	2.87	1.39	2.96	2.29	1.71	1.65
4	DO	mg/L	7.24	6.15	6.66	7.24	7.16	8.24
5	COD	mg/L	4	4	4	8	4	8
6	TC	CFU/100 ml	800	400	500	700	600	500
7	FC	CFU/100 ml	250	250	150	150	150	150
8	FSC	CFU/100	NIL	NIL	NIL	NIL	NIL	NIL

		ml						
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KT - KANAKKAN KADAVU, KARUVANNUR

MRK - NEEROLI THODU

KND - KANATHODU, KARUVANNUR

MDK - MUTTIKKAL DAM, KARUVANNUR

THR- THIRUKUZHI, KARUVANNUR

KRV - PAINKILIKAYAL THODU, KARUVANNUR

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 KECHERY, THRISSUR

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">• Specifying accountability of nodal authorities not below the Secretary level• Chief Secretaries may have an accountable person attached in their office for this purpose		
	<ul style="list-style-type: none">• Monitoring at State level must take place		
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none">• Secretary, Ministry of Jal Shakti• Member Secretary, CPCB		

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&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 & 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 KECHERY, KERALA

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of October 2022	Progress in the month of November202 2	Progress in the month of December 2022	% works complete d	Details of works remaining
WADAKKENCHERY RIVER -SHORT TERM MEASURES								
A(b)	Identification of illegal outlets from houses and shops/other establishments in town and imposing fine	Wadakkanchery Municipality, Ayyakali Urban Employment Guarantee Scheme & health squad	Completed	Polluting Sources & Illegal outlets were identified, notice issued as per Kerala Municipal Act and removed.	Polluting Sources & Illegal outlets were identified, notice issued as per Kerala Municipal Act and removed.			

				Doing regula r inspec tion	Doing regular inspecti on.			
E	Installat ion of CCTV s on the bank of river in town	Wadakkanchery Municipality	31.03.2022		It has been informe d that steps have been taken to obtain approv al from the councili l to get funds for setting up CCTV		0%	Work not started due to scarcity of Municipal fund

C(ii)	Material recovery facility	Wadakkanchery Municipality	Completed					
C(ii)	Resource recovery facility	Wadakkanchery Municipality	Completed					
C(ii)	Renovation of existing biogas plant	Wadakkanchery Municipality	Completed					Presently functioning well
Monitoring								
A(a)(iv)	River water quality monitoring	KSPCB	Monthly Monitoring in progress	Analysis report for the month of November enclosed herewith	Analysis report for the month of October enclosed herewith			Continuing
A(b)	Inspection & effluent quality monitoring of the Flats, industrial units, service stations, hospitals,hotels etc	KSPCB	Ongoing	Ongoing	Ongoing	Ongoing		Continuing
Long Term Plan								
E	Identification and cleaning of polluted drains reaching wadakkancheri river	Irrigation Dept	30-03-2022	Estimate submitted for fund	Estimate submitted for FS.			Estimate submitted for FS.
A (b)	Common STP	Wadakkanchery Municipality, Kerala	March 2022	Topographical survey completed .	Topographical survey			Site for one STP identified. Applied for

		Infrastructure Investment Fund Board		Site identified and report submitted before Hon. District Collector for getting land	completed . Site identified and report submitted before Hon. District Collector for getting land.			NOC from District Collector (Land is Puzha Puramboke and Irrigation Department Canal Puramboke)
C(ii)	Windrow composting at Kumbalangad yard	Wadakkanchery Municipality	March 2022	Construction of windrow compost plant work completed and trial run started	Construction of windrow compost plant work completed	Construction of windrow compost plant work completed	90% work completed	Construction of windrow compost plant work completed and trial run started
C(ii)	Modern slaughter House	Wadakkanchery Municipality, Kerala Infrastructure Investment Fund	March 2022	Lack of suitable site for the project	Lack of suitable site for the project	Lack of suitable site for		Lack of suitable site for the project

		Board		t		the project		
E	Forestation, desilting & deepening of Wadakkanchery river and fitting river side with coir geo net	Wadakkanchery Municipality	desilting deepening of Wadkanchery River 3 km in Municipal area completed 7655m ³ desilt removed	Fitting river side with Coir Geo Net. Awaiting Municipal Council Decision for fund allocation	Fitting river side with Coir Geo Net. Awaiting Municipal Council Decision for fund allocation	Fitting river side with Coir Geo Net. Awaiting Municipal Council Decision for fund allocation		Fitting river side with Coir Geo Net. Awaiting Municipal Council Decision for fund allocation
	Rain water harvesting	Wadakkanchery Municipality	Ongoing work					
	Ground water recharge	Wadakkanchery Municipality	Ongoing work					
	River survey	Wadakkanchery	Ongoing work					

		Municipality						
	Regulating activities in flood plain zone, protection and management of flood plain zone	Wadakkanchery Municipality	30-03-2022	As part of the action plan prepared in relation to the revival of Kecheri River, the plastic wastes that have fallen into the river have been included in	As part of the action plan prepared in relation to the revival of Kecheri River, the plastic wastes that have fallen into the river have been included in the Job Guaran	As part of the action plan prepared in relation to the revival of Kecheri River, the plastic wastes		

				<p>the Job Guarantee Project and removed. 913741 rupees were spent in this work. Garbage that fell due to rain was removed in many places.</p>	<p>tee Project and removed. 913741 rupees were spent in this work. Garbage that fell due to rain was removed in many places.</p>	<p>that have fallen into the river have been included in the Job Guarantee Project and removed. 913741</p>		
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						rupees were spent in this work. Garbage that fell due to rain was removed in many places.		
	Greenery development Plantation plan. Plantation on both sides of the river, settling up biodiversity parks on flood plains by removing encroachment	Wadakkanchery Municipality	30-03-2022	Bambo o sapling	Bambo o sapling	Bam boo sapli		

				s were planted on both sides of the river through "Wada kancherry riverside afforestation". 155976 rupees were spented for this work. The garbage in	s were planted on both sides of the river through "Wada kancherry riverside afforestation". 155976 rupees were spented for this work. The garbage in the flood-prone areas	ngs were planted on both sides of the river through "Wadakerri riverside afforestation". 155976 rupees		
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				<p>the flood-prone areas has been removed and the flow has been facilitated.</p>	<p>has been removed and the flow has been facilitated.</p>	<p>es were spent for this work. The garbage in the flood-prone areas has been removed and the</p>		
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								flow has been facilitated.	
Short term plan (Kecheri river)									
E	Installation of CCTV in different locations along river side	PWD Electronic division		Progress has not been reported	Progress has not been reported				Including 2022-23 project
E	Fixing Boards	Choondal Grama Panchayat	Completed						Board fixed (including 2021-22 project)
A(a)(iv)	Surveillance to prevent flow of sewage /effluent to river	Choondal Grama Panchayat	Ongoing						Action taken
A(b)	Stoppage of effluent from residential apartment (Shajan's flat) and pig farm into the river	Choondal Grama	Action						Stop Memo

		Panchayat	taken						Had been Given to Concerned persons
Long Term Plan (Kecheri river)									
E	Side protection by fixing coir geo nets	Choondal Grama Panchayat	Not started	Not started	Primary action started	Primary action started			
E	Survey process of Kechery river portion belong to Choondal Grama Panchayat to mark the boundary and encroachment	Revenue Department	completed	completed	completed	completed			
E	Laying of survey station	Choondal Grama Panchayat	completed	completed	Completed	Completed			
E	Digital mapping and seminar on pollution control	Forestry College, Vellanikkara	31/05/2020	Not started	completed	completed			

IRRIGATION DEPARTMENT

No.	Activity	Implementing agency	Time line	Progress in the month of October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% works completed	Details of works remaining
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1	Issues relating to E-flow, maintaining minimum environmental flow of river(by having watershed management provisions)	Irrigation Department	30-03-2022	കേരള പുഴയുടെ പാരിസ്ഥിതിക നീരൊഴുക്ക് പഠനം (E-flow) പൂർത്തിയാക്കി റിപ്പോർട്ട് 18/05/2022 ന് ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും, ദരണവും, തിരുവനന്തപുരത്ത് സമർപ്പിച്ചിട്ടു.	കേരള പുഴയുടെ പാരിസ്ഥിതിക നീരൊഴുക്ക് പഠനം (E-flow) പൂർത്തിയാക്കി റിപ്പോർട്ട് 18/05/2022 ന് ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും, ദരണവും, തിരുവനന്തപുരത്ത് സമർപ്പിച്ചിട്ടു.	കേരള പുഴയുടെ പാരിസ്ഥിതിക നീരൊഴുക്ക് പഠനം (E-flow) പൂർത്തിയാക്കി റിപ്പോർട്ട് 18/05/2022 ന് ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും, ദരണവും, തിരുവനന്തപുരത്ത് സമർപ്പിച്ചിട്ടു.		
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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	Progress in the month of October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% 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	According to the latest GEC report there is no critical / over exploited	According to the latest GEC report there is no critical / over exploited blocks	According to the latest GEC report there is no critical / over		

C	Punarjani Kecherri river	Choondal Grama Panchayat	Completed					Flood Wastes from the river has been removed and made water flow easily which reduced chances of flood .
C(ii)	Surveying of river side, eviction and planting trees	Choondal Grama Panchayat						Survey completed
C	Side Protection	Choondal Grama Panchayat	Completed					
C	Bio fencing related to river bank protection – water and soil Conservation project ward 3,4,7	MGNRES	Not started					

KECHERI RIVER				
Date of sampling -11.11.2022				
SL. NO	PARAMETER	UNIT	VAD1	VAD2
1	pH	-	7.82	8.15
2	Electrical Conductivity	µs/cm	172.8	236
3	BOD	mg/L	1.92	1.6
4	DO	mg/L	8.24	7.24
5	COD	mg/L	8	12
6	TC	CFU/100ml	600	350
7	F C	CFU/100ml	300	50
8	FSC	CFU/100ml	NIL	NIL
VAD1 - WADAKKANCHERY PUZHA (WADAKKANCHERY BRIDGE), KECHERY				
VAD2 - WADAKKANCHERY PUZHA(CHALIPPADAM ROAD), KECHERY				

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 PUZHAKKAL, THRISSUR

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	31.12.2022	In progress
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured	31.12.2022	In progress
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning		STP completed initial PCB NOC obtained.
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none">• Specifying accountability of nodal authorities not below the Secretary level• Chief Secretaries may have an accountable person attached in their office for this purpose		1. 360 KLD Sewage Treatment Plant for General Hospital, Thrissur Administrative Sanction has been accorded for this project vide GO (Rt) No. 5/2018/LSGD dated 01/01/2018 for Rs. 3.52Cr. TS accorded for Rs. 3.52Cr from the technical committee constituted for AMRUT sewerage projects. Work has

		<p>been awarded to M/s Green Eco Water Systems, Hyderabad. Agreement executed on 14/10/2020. Consent to establish obtained from PCB on 17/12/2020. Even after conducting several meetings with the contractor, contractor has not started the work. Hon.Council dated 29.01.2022 decided to terminate the contract under risk and cost of the contractor and also to black list the contractor. It has been also decided by the council to invite limited tender from accredited agencies as per rules. Now the schedule of rate changed from approved estimate. Corporation council dated 31.08.2022 approved the recasted estimate amounting to Rs. 4.50 cr. Revised AS obtained for Rs. 4.5 cr. vide GO(Rt) No. 3222/22/LSGD dtd:</p>
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		<p>27.12.2022. Revised technical sanction obtained for Rs. 4.50 Cr. on 18.12.2022 open technology tender invited on 21.12.2022.</p> <p>100KLD Septage Treatment Plant at Ramavarmapuram,Thrissur</p> <p>Administrative Sanction has been accorded for this project vide GO (Rt) No. 5/2018/LSGD dated 01/01/2018 for Rs. 3.50Cr.TS accorded for Rs. 3.10 Cr from the technical committee constituted for AMRUT sewerage projects. Selection memo has been issued to M/s Green Eco Water Systems, Hyderabad. Hon. Council has decided to get the consent to establish from PCB first and then to proceed for further steps of executing agreement. Consent to establish obtained from PCB on 28/05/2021.Contractors has not executed the agreement even after issuing several notices in this regard. Hon.Council dated 29.01.2022</p>
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			<p>decided to terminate the contract under risk and cost of the contractor and also to black list the contractor. It has been also decided by the council to invite limited tender from accredited agencies as per rules. Now the schedule of rate changed from approved estimate. Revised technical sanction for the recast estimate amounting to Rs. 3.5 Cr. obtained on 18.12.2022. Open technology tender invited on 21.12.2022.</p>
	<ul style="list-style-type: none"> • Monitoring at State level must take place 		
6	<p>Progress report may be furnished by the State/UTs to</p> <ul style="list-style-type: none"> • Secretary, Ministry of Jal Shakti • Member Secretary, CPCB 		

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&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 & 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 PUZHAKKAL, KERALA
SHORT TERM MEASURES**

No. (as per Action Plan)	Activity	Implementin g agency	Time line	Progress in the month of October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% works comple ted	Details of works remaining
A(b)	Identification of illegal outlets into the Panchikkal thodu and subsidiary drains	Thrissur Corporation	3 month s		0	0	8 7 %	
A(b)	Stoppage of discharge of waste water from the surrounding houses and institutions to the drains which leads to Panchikkal thodu	Thrissur Corporation	6 month s	3	5	10	8 8	0
A(b)	Ensure adequate treatment facility is provided for waste water and solid waste generated from Sri Dharma Sastha temple situated on the banks of the river	Adat Grama Panchayat				Imposed fine of 10000 rupees for noncompliance of directions from Adat gp , regarding construction of		Instruction has been provide to temple authorities for construction of waste

						adequate sock pit for waste water , river pollution		disposal facilities accordanc e with swm2016
E	Desilting of Karakattuchal	Irrigation Department	4 month s	ടി പ്രവൃത്തി ക്കായി 10 ലക്ഷം രൂപയു ടെ എസ്റ്റിമേ റ്റ് പ്രൈസ് 3 യിൽ തയ്യാറാ ക്കി പ്രപ്പോസ ൽ സാമ്പത്ത ികാനുമ തി ലഭിക്കു ന്നതിനാ യി സുപ്രി ണ്ട് എഞ്ചിനി യർ, മൈനർ ഇറിഗേഷ	ടി പ്രവൃ ത്തിയ് ക്കായി 10.00 ലക്ഷം രൂപയ ുടെ എസ്റ്റി മേറ്റ് ജുശര ല 3.0 ൽ തയ്യാറ ാക്കി 15/09/ 2022 ന് ചീഫ് എഞ്ചി നീയർ, ജലസേ സചന വും ഭരണ വും തിരുവ	ടി പ്രവൃത്തിയ്ക്കാ യി 10.00 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് Price 3.0 ൽ തയ്യാറാക്കി 15/09/2022 ന് ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും ഭരണവും തിരുവനന്തപു രത്തിന് സാമ്പത്തികാന ുമതിയ്ക്കായി സമർപ്പിച്ചിട്ടുണ്ട്		

				<p>ൻ സെൻട്രൽ സർക്കിൾ ഏറണാകുളത്തി നഗരം, സുപ്രിം ഓഫീസിനീ യർ, ഇറിഗേഷൻ സെൻട്രൽ സർക്കിൾ, തൃശ്ശൂരിന ഗു സമർപ്പി ച്ചിട്ടുണ്ട്. പ്രവൃത്തി നടപ്പിലാ ക്കുന്നതി ന് ഫണ്ട് ലഭ്യമായി ട്ടില്ല.</p>	<p>നന്തപ റ്റത്തി ന് സാമ്പ ത്തികാ നുമതി യ്ക്കായി സമർ പ്പിച്ചിട്ടു ണ്ട്</p>			
E	Desilting of Panchikkal thodu	Irrigation Department	4 months	Work completed	Work completed	Work completed	100	

E	Desilting of Kurinjikkal thuruth	Irrigation Department	4 months		Estimate submitted for fund			
E	Desilting of Muppuzha(Cleaning and deepening of feeder canal from railway bridge near Vanchikulam to diversion of Karanchira and Enamakkal feeder canal near Nedupuzhakadavu)	Irrigation Department	4 months	Work completed	100% work completed	100% work completed	100	
E	Side protection, desilting and deepening work of vanchikulam thodu at Poothole of length about 40 km (work in progress).	Thrissur Corporation	3 months	550 meter side protection wall completed. 642 meter protection wall proposed and work in progress.	660 meter side protection wall completed. 460 meter protection wall proposed	915 meter side protection wall completed. 205 meter protection wall proposed and work in progress.		

					and work in progress.			
E	Annual desilting, cleaning of main drains and canals within the corporation area (work in progress).	Thrissur Corporation	3 months	195 Nos. Works are proposed for thodu cleaning works are completed	195 Nos. Works are proposed for thodu cleaning works are completed	195 Nos. Works are proposed for thodu cleaning works are completed		
Monitoring								

A(a)(iv)	River water quality monitoring	KSPCB	Ongoing; monthly frequency	Analysis report for the month of October submitted	Analysis report for the month of November enclosed herewith			Continuing
A(b)	Inspection & effluent quality monitoring of the Flats, industrial units, service stations, hospitals,hotels etc	KSPCB	Ongoing	Ongoing	Ongoing	Ongoing		Continuing
Long Term Plan								
A(b)	Ensuring installation of treatment facilities for at least 50% of the identified establishments	Thrissur Corporation	18 months					
A(b)	100% completion of treatment facilities for targeted institutions/ buildings	Thrissur Corporation	24 months					
A(b)	Construction of a drain 40 km with covering slabs to avoid the direct disposal of waste in to the open drain	Thrissur Corporation	24 months	35.05 KM of drain work and 5.80 KM of coveri ng slabs compl eted and More works	35.30 KM of drain work and 5.85 KM of coveri ng slabs compl eted and More	36.25 KM of drain work and 6.10 KM of covering slabs complet ed and More works propose d under annual		

				proposed under annual plan and 48 numbers of work completed.	works proposed under annual plan 2022-23 and 46 numbers of work completed	plan 2022-23 and 46 numbers of work completed.		
A(b)	Construction of a drain 9000 m with covering slabs to avoid the direct disposal of waste in to the open drain	Thrissur Corporation	24 months	35.0 5 KM of drain work and 5.80 KM	35.30 KM of drain work and 5.85 KM of coveri	36.25 KM of drain work and 6.10 KM of covering slabs		

				of covering slabs completed and More works proposed under annual plan and 48 numbers of work completed.	ng slabs completed and More works proposed under annual plan 2022-23 and 46 numbers of work completed	completed and More works proposed under annual plan 2022-23 and 46 numbers of work completed.		
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A(b)	Construction of sewage treatment plant of 100 KLD and 360 KLD at Ramavarmapura m and District Hospital, Thrissur in Amrut Project	Thrissur Corporation	24 months			<p>1) 100KLD Septage Treatment Plant at Ramavarmapuram, Thrissur</p> <p>Administrative Sanction has been accorded for this project vide GO (Rt) No. 5/2018/LSGD dated 01/01/2018 for Rs. 3.50Cr.TS accorded for Rs. 3.10 Cr from the technical committee constituted for AMRUT sewerage projects. Selection memo has been issued to M/s Green Eco Water Systems, Hyderabad. Hon. Council has decided to get the consent to establish from PCB first and then to proceed for further steps of executing agreement. Consent to establish obtained from PCB on 28/05/2021. Contractor has not executed the agreement even after issuing several notices</p>
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					<p>in this regard. Hon.Council dated 29.01.2022 decided to terminate the contract under risk and cost of the contractor and also to black list the contractor. It has been also decided by the council to invite limited tender from accredited agencies as per rules. Now the schedule of rate changed from approved estimate. Recasted estimate amounting to Rs. 3.50 cr submitted to CE, LSGD for revised Technical sanction.</p> <p>2. 360 KLD Sewage Treatment Plant for</p>
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					<p style="text-align: right;">General Hospital, Thrissur</p> <p>Administrative Sanction has been accorded for this project vide GO (Rt) No. 5/2018/LSGD dated 01/01/2018 for Rs. 3.52Cr.TS accorded for Rs. 3.52Cr from the technical committee constituted for AMRUT sewerage projects. Work has been awarded to M/s Green Eco Water Systems, Hyderabad. Agreement executed on 14/10/2020. Consent to establish obtained from PCB on 17/12/2020. Even after conducting several meetings with the contractor,</p>
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					<p>contractor has not started the work. Hon.Council dated 29.01.2022 decided to terminate the contract under risk and cost of the contractor and also to black list the contractor. It has been also decided by the council to invite limited tender from accredited agencies as per rules. Now the schedule of rate changed from approved estimate. Corporation Council dtd. 31.08.2022 approved the recasted estimate amounting to Rs. 4.50 cr and the same has been submitted to CE, LSGD</p>
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						<p>for revised technical sanction. SLTC dtd. 22.09.2022 recommended the revision of AS from 3.52 cr. to 4.50 cr. and SHPSC dtd. 27.10.2022 recommended for revised administrative sanction.</p>		
A(b)	Constructing decentralised sewerage scheme at Vachikulam covering most populated 7 divisions of Thrissur Corporation and more than 10000 houses & institutions	Thrissur Corporation	24 months	Revision estimate as per structural vetting submitted for revised TS at	Revision estimate as per structural vetting submitted for revised TS at Chief Engin			2.50 MLD : Vide GO(Rt) No. 1926/2022/LS GD dtd. 08.08.2022, the

				Chief Engineers Office TVM.	Engineers Office TVM			Government constituted a committee consisting of Principal Director, LSGD , District Collector, This and mission director,
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								AMR UT to reass ess the natu re of the prop osed land for the 2.50 MLD STP site insp ectio n and meet ing of the com mitt ee
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								was held on 20.08.22. The details along with the Principal Director, LSGD's note on the matter were submitted to the
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								Hon'ble Chief Secretary's office on 13.09.2022. Agriculture department GO(Rt) No. 855/ 2022/ AGR/dtd. 27.09.2022 rejected
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								the appli catio n dtd: 25.0 9.20 22 of Secr etary , Thris sur Corp orati on for conv ersio n of land. Reve nue Depa rtme nt Lette r no. REV-
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								P1/1 32/2 022- REV dtd. 27.0 9.20 22 rejec ted the appli catio n of Hon. May or for conv ersio n of land. But as per the lette r no. 115/
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								NCA 2/20 21/A GRI dtd. 18.1 0.20 22 the Secr etary , Agric ultur e Depa rtme nt prop osed to sub mit the lan conv ersio n matt
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								er befo re the Secr etary (Envi ron ment depa rtme nt) for furth er actio n. Revis ed tech nical sanct ion for 64.2 0 cr. obtai ned on
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								25.1 0.20 22.
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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	Progress in the month of October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% 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	According to the latest GEC report there is no critical / over exploited blocks in Thrissur Dt.	According to the latest GEC report there is no critical / over exploited blocks in Thrissur Dt.	According to the latest GEC report there is no critical / over exploited blocks in Thrissur Dt		
2	B(ii)	Ground water recharging / rain water harvesting	Proposal for two artificial recharge schemes(dug well recharge) submitted for technical sanction. Two artificial recharge schemes tendered.	Technical sanction accorded for two artificial recharge schemes and work order	Technical sanction accorded for two artificial recharge schemes and work order issued.		

				issued.	Construction of recharge pit completed at Govt. Engineering College Thrissur.		
3	B(iii)	Periodic ground waste quality assessment and remedial actions in case of contaminated ground water tube wells/bore wells or hand pumps	Water level data collected from GWD observation wells.	Water level data collected from GWD observation wells.	Water level data and water samples collected from GWD observation wells.		
4	B(iv)	For regulating use of ground water for irrigation purpose, adopting good irrigation practices	al-shakthi- Abhiyan central team visited dug well recharge scheme @ Poomala PHC & coir geo textile work at Kundanthode ,Avanur GP.				

ACTION PLAN BY GRAMAPANCHAYATH

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% works completed	Details of works remaining
C	Removing weeds in Puzhakkal River	Adat Gramapanchayath	31.03.2020				100 %	com plet ed
C(ii)	Removing waste from all wards through kudumbasree	KUDUMBASREE	31.03.2020				100 %	com plet ed
C	water conservation projects-- tree plantation under GA in 18 wards 100000/ each	MGNREGS	31.03.2020				80%	20

C	ward 14 pachthurthu construction	Haritha Keralam Mission	31.03.2020				100%	completed
C	side protection to water bodies coir geo textile	MGNREGS	31.03.2020				90%	8

PUZHAKKAL						
Date of sampling - 11.11.2022						
SL. NO	PARAMETER	UNIT	SBA	KTH	PTU	MP
1	PH		8.97	8.54	7.42	8.4
2	EC	µs/cm	238.2	444.2	186.4	167.7
3	BOD	mg/L	0.32	0.56	2.98	1.87
4	DO	mg/L	6.42	6.54	7.28	6.62
5	COD	mg/L	8	8	4	4
6	TC	CFU/100ml	500	600	600	500
7	F C	CFU/100ml	400	450	100	200
8	FSC	CFU/100ml	NIL	NIL	NIL	NIL
SBA - NEAR SOBHA CITY, KIZHAKKUMMURI ROAD , PUZHAKKAL						
KTH - KURINJAKKAL THODU, PUZHAKKAL						

PTU - PANCHIKKAL THODU, PUZHAKKAL

MP - MUPPUZHA, PUZHAKAL

**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 BHARATHAPUZHA, PALAKKAD – DECEMBER 2022

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	March 2021	Kerala Water Authority prepared a DPR for STP and submitted to the Government. The STP is proposed to be installed at Nambram in Pattambi municipality in about 50 cent of land.. The survey for the sewerage pipeline was also completed and it was also included in the DPR.
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured	Not proposed	
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning	March 2021 (Primary STP and Septage Treatment Plant proposed, not STP)	Kerala Water Authority was prepared a DPR for sewerage network and STP and submitted for approval.
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none"> • Specifying accountability of nodal authorities not below the Secretary level • Chief Secretaries may have an accountable person attached in their office for this purpose 	Applicable at State level	Not Applicable
	<ul style="list-style-type: none"> • Monitoring at State level must take place 	Applicable at State level	Not Applicable
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none"> • Secretary, Ministry of Jal Shakti • Member Secretary, CPCB 	Applicable at State level	Not Applicable

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&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 & 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>Primary STP (oil and grease trap with grit chamber)- March 2021</p> <p>Not Proposed</p> <p>Not proposed</p> <p>MSW treatment Plant – March 2021</p> <p>March 2021</p> <p>Implemented by January 2020</p>	<p>Kerala Water Authority is preparing a DPR for sewerage network and STP and submitted for approval.</p> <p>Not Applicable</p> <p>Not Applicable</p> <p>Implemented</p> <p>Water quality monitoring of polluted river stretch and two additional points were completed until July 2022. Results are complying with outdoor bathing standards.</p> <p>Management of dry wastes were achieved through the MCF and RCF facilities, BMW by CBWTF, E-Waste by authorised collection agencies.</p>
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(vii)Ground water regulation	No specific proposal	Not Applicable
(viii) Adopting good irrigation practices	No specific proposal	Not Applicable
(ix) Protection and management of food plain Zones (FPZ)	March 2021	DPR for regulating flood plain zone protection and management, and E-flow maintenance in the Bharathapuzha at Pattambi were prepared by Irrigation Department and submitted to the government several months ago. But funding did not get sanctioned.
(x) Rain water harvesting	No specific proposal	Not Applicable
(xi)Maintaining minimum Environmental flow of river	March 2021	A more comprehensive DPR by Irrigation Department and submitted for approval of State Government
(xii) Plantation on both sides of the river	No specific proposal	Not applicable
(xiii)Setting up biodiversity parks on flood plains by removing encroachment	No specific proposal	Not applicable

ACTION PLAN FOR RIVER BHARATHAPUZHA, KERALA

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of November 2022	Progress in the month of December 2022	% works completed	Details of works remaining
1	Establishment and Modernisation of MSW treatment Plant (Solid Waste Management)	Pattambi Municipality	March 2021	Implemented	Implemented	100% work completed	Nil
2	Material collection Facility (Solid Waste Management)	Pattambi Municipality	Implemented by January 2020	Implemented	Implemented	100% implemented	Nil
3	Resource recovery facility (Solid Waste Management)	Pattambi Municipality	Implemented by January 2020	Implemented	Implemented	100% implemented	Nil
4	Installing house hold and community level solid waste management units	Pattambi Municipality	March 2021	Unit supplied to house holds in 2021-2022. Tendering of 2022-23 in progress.	Tendered	Nil	100%
5	Door to Door Collection and Transportation of MSW	Pattambi Municipality	December 2020	Implemented	Implemented	Implemented	Nil
6	Regulating activities in flood plain zone protection and management of flood plain zone including side bank protection and greenery development	Irrigation department	March 2021	A more comprehensive DPR by Irrigation Department and submitted for approval of State Government. Planning Board approved budget of 500 Crore for NGT related projects.	DPR for regulating flood plain zone protection and management, and E-flow maintenance in the Bharathapuzha at Pattambi were prepared and submitted to the	Implementation not started	Full implementation remaining

				That fund may be utilised for the implementation of DPR.	government several months ago. But funding did not get sanctioned.		
7	Issues relating to E-flow, maintaining minimum environmental flow of river (by having watershed management provisions) including removal of light jungles and muddies from river courses	Irrigation department	March 2021	A more comprehensive DPR by Irrigation Department and submitted for approval of State Government	A more comprehensive DPR by Irrigation Department and submitted for approval of State Government	Implementation not started	Full implementation remaining
8	Management of Municipal plastics, hazardous, biomedical and electrical and electronic wastes	Panchayath Municipality	Implemented by January 2020	Implemented	Implemented	100% Implemented	Nil
9	Awareness programmes for sections of public	KSPCB	March 2021	Implemented	Implemented	100% Implemented	Nil
10	Monitoring of river water quality by sampling	KSPCB	2020-2021	Water quality monitoring in Bharathapuzha at Pattambi and two additional points were completed until November 2022	Water quality monitoring in Bharathapuzha at Pattambi and two additional points were completed until December 2022	Implemented.	Implemented. Will continue up to the full implementation of the action plan. Consistently achieving bathing standards

11	Primary Sewage Treatment Plant and Septage Treatment plant	Pattambi Municipality	March 2021	Kerala Water Authority prepared a DPR for STP and submitted it to the Government. The STP is proposed to be installed at Nambram in Pattambi municipality in about 50 cent of land. The survey for the sewerage pipeline was also completed and it is also included in the DPR.		Nil	100%
12	Installation of Modern Slaughter House and Rendering Plant	Pattambi Municipality	March 2021	Pattambi Municipality allocated funds for the installation of a modern slaughterhouse and assorted rendering plant but land could not be identified for the same.		Nil	100%
13	Construction of Sanitary Complex in Public Place	Pattambi Municipality	March 2021	DPR preparation on the renovation of two sanitary complexes and four new sanitary complexes at Pattambi Municipality is in progress.	Sanitary complex in taluk hospital under contribution.	20%	80%

14	Green Protocol implementation in all offices institution & public function	Pattambi Municipality	March 2021	Implemented	Implemented	100% Implemented	Nil
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**POLLUTED RIVER STRETCH MONITORING PROGRAMME
DATA SHEET DECEMBER 2022**

Nhangatiri Temple (U/S of NWMP-2)

Station Name		RIVER BHARATHAPUZHA AT PATTAMBI (NWMP-2)					
Type of Water body		RIVER					
Completed by		DO, PALAKKAD					
Agency		Kerala State Pollution Control Board					
1	Station Code	2	3	3	2		
2	Date and time of sample taken (DD/MM/YY, HH/MM)	12/3/2022 0 9 : 4 5					
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 ₂ 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 industrial area ✓		D/s of town or industrial area		Pilgrim center/Bathing Ghat/Water intake None	
11	Flow rate	16.8 m ³ /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	Determinants	Values
1	Temperature, 0C	30
2	Dissolved Oxygen, mg/l	7.26
3	pH	8.13
4	Conductivity, μmhos/cm	481
5	BOD, mg/l	1.66
6	Nitrate-N, mg/l	0.18
7	Turbidity, NTU	BDL
8	Phenolphthalein Alkalinity, mg/l	BDL
9	Total Alkalinity, mg/l	157
10	Chloride, mg/l	60
11	COD, mg/l	6
12	TKN, mg/l	0.007
13	Ammoniacal-N, mg/l	BDL
14	Hardness as CaCO ₃ , mg/l	159
15	Calcium as CaCO ₃ , mg/l	100
16	Magnesium as CaCO ₃ , mg/l	59
17	Sulphate, mg/l	18
18	Calcium (Ca ²⁺), mg/l	40
19	Magnesium (Mg ²⁺), mg/l	14.3
20	Sodium, mg/l	44
21	Total Dissolved Solids, mg/l	275
22	Total Fixed Solids, mg/l	173
23	Total Suspended Solids, mg/l	BDL
24	Phosphate, mg/l	BDL
25	Boron, mg/l	BDL
26	Potassium, mg/l	5
27	Fluoride, mg/l	0.201
28	Total Coliform, MPN/100 ml	500
29	Fecal Coliform, MPN/100 ml	200
30	Fecal Streptococcus, MPN/100 ml	20
31	% SODIUM	30.9
32	SAR	1.17

**POLLUTED RIVER STRETCH MONITORING PROGRAMME
DATA SHEET DECEMBER 2022**

Veliampkallu regulator (D/S of NWMP-2)

Station Name		BHARATHAPUZHA AT PATTAMBI									
Type of Water body		RIVER									
Completed by		DO, PALAKKAD									
Agency		Kerala State Pollution Control Board									
1	Station Code	2	3	3	2						
2	Date and time of sample taken (DD/MM/YY, HH/MM)	2/3/2022									
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 ₂ 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 industrial area			D/s of town or industrial area ✓			Pilgrim center/Bathing Ghat/Water intake		None	
11	Flow rate	222.4m ³ /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	Determinants	Values
1	Temperature, 0C	31
2	Dissolved Oxygen, mg/l	7.5
3	pH	8.17
4	Conductivity, μmhos/cm	528
5	BOD, mg/l	1.46
6	Nitrate-N, mg/l	0.42
7	Turbidity, NTU	BDL
8	Phenolphthalein Alkalinity, mg/l	BDL
9	Total Alkalinity, mg/l	175
10	Chloride, mg/l	62
11	COD, mg/l	5025
12	TKN, mg/l	0.006
13	Ammoniacal-N, mg/l	BDL
14	Hardness as CaCO ₃ , mg/l	178
15	Calcium as CaCO ₃ , mg/l	98
16	Magnesium as CaCO ₃ , mg/l	80
17	Sulphate, mg/l	23.46
18	Calcium (Ca ²⁺), mg/l	39.2
19	Magnesium (Mg ²⁺), mg/l	19.4
20	Sodium, mg/l	36
21	Total Dissolved Solids, mg/l	336
22	Total Fixed Solids, mg/l	228.48
23	Total Suspended Solids, mg/l	BDL
24	Phosphate, mg/l	0.03
25	Boron, mg/l	BDL
26	Potassium, mg/l	5
27	Fluoride, mg/l	0.202
28	Total Coliform, MPN/100 ml	Absent

**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 BHAVANI, PALAKKAD- DECEMBER 2022

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	March 2020. Target achieved	Action plan completed. Septic tank systems are adopted for entire sewage treatment
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured	Not proposed	Not Applicable
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning	STP not Proposed	Septic tank systems are adopted for entire sewage treatment
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none"> • Specifying accountability of nodal authorities not below the Secretary level • Chief Secretaries may have an accountable person attached in their office for this purpose 	Applicable at State level	Not Applicable
	<ul style="list-style-type: none"> • Monitoring at State level must take place 	Applicable at State level	Not Applicable
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none"> • Secretary,Ministry of Jal Shakti • Member Secretary,CPCB 	Applicable at State level	Not Applicable

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&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 & Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p>	<p>Drains contributing pollution to the River were not identified</p> <p>Not Proposed</p> <p>Not proposed</p> <p>Dec 2020</p>	<p>Not Applicable</p> <p>Not Applicable</p> <p>Not Applicable</p> <p>Dry waste- Implemented. Material Collection Facility and 80% of work completed for MSW treatment plant. Wet waste- 100% Managed at source level</p>
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<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>March 2021</p>	<p>Water quality monitoring of polluted river stretch and three additional points were completed until July 2022</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>Implemented by January 2020</p>	<p>Not applicable</p>
<p>(vii) Ground water regulation</p>	<p>No specific proposal</p>	<p>Not applicable</p>
<p>(viii) Adopting good irrigation practices</p>	<p>No specific proposal</p>	<p>Not applicable</p>
<p>(ix) Protection and management of food plain Zones (FPZ)</p>	<p>March 2021</p>	<p>A more comprehensive DPR prepared and submitted for approval by Irrigation Department - Check dams at Bhoothivazhi, Anakkal and Chemmanur are proposed in the DPR.</p>
<p>(x) Rain water harvesting</p>	<p>No specific proposal</p>	<p>Not applicable</p>

	<p>(xi) Maintaining minimum Environmental flow of river</p>	<p>March 2021</p>	<p>A more comprehensive DPR prepared and submitted to the Government for approval by Irrigation Department</p>
	<p>(xii) Plantation on both sides of the river</p>	<p>No specific proposal</p>	<p>Not applicable</p>
	<p>(xiii) Setting up biodiversity parks on flood plains by removing encroachment</p>	<p>No specific proposal</p>	<p>Not applicable</p>

ACTION PLAN FOR RIVER BHAVANI, KERALA

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of November 2022	Progress in the month of December 2022	% works completed	Details of works remaining
C(ii)	Establishment of MSW treatment Plant (Solid Waste Management)	Pudur Grama Panchayath	2019-2020	MSW treatment plant (MCF and RRF) was completed, machineries for RRF were purchased and waiting for KSEB connection for its installation.	MSW treatment plant (MCF and RRF) was completed, machineries for RRF were purchased and waiting for KSEB connection for its installation.	80% implemented	20% - installation of treatment equipment/facilities are remaining
C(ii)	Material collection Facility (Solid Waste Management)	Pudur Grama Panchayath	2019-2020	Implemented	Implemented	100% Implemented	Nil
C(ii)	Construction of Compound wall Material collection Facility Plant	Pudur Grama Panchayath	2019-2020	Implemented	Implemented	Implemented	Nil
C(ii)	Installing of waste Bin in Colonies	Pudur Grama Panchayath	2019-2020	Minis MCF in the colonies of Pudur Panchayath were started as an alternative of installation of waste	Minis MCF in the colonies of Pudur Panchayath were started as an alternative of installation of	62% implemented	38 % implementation remaining

				bin in the colonies. Mini MCF facility were installed in the four wards and its coverage will be extend over all the 13 wards	waste bin in the colonies. Mini MCF facility were installed in the 8 wards and its coverage will be extend over all the 13 wards		
C(ii)	Preliminary expenses met for "harithakarmasena"	Pudur Grama Panchayath	2019-2020	Implemented	Implemented	100% implemented	Nil
A(b)	Construction of Community Toilets	Pudur Grama Panchayath	2019-2020	Construction of sanitary complex at Chavadiyururu under the "Take a Break Project" was completed	Construction of sanitary complex at Chavadiyururu under the "Take a Break Project" was completed	100 %	Nil
A(b)	Repair of Community toilets	Pudur Grama Panchayath	2019-2020	Not Applicable	Not Applicable	Nil	Nil
C(i)	Construction of Protection wall with fencing	Irrigation department	2020-21	River side protection of Thekkuvattathode(stream) was completed. Agreement executed for a new work on River Bhavani at Thekkuvatta LIS.	Side protection work near to Thekkuvatta LIS to be started	85%	15 %
C(i)	Seasonal clearance of jungle and muddies from river courses	Irrigation department	2020 - 21	Work in this season at two locations at Pampanthode&Rangan	Implemented	100	NIL

				athapuram were completed			
D	Construction of Check dams at the identified locations	Irrigation department	2020 - 21	Checkdam at Boothivazhy, Anakkal&Chemmannura re proposed in the DPR	Administrative sanction obtained for Bhoothivazhi and Aralikonam Check Dams & looking forward for TS. DPR for the check dams of Anakkal and Chemmannur were suggested to be revised by government. The revised DPR will be submitted on May 2022.	75%	25 %
D	Issues relating to Eflow, maintaining minimum environmental flow of river(by having watershed management provisions)	Irrigation department	2020 - 21	DPR prepared for comprehensive solution	DPR prepared for comprehensive solution	Implementati on not started	Full implementati on remaining
E	Information Education and Communication (IEC)	Pudur Grama Panchayath	2019 -20	Awareness programs conducted	Implemented	Implemented	Implemented
A(a)	Monitoring of river water quality by sampling	KSPCB	2019 -20	Water quality monitoring in Bhavani at Elachivazhi and three additional points	Water quality monitoring in Bhavani at Elachivazhi and	Implemented. Will continue up to the full implementati	Implemented.

				were completed until November 2022	three additional points were completed until December 2022	on of the action plan.	
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POLLUTED RIVER STRETCH MONITORING PROGRAMME

DATA SHEET DECEMBER 2022

Cheerakuzhi (U/S of NWMP-6)

Station Name		RIVER BHAVANI AT ELACHIVAZHI									
Type of Water body		RIVER									
Completed by		DO, PALAKKAD									
Agency		Kerala State Pollution Control Board									
1	Station Code	1	2	0	8						
2	Date and time of sample taken (DD/MM/YY, HH/MM)	12/6/2022									
		1	2	:	1	5					
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 ₂ 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 industrial area			D/s of town or industrial area			Pilgrim center/Bathing Ghat/Water intake		None ✓	
11	Flow rate	10.8m ³ /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	Determinants	Values
1	Temperature, 0C	25
2	Dissolved Oxygen, mg/l	7.2
3	pH	7.76
4	Conductivity, μmhos/cm	109
5	BOD, mg/l	1.2
6	Nitrate-N, mg/l	0.18
7	Turbidity, NTU	BDL
8	Phenolphthalein Alkalinity, mg/l	BDL
9	Total Alkalinity, mg/l	40
10	Chloride, mg/l	12
11	COD, mg/l	6.2
12	TKN, mg/l	0.009
13	Ammoniacal-N, mg/l	BDL
14	Hardness as CaCO ₃ , mg/l	42
15	Calcium as CaCO ₃ , mg/l	23
16	Magnesium as CaCO ₃ , mg/l	19
17	Sulphate, mg/l	0.8
18	Calcium (Ca ²⁺), mg/l	9.2
19	Magnesium (Mg ²⁺), mg/l	4.6
20	Sodium, mg/l	7
21	Total Dissolved Solids, mg/l	70
22	Total Fixed Solids, mg/l	48.3
23	Total Suspended Solids, mg/l	BDL
24	Phosphate, mg/l	BDL
25	Boron, mg/l	BDL
26	Potassium, mg/l	1
27	Fluoride, mg/l	0.203
28	Total Coliform, MPN/100 ml	500
29	Fecal Coliform, MPN/100 ml	300
30	Fecal Streptococcus, MPN/100 ml	Absent
31	% SODIUM	26.01
32	SAR	0.47

**POLLUTED RIVER STRETCH MONITORING PROGRAMME
DATA SHEET DECEMBER 2022**

Chalayur Uru (U/S of NWMP-6)												
Station Name		RIVER BHAVANI AT ELACHIVAZHI										
Type of Water body		RIVER										
Completed by		DO, PALAKKAD										
Agency		Kerala State Pollution Control Board										
1	Station Code	1	2	0	8							
2	Date and time of sample taken (DD/MM/YY, HH/MM)	12/6/2022										
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 ₂ 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 industrial area			D/s of town or industrial area			Pilgrim center/Bathing Ghat/Water intake			None ✓	
11	Flow rate	14.8 m ³ /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	Determinants	Values
1	Temperature, 0C	26
2	Dissolved Oxygen, mg/l	7.5
3	pH	7.93
4	Conductivity, µmhos/cm	135
5	BOD, mg/l	1.73
6	Nitrate-N, mg/l	0.21
7	Turbidity, NTU	BDL
8	Phenolphthalein Alkalinity, mg/l	BDL
9	Total Alkalinity, mg/l	59
10	Chloride, mg/l	10
11	COD, mg/l	3.5
12	TKN, mg/l	BDL
13	Ammoniacal-N, mg/l	BDL
14	Hardness as CaCO ₃ , mg/l	60
15	Calcium as CaCO ₃ , mg/l	36
16	Magnesium as CaCO ₃ , mg/l	24
17	Sulphate, mg/l	0.2
18	Calcium (Ca ²⁺), mg/l	14.4
19	Magnesium (Mg ²⁺), mg/l	5.8
20	Sodium, mg/l	6
21	Total Dissolved Solids, mg/l	75
22	Total Fixed Solids, mg/l	49.5
23	Total Suspended Solids, mg/l	BDL
24	Phosphate, mg/l	BDL
25	Boron, mg/l	BDL
26	Potassium, mg/l	1
27	Fluoride, mg/l	0.112
28	Total Coliform, MPN/100 ml	500

**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

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		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"> • Specifying accountability of nodal authorities not below the Secretary level • Chief Secretaries may have an accountable person attached in their office for this purpose. 		
	<ul style="list-style-type: none"> • Monitoring at State level must take place 		
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none"> • Secretary, Ministry of Jal Shakti • Member Secretary, CPCB 		

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&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 & 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 December 24 ,2022</p> <p>(I) Identified 3 drains on 10/12/2018 at the hajiyyar pally stretch.</p> <p>(ii) Malappuram municipality – 30 KLD. Not completed revamping & not submitted application for consent as well till date. Given direction several times during DLTC meetings to submit the proposal for revamping and get it approved from Board .</p> <p>Action plan prepared through KWA</p> <p>(iii) NIL</p> <p>(iv) Activities progressing with decentralised source level treatment method and 2506 devices are distributed. New Project approved for 6000 Ring compost unit. Further steps doing for TS&E-Tender</p> <p>(v) Attached Analysis Report for the month of December 2022. More activities are progressing under the “ Thelineer Ozhukum Navakeralam “scheme</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>(vi) Actions being initiated to prevent illegal waste dumping. Bio-Medical Waste collecting through IMAGE .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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1.6	The discharge of waste water from the surrounding houses to the Valiyathodu - Blocking of discharge of liquid waste	Malappuram Municipality	completed	completed	completed	completed	completed	completed
1.7	Identification of illegal outlets into storm water drains and fine imposed on such units.	Malappuram Municipality	ongoing	completed	completed	completed	completed	completed
1.8	Biodegradable waste Bio gas plants- 186 Bio bins – 908 Bucket compost – 1445 Tumburmuzhi Aerobic bins - 4 Submitted proposal for 8000 ring compost systems	Malappuram Municipality	In progress	In progress	In progress	In progress	completed	Completed
1.9	Non biodegradable waste MCF & Plastic shredding and Bailing Echo Kiosk	Malappuram Municipality	Completed March 2020	Completed In progress	Completed In progress	Completed 40 mini MCF project submitted to DPC	Completed In progress	Completed Waiting for approval

1.10	Identification and monitoring of illegal activities/ CC TV Network installation	Malappuram Municipality	Ongoing	In progress	In progress	In progress	In progress	In progress
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2.KERALA STATE POLLUTION CONTROL BOARD

No.	Activity	Implementing agency	Time line	Progress in the month of October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% works Completed	Details of works remaining
2.1	River water quality Monitoring- Thirurangadi, Hajiyarpally National Water Quality Programme(NWMP)	KSPCB	Ongoing; Monthly frequency	100%				
2.2	River water quality Monitoring -	KSPCB	Ongoing; Seasonal -	100%				

	Thirurangadi, Kooriyad, Manikut, Hajiyarpally, Anakkayam, Oravambrum - State Water monitoring programme (SWMP)		Pre - monsoon, monsoon, post - monsoon					
2.3	Inspection and effluent quality monitoring of the flats, industrial units, service stations, hospitals, hotels etc. in Malappuram Municipalarea	KSPCB	Ongoing; Interval; Red – 1 month, Orange- 3 months, Green- 6 months	100%				

3.GROUND WATER DEPARTMENT

No.	Activity	Implementing agency	Time line	Progress in the month of October 2022	Progress in the month of November20 22	Progress in the month of Decembe r2022	% works compl eted	Details of works remaining
3.1.	Ground Water resources and regulation of ground water extraction by	Ground water Department		<i>No action included in the approved action plan to be performed by Ground Water</i>	<i>No action included in the approved action plan to be performed by Ground</i>	<i>No action included in the approved action plan to be</i>		

	<p>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 from 69.43 % to 79.84%)</p>			<i>Department</i>	<i>Water Department</i>	<i>performed by Ground Water Department</i>		
3.2	<p>Ground water recharging / rain water harvesting (Earlier status : The average pre - monsoon</p>	Ground water Department		<i>No action included in the approved action plan to be performed by Ground Water Department</i>				

	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 Vengarablock.)							
3.3	Periodic ground waste quality assessment and remedial actions in case of contaminated ground water tube wells/bore wells or handpumps (Earlier status : Groundwater Department has 6 observation dug wells and 14 bore wells in the river stretch. (report attached) (Map No: 7 attached))	Ground water Department		<i>No action included in the approved action plan to be performed by Ground Water Department</i>				
3.4	For regulating use of ground water for irrigation purpose, adopting good irrigation practices	Ground water Department		<i>No action included in the approved action plan to be performed by Ground Water Department</i>				

<p>(Earlier status : The total irrigation draft in the area ranges from 979.683 - 1857.49 ha.m.)</p>							
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**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

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"> • Specifying accountability of nodal authorities not below the Secretary level • Chief Secretaries may have an accountable person attached in their office for this purpose. 		
	<ul style="list-style-type: none"> • Monitoring at State level must take place 		
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none"> • Secretary, Ministry of Jal Shakti • Member Secretary,CPCB 		

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <ul style="list-style-type: none"> (i) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment. (ii) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infra structure, Gap Analysis, Proposed along with completion timeline 	<p>Last updated report submitted was on December 24, 2022</p> <ul style="list-style-type: none"> (i) Identified 17 drains out of which 9 were additionally identified on 11.07.2019 (ii) <u>Tirur Fish Market STP</u>– 45 KLD- Not working condition. . Accordingly conducted site inspection by Board on 19.10.2022 to evaluate progress, No progress found. Since about 3 years repeated directions are being issued for time bound renovation of fish market STP. A project implementation handed over to IRTC. An estimate amount 4433000 received. The work will be awarded after getting TS from State Suchitwa Mission. (ii) <u>Tirur municipal Bus Stand STP</u>-50 KLD –Present status- All equipments are installed and three phase electrical connection obtained. Sewer line work and road work under progressing. Trial run will be conducted at the end of this month iii) NIL
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<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 & 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>	<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> <p>(v) Attached as Annexure II-Analysis report during the month of December 2022)</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>
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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

(xiii) Reported that encroachment survey is completed and now the process of laying survey stones is in progress.

ACTION PLAN FOR RIVER TIRUR, KERALA

1. IRRIGATION DEPARTMENT								
1.								
No.	Activity	Implementing agency	Time line	Progress during month of	Progress during month	Progress during month of	% works completed	Details of works remaining
			31.03.2020	october2022	november 2022	December2022		
1.1. 1	Strengthening the right side bund of Tirur- Ponnani Puzha at Porur, ward no. 1 Tirur Municipality	Irrigation Department	6 Months		No progresses	Nil		
1.1. 2	Cleaning and development of old Ponnani Thodu at Thazhepalam	Irrigation Department	6 Months			Nil	These two works are combined and estimate submitted for an amount of Rs 28.6Lakhs. No sanctions are approved till date..(price id-2021/4249/IA). Presently the estimate prepared in Price new Version and the estimate amounts to Rs 30.10 Lakhs (Price Id:IRR/IA/EST/4907/2022)	

1.1.3	Repair and Rehabilitation of Koottayi Regulator cum Bridge across Tirur Ponnani Puzha in Mangalam Grama Panchayath in Malappuram Dist	Irrigation Department	18 Months	Civil work 0% and mechanical works 10%	Civil work 0% and mechanical works 10%	Civil work 5% Mechanical works 90%	8%	Completion of Ring bund, Bailing out of water, Apron Extension and repair, Cut off wall formation. Installation of new shutters with hoisting arrangements and related mechanical works.
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2. TIRUR MUNICIPALITY

No.	Activity	Implementing agency	Time line	Progress during month of October 2022	Progress during month of November 2022	Progress during month of December 2022	% works completed	Details of works remaining
2.1	Provide septic tank for nearest houses	Tirur Municipality	Dec 2019	completed	completed	completed	100	NIL
2.2	Establishment of Solid waste Treatment Plant Thumboor Muzhi Model Aerobic Bin	Tirur Municipality	March 2020	completed	completed	completed	100	NIL
2.3	Establishment of Non Degradable waste treatment Plant, Resource Recovery facility, Plastic Shredding Unit Segregation shed	Tirur Municipality	March 2020	completed	completed	Completed	100	NIL
2.4	Slaughter House	Tirur Municipality	December	Revised	Civil work and	In progress		

			2020	estimate of Bio-gasplant and ETP submitted for the approval	mechanical work on going		90%	In progress
2.5	Fencing on Bridgeside Thalakkadathur Bridge	Tirur Municipality	December 2020	completed	completed	completed	100	NIL
2.6	Installation of CCTV Camera near the river Bank Thalakkadathur Bridge	Tirur Municipality	May 2020	Completed	completed	completed	100	NIL
2.7	Planting of Bamboo seedlings on the river bank (Thazhepalam)	Tirur Municipality	June 2020	Completed	completed	completed	100	NIL
2.8	Renovation of Effluent treatment plant at fish Market. AMC Granted ETP with Aerobic System	Tirur Municipality	June 2019	Letter have been given to IRTC to hand over the work directly and submitted estimation	. Aproject implementation handed over to IRTC.An estimate amount 45lakh 33 thousand received.The work will be awarded after getting TS from State Suchitwa Mission.	Technical sanction has not been received from suchitwa mission.	No progress	(See minutes)
2.9	Setting up of STP at Private Bus stand	Tirur Municipality	June 2020	Civil work completed. Application has been submitted to KSEB for three phase connection	All the equipments installed and three phase electric connection obtained.Sewer line work and road work under progress.Trial run will be	In progress	95%	In progress (See minutes)

					conducted in the end of this month.			
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
2.11	Identification of illegal outlets in to storm water drain sand fine shall be imposed on such units	Tirur Municipality					Fine imposing mechanism going on	NIL
3.KERALA STATE POLLUTION CONTROL BOARD								
No.	Activity	Implementing agency	Time line	Progress in the month of October 2022	Progress in the month of November 2022	Progress in the month of december 2022	% works completed	Details of works remaining

3.1	River water quality Monitoring- Thalakadathur National Water Quality Programme(NWMP)	KSPCB	Ongoing; Monthly frequency				Ongoing monthly frequency
3.2	River water quality Monitoring State Water monitoring programme (SWMP)	KSPCB	Ongoing; Seasonal				Ongoing seasonal
3.3	Inspection and effluent quality monitoring of the flats, Industrial units, Service stations, hospitals, auditorium, hotels in Municipal area		Ongoing; Interval; Red - 1 months				Ongoing

4. ACTION PLAN BY VARIOUS GRAMA PANCHAYATHS- THALAKKAD, VETTOM, MANGALAM, CHERIAMUNDAM

No.	Activity	Implementing agency	Time line	Progress in the month of October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% works completed	Details of works remaining
4.1	Protection of Tirur Ponnani River	Thalakkad Grama Panchayath handover fund to District Panchayath	31.03.2020	Completed	Completed	Completed	100	NIL
4.2	Installation of CC TV camera on YetterikadavuKunjulikkadavuMangattiri Bridge, Aikkanchiri Bridge, Paravanna Bridge	Vettom - KS SECURITY SYSTEM	Spill over due to lack of fund	completed	completed	completed	100	NIL
4.3	Installation of CC TV camera	Mangalam Grama Panchayath Win Plus Agency, Kondotty	Completed	completed	completed	completed	100	NIL

4.4	Haritha KeralamThirur-Ponnanipuzha protection	Mangalam Grama Panchayath Nirmithi Kendra, Kozhikode	31.03.2020	- Dispute on making road in private property.. Discussions going on to solve the issue.	Inprogress	No progress	70% protection of wall completed	Nearing completion Landscaping work remainig as per estimate
4.5	Fencing on bridge side Thalakkadathur	Cheriyamundam Grama Panchayath	March 2020	complete d	completed	completed	100	NIL

5.GROUND WATER DEPARTMENT

No.	Activity	Implementing agency	Time line	Progress in the month of October2022	Progress in the month of November2022	Progress in the month o December2022	% works completed	Details of works remaining
5.1.	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 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%)	Ground water Department Therefore, to regulate ground water resources in this area, no permission is granted for packaged drinking water industries or any other water induced industries	NA	No permits issued	No permits issued	No permits issued	NA	NA

NO ACTION
INCLUDE
UNDER THIS
PLAN BY
GROUND
WATER
DEPARTMENT

5.2	Ground water recharging / rain water harvesting (Earlier status: The average pre -monsoon groundwater level ranges from 6.14mbgl - 8.49 mbgl.)	NA	NA		NO ACTION INCLUDED UNDER THIS PLAN BY GROUND WATER DEPARTMENT	NO ACTION INCLUDED UNDER THIS PLAN BY GROUND WATER DEPARTMENT	NA	NA
5.3	Periodic ground waste quality assessment and remedial actions in case of contaminated ground water tube wells/bore wells or hand pumps	Ground water Department No observation well along the river stretches)			NA		NA	NA
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.)	Ground water Department No Data Available. No Updation after GEC 2017. (Report not published)			NO ACTION INCLUDED UNDER THIS PLAN BY GROUND WATER DEPARTMENT	NO ACTION INCLUDED UNDER THIS PLAN BY GROUND WATER DEPARTMENT	NA	NA

6.REVENUE DEPARTMENT

No	Activity	Implementing agency	Timeline	Progress October2022	Progress November 2022	Progress December 2022	% works completed	Details of works remaining
6.1	Survey of boundaries of river side	Revenue department		Completed	Completed	Completed	100%	Encroachment survey completed.

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**ANALYSIS REPORT OF POLLUTED STRETCH POINTS IN TIRUR RIVER
DECEMBER 2022**

SI NO	Name of point	PARAMETERS				
		P ^H	DO (mg/l)	BOD (mg/l)	COD (mg/l)	FC (cfu/100ml)
1	Drain near Tirur Railway station	Not accessible				
2	Thazhepalam drain	7.7	5.3	1.3	5.2	76
3	Naduvilangadi drain (old ponnani thodu)	Not accessible				
4	Annassery drain	Not accessible				
5	Canal at CV Land	Not accessible				
6	Canal at Mangalam thuruth	7.8	6	1.0	4	136
7	Canal at Pullooni	7.6	3.8	1.7	6.8	120
8	Drain near Mangattiri bridge	7.6	3.8	1.8	7.2	96
9	Drain near Ettirikkadavu bridge	7.2	3.5	2	8	100
10	Epothingal	7.2	5.4	1.4	5.6	124
11	Asarikkadav	7.2	3.8	1.4	6	80
12	Kandanath kadav	7.4	4.3	1.1	4.4	112
13	Pancharamoola	Not accessible				
14	Kakadav	7.2	4.6	1.2	4.8	64
15	Kanathkadav	7.3	3.3	1.3	5.2	124
16	Drain near tirur railway station	7.5	3.3	1.7	2.8	80
17	Payyanangadi(kadayithodu)	Not accessible				

**ANALYSIS REPORT OF POLLUTED STRETCH POINTS IN
KADALUNDY RIVER DECEMBER 2022 ALONG HAJIYARPALLY**

<i>Sl.No</i>	Name of point	PARAMETERS				
		P ^H	DO (mg/l)	BOD(mg/l)	COD (mg/l)	FC (cfu/100ml)
<i>1</i>	Valiyangadi drain	7.5	6.6	0.9	3.6	36
<i>2</i>	Valiyangadi bypass drain	Not accessible				
<i>3</i>	Valiyathod drain	7.4	6.6	3	1.2	60
<i>4</i>	Hajiyarpally	7.5	8	1.9	7.6	140

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 December 2022– Kallai polluted riverstretch

Sl No	Activity to be monitored	Timeline	Submission of progress by state/UT- complinace 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.	30.09.2022	Construction of 2 MLD and 1 MLD STP plant of Calicut medical college started
3	Timeline for completing all steps of action plans including completion of setting up STPs and their commissioning	Work under progress	Proposal for 13 MLD STP (6 MLD STP plant proposed at Kothi, 7 MLD STP plant proposed at Avikkal) – Kothi work started avikkal waiting for judgement
4	Chief secretaries may set up appropriate monitoring mechanisms at the state level <ul style="list-style-type: none">• Specifying accountability of nodal authorities not below the secretary level• Chief secretaries may have an accountable person attached in their office for this purpose		NIL
	<ul style="list-style-type: none">• Monitoring at the state level must take place	Fortnightly commencing 21.12.2019	NIL

5	<p>Progress report may be furnished by the state/UTs to</p> <ul style="list-style-type: none"> • Secretary,ministryofjal shakti • Membersecretary,CPCB 	<p>Monthly (preferably before 20th Ofevery month)</p>	<p>NIL</p>
5.1	<p>Progress report may be comprised of details alongwith completion timelineon:</p> <p>(i) Identification of polluting source including drains contributing to river pollution and action asper NGT order on insitutreatment.</p> <p>(ii) <u>status of STPs, I&D and sewage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p>	<p>Action continuing</p> <p>31.03.2021</p> <p>31.07.2019</p> <p>work in progress</p>	<p>Drains identified. Pollution load calculated. Action plan prepared. Joint squad of PCB and Corporation inspection in action. Issued notice to 92 units .</p> <p>30 units installed treatment facilities. During Jan-Mar 2020 joint squad of PCB and corporation inspected 82 units. Issued notice to 56 units. In 16 units installation of treatment units Effluent treatment facilities are under progress.Issued notice to 36 units and a fine of Rs.18500/- was imposed for the month of September 2020..Monthly progress report submitted by Kozhikode corporation attached as Annexure 1</p> <p>Dredging of Kallayi river from Kaduppini to Kothi -DPR submitted to SE,INC,KKD on 16.10.2019for Rs 773.05 lakhs(7.30 crores for desilting of river and 43.05 lakhs for fencing of 5 bridges) under action plan of Kallayi river and fencing of sides of the river. Work entrusted to KWIL –Dredging ,Desilting and removal of weedsfro EK canal -11.2Km Submitted by Irrigation department</p> <p>(i)Construction of 2 MLD, 1 MLD STP plant of Calicut medical college started.-10% work completed</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 & details of processing facilities</u> Details of existing infrastructure, Gap analysis, proposed along with completion timeline</p>	<p>work in progress</p> <p>No specific proposal</p> <p>Functioning</p> <p>Work in progress</p> <p>Functioning</p> <p>Work in progress</p>	<p>(ii) Proposal for 13 MLD STP (6 MLD STP plant proposed at Kothi, 7 MLD STP plant proposed at Avikkal) – Tendering in progress.</p> <p>(iii) STP of 13 MLD proposed at Kotooli. About 12% of sewer lines were laid by KWA – Honble NGT stayed the project (OA no. 215/2016).</p> <p>(iv) Individual septic tank and soak pit system provided for house hold, units like bakery, cool bars small restaurants with less seating capacity. Individual STPs for high rise building, hotels, Restaurants, Commercial buildings.</p> <p>No CETP proposed</p> <p><u>Kozhikode corporation</u></p> <p>(i) Existing centralized waste disposal facility of 100 MT/DAY at Njeliyanparamba (windrow composting)</p> <p>(ii) Proposal of 450 TPD waste to energy plant at Njeliyanparamba implementation in progress. Capping work started.</p> <p>(iii) Chicken waste rendering plant of 40 TPD functioning in Thamarassery – 170 chicken stalls of Kozhikode corporation are disposing off the waste through this rendering plant. Rendering plant construction for chicken stall waste – Perumanna .Peruvayal</p>
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		Functioning. Andwork progressing	(iv) 3 MRF facilities existing (AtNjeliyamparamba(Super MRF) 3TPD- with plastic shredding unit, west hill industrial estate -2TPD -- with plastic shredding unit,NearJayanthinagar colony) - 70%completed
		Functioning	(v) 24 units of aerobic compost facilities existing (Tagore hall, S K Pottakkad hall, Jubilee hall,Mofusil bus stand,T.B. Clinic,Circleoffice).
		Functioning	(vi) 350 ring compost and 150Biogas plants installed in households -kkd Corporation 26 biogas plant complete –peruvayal 190 ring compost complete –mavoor
		Functioning	(vii) Community level biogas plant- 3nos(Mental Hospital 1TPD, ITI Malikadav -1TPD, Juvine home-1TPD)
		Functioning	(viii) 3 Biogas plants in market (Central market 2TPD, Vegetable market 2TPD, New busstand,2TPD)
		Functioning	(ix)Treatment facility for waste in Central Market – Tendering in Progress
		30/03/2021	(x) Establishment of slaughter house-
		31/12/2022	<u>MavoorPanchayath</u> MCF 1 nos,ringcompost,compost pit- Completed and functioning
	31.03.2021		<u>Perumanna Panchayat</u> Compost pit and MCF with baling machine (1 nos) -Work in progress completed within two months.
		31.03.2021	<u>Peruvayal Panchayat</u> Compost pit,mini MCF 2 nos,bio gas plant- Work in progress MCF-1 nostemporarly functioning
			<u>Olavanna Panchayat</u> MCF-1 completed Mini MCF -3 Work in progress MRF -1 In block

<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>Analysis report of Kallayi river stretch for the month of AUGUST 2022 Attached as <i>Annexure 2</i></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>Same as Item no. 5.1(v) Fine of 32 Lakhs imposed for illegal dumping of solid wastes into rivers and public places. Installation of CCTV. Biomedical waste from Hospital, labs, clinics collected through image, plastic waste disposal through recyclers. Individual solid waste processing facilities like bio gas plant, bio bins in high rise building, hotels, restaurant etc. Fencing proposed by irrigation department.</p>
<p>(vii) ground water regulation</p>		<p>NIL</p>
<p>(viii) adopting good irrigation practices</p>		<p>NIL</p>
<p>(ix) protection and management of flood plain zones (FPZ),</p>		<p>Flood prone mapping- Proposed by irrigation department</p>
<p>(x) Rain water harvesting</p>	<p>31/03/2021</p>	<p><u>Mavoor Panchayat</u> Well recharging- Estimate under preparation</p>

		31/03/2021	<u>Peruvayal Panchayat</u> Well recharging-Work in progress
		31/03/2021	<u>Olavanna Panchayat</u> Well recharging-Work in progress and completed by the end of march 2023
	(xi) Maintaining minimum environmental flow of river	31/03/2021	<u>Perumanna Panchayat</u> Cleaning of Mampuzhariver-Work in Progress
		31/03/2021	<u>Perumanna Panchayat</u> Cleaning of Mampuzhariver-Ongoing
		Completed	<u>Olavanna Panchayat</u> Cleaning of Mampuzha river-Completed
	(xii) Plantation on both sides of the river	Completed	<u>Mavoor Panchayat</u> 3500units completed
	(xiii) Setting up biodiversity parks on flood plains by removing encroachment		Bio park in Kozhikode district- Proposed by irrigation department

(Hon'ble NGT in the matter of OA No.673/2018 dated 06.12.2019)

ACTION PLAN FOR RIVER KALLAYI, KERALA

Kozhikode Corporation									
N o.	Activity	Implementing agency	Time line	Progress in the month of SEPTEMBER 2022	Progress in the month of OCTOBER 2022	Progress in the month of NOVEMBER 2022	Progress in the month of DECEMBER 2022	% 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	4 Notices	2 notices issued	5 notices issued	6 notices issued	Ongoing work	ongoing
2	Waste to energy project proposed at Njeliyamparamba	KSIDC	30.06.2021	On going	On going	On going	On going	60%	40%
3	Establishment of Aerobic compost units 24 units established in 6 sites	Kozhikode Corporation	Completed and functioning	Work Completed	Work Completed & Functioning	Completed and functioning	Completed and functioning	completed 100%	

4	Segregation of solid waste at source level and treatment of house hold wastes 300 ring compost and 150 biogas plant installed	Kozhikode Corporation	30.06.2019	Work Completed	Work Completed	Work Completed	Work Completed	Work completed	
5	Setting up of rendering treatment plant for chicken stall wastes Installed in Thamarasserypanchayat. Now waste is collected from 170 units	Fresh cut agency	on trial run	100% chicken waste collected and treated	Completed	Ongoing	Ongoing	100% Coverage	
6	Implementation of Green protocol unit	Kozhikode Corporation	30.06.19	Completed	Completed	Completed	Completed	100%	
7	Setting up of common STP of (13 MLD) 7.1 At Kothi bridge- 6 MLD plant proposed 7.2 At Avikkal -7 MLD plant proposed	Kozhikode Corporation	31.03.2020	Due to Public protest, Both works has been stopped	Due to public protest 7 MLD STP work has been stopped. A writ was filed in the Hon: high	Due to public protest , the work has been temporarily stopped on 28.04.2022	7 MLD- The case in the munsiff court ,the hearing was completed the final judgement was	6 MLD- Total station survey completed, construction of Fencing is	Construction of 6 & 7 MLT STPs and 98 KMS sewer line.

					court of Kerala by the protesters. An interim order was release in favour of Kozhikode corporation dated 08.04.2022, Base on this 6 MLD STP work was restarted		pronounced in favour of the protestors .hence the work can be restarted after resolving the court case	complete d..	
8	Cleaning of Canoli canal	Kozhikode Corporation	20.07.2019	completed	completed	completed	completed	100%	Completed
9	Purchasing of Solar Boat for Canoli canal cleaning	Kozhikode Corporation	31.03.2020	Project dropped	Project dropped	Project dropped	Project dropped		
10	Installation of CCTV Camera for the Identification and monitoring of illegal activities	Kozhikode Corporation	31.03.2020	Project dropped	Project dropped	Project dropped	Project dropped	Project Dropped	

11	Establishment of Mobile Septage Units	Kozhikode Corporation	31.03.2020	Project Dropped	Project Dropped	Project dropped	Project dropped		
12	Action taken against dumping of wastes into river and public places	Kozhikode Corporation	Continuing	10 Issue notices	14 Issue notices	7 notices issued	2 notices issued	Ongoing work	
13	Cleaning of B.K canal	Kozhikode Corporation	31.03.2020	completed	completed	completed	completed	100%	N.A
14	Establishment of treatment plant at Medical college (3 MLD plant) Tender over 14.1 -2 MLD plant proposed 14.2- 1 MLD plant proposed	Kozhikode Corporation	31.03.2020	600m pipe laying completed and construction of the collection tank at 2 MLD site has been completed.	1070 m pipe laying completed and construction of the collection tank at 2 MLD site has been completed	1200 m pipe laying completed and construction of the collection tank at 2 MLD site has been completed	construction of 1 MLD STP and network laying works started at site . 2 MLD network laying is almost completed and 1MLD constructio	40%	900 ms pipe laying and Constructio n of 1 MLD STP is pending

							n in progress		
15	Construction of drains at Y.M.RC Ayyankar colony	Kozhikode Corporation	31.03.2020	Work has been stopped. Contractor asked higher rate for the items which exceeds more than 25% than the tendered quantity. Details have been submitted to Kozhikode Council for approval.	Work has been stopped. Contractor asked higher rate for the items which exceeds more than 25% than the tendered quantity. Details have been submitted to Kozhikode Council for approval. Same has been approved and forwarded to AMRUT SLTC for	Work has been stopped. Contractor asked higher rate for the items which exceeds more than 25% than the tendered quantity. Details have been submitted to Kozhikode Council for approval. Same has been approved and	Estimate scrutiny in progress at CE LS GD's office for TS approval	60 %	963m drainage construction remaining

					final approval.	forwarded to AMRUT SLTC for final approval. Next SLTC meeting is scheduled on 20/06/2022			
16	Implementation of STP at Kottooli (13.5 MLD)	Kozhikode Corporation		Now stay order has been lifted. Additional fund is required					
17	Treatment facility for waste water in Central market	Kozhikode Corporation	EOI Process Ongoing	EOI Process Ongoing					
18	Establishment of comfort stations	Kozhikode Corporation		5 comfort station work completed			50%	50%	COMPLETED ON MARCH 2023
19	Provide facility for MRF,RRF, Super MRF 3 units existing 19.1 Njeliyanparamb	Suchitwa Mission	Project in progress	Project in progress	Project in progress		30%	30%	70%

	19.2 Industrial estate 19.3 Mayor bhavanjayanthinagar colony								
20	Identification of illegal outlets from house to storm water drain and issue Notice to such Houses	Kozhikode Corporation	On going process	On going process	12notices	4 notices	4 notices		
21	Establishment of Plastic shredding unit	Kozhikode Corporation	On going process	Project started				100%	
22	Establishment of slaughtering unit	Kozhikode Corporation	Submitted to Impact Kerala for KIFB Aid –Got Initial Approval. Final Document Preparation going on						
23	Cleaning of drains in Kozhikode Town	Kozhikode Corporation	On going process	On going process	On going process	Complete process	Completed		

Perumanna Grama Panchayath

No	Activity	Implementing agency	Time line	Progress in the month of SEPTEMBER 2022	Progress in the month of OCTOBER 2022	Progress in the month of NOVEMBER 2022	Progress in the month of DECEMBER 2022	% works completed	Details of works remaining
1	Outlets into storm water drain and issue notice	Perumanna G P, kozhikode	Continues process	7 notice issued	7 notice issued	7 notice issued	No notice issued	Inspection conducted regularly	
2	Establishment of six aerobic compost units in panchayat	Perumanna G P Kozhikode through MGNREGS	Dec-21	Completed	Completed		100%	100% work completed	5 units will be started if public place is available
3	Collection and segregation of solid waste in the river	Perumanna G P	Continues process in every year				74%	74 % work completed	
4	Setting up of residential treatment plant for chicken stall waste	Perumanna G P	Continues process	Resolution passed by Panchayat board to execute an agreement with Fresh cut, thamarassery, kkd	Resolution passed by Panchayat board to execute an agreement with Fresh cut, thamarassery, kkd	Resolution passed by Panchayat board to execute an agreement with Fresh cut, thamarassery, kkd	Resolution passed by Panchayat board to execute an agreement with Fresh cut, thamarassery, kkd	91%	

5	Setting up of 360 soak pit plant in all houses near the river area and panchayat	Perumanna G P MGNREGS	Dec-21	119 nos completed	119 nos completed	119 nos completed	119 nos completed	Remaining work has been suspended as lack of personal days for current year	
6	implimentation of 360 compost unit near river side and panchayat	Perumanna G P MGNREGS	Dec-21	126 nos completed	126 nos completed	126 nos completed	126 nos completed	Remaining work has been suspended as lack of personal days for current year	
7	Implementation of water flow project (aluvangalthazhamper umbattaelamanapadam, valiyapadam. mampuzhthodenaveekarana project no 260/2021 project cost 16.67 lakhs) . it is a joint venture project by grama, block and jilla panchayat	Perumanna G P, Kozhikode block panchayat, Kozhikode jilla panchayat	Dec-21			Completed	Completed	Technical sanction obtained .tender procedure completed .including in 2021-22 plan as spillover project.	Tender has been done

8	Cleaning of mampuzha river (project name :mampuzha water flow restoration,project no 01/2018-19	District panchayat Kozhikode	2018-19	Completed by panchayat	Completed by panchayat	Completed by panchayat	Completed by panchayat	25 lakhs transferred to district panchayat	Work is ongoing by district panchayat ,kozhi kode
9	Establishment of 18 nos of mini MCF in different wards including payyadimetal where the river is flowing	Perumanna G P MGNREGS	Dec-21	11 Nos completed	11 Nos completed	11 Nos completed	11 Nos completed	11 Nos 100%	7 units not started
10	Collection of plastic waste from the river	Perumanna G P	Continuous process	Three times completed	Three times completed	Three times completed	Three times completed	N A	Process will be done every year

Peruvayal Grama Panchayath

No .	Activity	Implementing agency	Time line	Progress in the month of SEPTEMBER 2022	Progress in the month of OCTOBER 2022	Progress in the month of NOVEMBER 2022	Progress in the month of DECEMBER 2022	% works completed	Details of works remaining
1	Outlet in storm water drain and issued notice	Peruvayal G P	Continuous process	5 notice issued	5 notice issued	5 notice issued	5 notice issued	On going	

2	Establishment of 5b units anaerobic composed unit in panchayat.	Peruvayal G P through MGNREGS	4/2021 TO 03/2021	work will commence on third week of march 2021	work will commence on third week of march 2021	work will commence on third week of november 2022	work will commence on third week of november 2022	NA	
3	Setting up of reentering plant for chicken solid waste	Peruvayal G P	Continuous process	Commence on 18/09/2020	Commence on 18/09/2020	Started soon	Started soon	100%	
4	Setting up of 379 soak pit plant in all houses	Peruvayal G P	04/2020 to 03/2021	On going	On going	on going	on going	Nil	170 will be finished within march 2021
5	Cleaning of mambuzha river (project name mambuzha renovation) project no : 190/2017-18	District panchayat Kozhikode	2017-18	Completed by Panchayat	Completed by Panchayat	completed by panchayath	completed by panchayath	25 lakhs transferred to district panchayat	Ongoing
6	Establishment of 8 numbers of mini9 MCF	Peruvayal G P through MGNREGS	4/2020 TO 2021	4 mini MCF completed	6 mini MCF Completed	6 mini MCF Completed	6 mini MCF Completed	80%	4 will started immediately
7	Collection of plastic waste from the river	Peruvayal G P	Continuous process	3 times collected	3 times collected	3 times collected	3 times collected	100%	Continuous process

8	Collection and segregation of solid waste in the river	Peruvayal G P	Continuous process	3 times collected	3 times collected	3times collected	3times collected		Continuous process
9	Establishment of Bio gas plant	Peruvayal G P	2020-21	26 numbers completed	26 numbers completed	26 number completed	26 number completed	70%	Work will be completed by the end of february 2023
10	Well recharge	Peruvayal G P through MGNREGS	2020-21	63 numbers completed	78 number completed	78 number completed	78 number completed	82%	Work will be completed by the end of february 2023

MavoorGp

No	Activity	Implementing agency	Time line	Progress in the month Of SEPTEMBER 2022	Progress in the month of OCTOBER 2022	Progress in the month of NOVEMBER 2022	Progress in the month of DECEMBER 2022	% Work completed	Details of work remaining
1	MCF	MavoorGp	31.03.2019	Completed and functioning	Completed and functioning	Completed and functioning	Completed and functioning	100%	Nil
2	Fish market construction	MavoorGp	31.03.2019	Completed and functioning	Completed and functioning	Completed and functioning	Completed and functioning	100%	Nil
3	Ring compost	MavoorGp	31.03.2019	Completed and functioning	Completed and functioning	Completed and functioning	Completed and functioning	100%	NIL(190 units)

4	Tree plantation in river side	MGNREGS	Completed	Completed	Completed	Completed	Completed	100%	NIL(3500 units)
5	Compost pit	MGNREGS	Completed	Completed	Completed	completed	completed	100%	NIL(1000 units)
6	Well recharge	MGNREGS	31.03.21	Estimate under preparation	Estimate under preparation	Estimate prepared	TENDER PROCESS		2 units (Buds school, Ayurveda dispensary)
7	Bucket compost	MavoorGp	31.03.21	Ongoing	Ongoing	completed	completed	100%	502 units
8	Collection of non biodegradable waste	MavoorGp	Through out the year	Ongoing	Ongoing	Ongoing	Ongoing		
9	Transportation of waste material to refinement unit	Clean kerala company	2022-23	Ongoing	Ongoing	Ongoing	Ongoing		
10	Cleaning ofCherupuzha (Kuniyakadav to Thenghilakadav)	Mavoor G P	2022-23	Completed	Completed	Completed	Completed	100%	1500 Meter
11	ValayannorThodu Cleaning	MGNREGS	2022-23	Estimate under preparation	Estimate under preparation	Estimate under preparation	TENDER PROCESS		115 meter
12	AryankodeKalchiraThodu Cleaning	MGNREGS	2022-23	Estimate under preparation	Estimate under preparation	Estimate under preparation	TENDER PROCESS		115 meter
13	Drainage cleaning in Mavoor Town	Mavoor GP	2022-23		Estimate under preparation	Estimate under preparation	TENDER PROCESS		

14	Ring compost	Mavoor GP	2022-23			Project approved	Project approved		
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OLAVANNA GRAMAPANCHAYAT

<i>No</i>	<i>ACTIVITY</i>	<i>IMPLIMENTING AGENCY</i>	<i>TIMELINE</i>	<i>PROGRESS IN THE MONTH OF SEPTEMBER 2022</i>	<i>PROGRESS IN THE MONTH OF OCTOBER 2022</i>	<i>PROGRESS IN THE MONTH OF NOVEMBER 2022</i>	<i>PROGRESS IN THE MONTH OF DECEMBER 2022</i>	<i>% WORKS COMPLETED</i>	<i>DETAILS OF REMAINING WORK</i>
1	Collection of plastic waste from the river	Olavannagrama panchayat	Continuous process	2 times collected	2 times collected	4 times collected	4 times collected	80%	Process continuing
2	Collection of segregation of solid waste in the river	Olavannagrama panchayat	Continuous process	2 times collected	2 times collected	5 times collected	5 times collected	100%	Process continuing
3	Establishment of Mini MCF in all wards	Olavannagrama panchayat through MGNREGS	4/2020 To 3/2021	2 Mini MCF Completed	2 Mini MCF Completed	2 Mini MCF Completed	2 Mini MCF Completed		Remaining will started immediately
4	Cleaning of Mambuzha river	Olavannagrama panchayat	Continuous process					81%	Process continuing

1	Desilting of Kallayi river from Kaduppini to Kothiin Kozhikode Corporation	Irrigation department	31.03.21	Tender for approval at chief engineer		
2	Provide fencing on the sides of the Bridge	Irrigation department	31.03.21			
3	Dredging, Desilting & removal of weeds from E K Canal (11.2 km)	Irrigation department	31.07.19	7.7 km completed		Remain ing not done as there is no side protect ion
4	Bio Park in Kozhikode District	Irrigation department		NA		
5	Flood Prone Mapping in Kozhikode District	Irrigation department		Acton to be taken by the hydrology wing of irrigation department as this needs data collection, scientific analysis and modeling		

Kerala State Pollution Control Board

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of JULY 2022	Progress in the month of AUGUST 2022	Progress in the month of SEPTEMBER 2022	% works completed	Details of works remaining
1	River water quality monitoring- KallayiriverNational 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– 1month. Orange – 3 months. Green – 6					

			months.					
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<i>SuchitwaMission</i>								
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of JULY 2022	Progress in the month of AUGUST 2022	Progress in the month of SEPTEMBE R 2022	% 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 JULY 2022	Progress in the month of AUGUST 2022	Progress in the month of SEPTEMB ER 2022	% 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 Groundwater resources of Kerala, 2017 estimate ,Kozhikkode Block comes under the Kallai river basin and the block is safe with stage of groundwater extraction 68.49%)	Ground Water Department		Nil 1	Nil	Nil		
B(ii)	Ground water recharging / rain water harvesting (Earlier status : The average pre-monsoon groundwater level is 7.23mbgl. Groundwater Department has implemented 3 no of dug well recharge schemes at Kozhikkode block)	Ground Water Department		Nil 1	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 1	Nil	Nil		

	pumps (Earlier status - Groundwater 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		Ni 1	Nil	Nil		

Action plan by irrigation Department

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of July2022	Progress in the month of August 2022	Progress in the month of September 2022	% works completed	Details of works remaining
E	Dredging and desilting	Irrigation Dept	3 years					
E	E-flow (by micro water shed management)	Irrigation Dept	3 years			Sub mitt ed for appr oval of Chie f Engi neer		
E	Flood plain zone (protection and management)	Irrigation Dept	3 years					
E	Greenery development (plant in trees on thebanks)	Irrigation Dept	3 years					



KERALA STATE POLLUTION CONTROL BOARD

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

REGIONAL OFFICE, KOZHIKODE

3rd FLOOR, ZAMMUDU BUILDING, LEON ROAD, KOZHIKODE - 673002

Office of The Environmental Engineer
CALICUT
14/3/23
Pollution Control

ANALYSIS REPORT OF RIVER WATER

Report No.	K R O R 4 5 8 4 / 1 to 5	Date:	1 4 0 3 2 0 2 3
Date of Sample Collection	0 5 0 2 2 0 2 3	Date of receipt of the sample	0 5 0 2 2 0 2 3
Sampled by:	RL, KKD	Time	Hours: 1 6 : 3 0
Sampling Method	APHA1060B,a	Sample ID	KL1, KL2, KL3, KL5 & KL6
Sample container	PC 28 L	Sample Lab Code	KROS 4584/1-5
Source:	KALLAI RIVER WATER	Ref.letter No.	PCB/KC/DO/ Polluted River Sample/2023 Vol. IV. Dated 06.02.2023
Specific sampling location:	GIVEN BELOW	Received from:	EE, DO, KKD
Sample preservation:	Ice box	Period of analysis:	06.02.2023-28.02.2023
		No. of samples	5
		Analysed by:	MJ/CVR/CNR
		Method:	Standard Methods for the examination of Water and Wastewater, APHA, AWWA WEF (22 nd 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	7.18	7.31	7.34	7.45	7.95
2	CONDUCTIVITY	µmhos/cm	APHA 2510B	20540	24550	25890	31990	40940
3	BOD	mg/L	IS3025 (Part 44)	1.8	1.8	1.9	5	1.2
4	DISSOLVED OXYGEN	mg/L	APHA 4500-D,C	8.47	5	4.6	3.53	5.3
5	TOTAL COLIFORM,	CFU/100ml	APHA 9222B	7000	10000	47000	50000	200
6	FECAL COLIFORM	CFU/100ml	APHA 9222D	5000	5000	14000	30000	60
7	FECAL STREPTOCOCCUS	CFU/100ml	APHA 9230 C	240	300	260	360	40
8	TEMPERATURE	°C	APHA 2550B	27	27	27	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. 3- KALLAI RIVER AT MANKAVU BRIDGE, KL5- KALLAI RIVER AT KALLAI BRIDGE & KL6- KALLAI RIVER AT KOTHI BRIDGE, THEKKEPURAM .

DE1

DA 675

386
14/3/23

14/3/2023
Scientist in charge

386
14/3/23



KERALA STATE POLLUTION CONTROL BOARD
 മലയാളം (മലയാളം) മലയാളം (മലയാളം) മലയാളം (മലയാളം) മലയാളം (മലയാളം)
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REGIONAL OFFICE, KOZHIKODE
 മലയാളം (മലയാളം) മലയാളം (മലയാളം) മലയാളം (മലയാളം) മലയാളം (മലയാളം)
 2nd FLOOR, AIRWAYS BUILDING, LAKSHMI NAGAR, KOZHIKODE - 673 002

OFFICE OF THE Environmental Engineer & Pollution Control Officer
CALICUT
 Date: 06/03/2023

ANALYSIS REPORT OF RIVER WATER

Report No.	K R O S 4 6 1 0 / 1 to 8	Date:	0 6 0 3 2 0 2 3
Date of Sample Collection	2 2 0 2 2 0 2 3	Date of receipt of the sample	2 2 0 2 2 0 2 3
Sampled by:	RL_KKD	Time	Hours: 1 7 : 0 0
Sampling Method	APHA1060B,a	Sample ID	DS1,DS2,DS3,DS4,DS5,DS6,DS7 & DS8
Sample container	PC 2.5 L	Sample Lab Code	KROS:4610/1-8
Source:	KUTTYADI RIVER WATER	Ref.letter No.	PERKODD (Kuttayadi River near) 2019, Date 22.10.2022
Specific sampling location:	GIVEN BELOW	Received from:	EE,DO,KKD
Sample preservation:	Ice box	Period of analysis:	22.02.2023-28.02.2023
		No. of samples	8
		Analysed by:	MJ/CVR/CNR
		Method: Standard Methods for the examination of Water and Wastewater, APHA AWWA WEF (22 nd Ed.)	

Sl no	Parameters	unit	Method No.	SAMPLE ID							
				DS1	DS2	DS3	DS4	DS5	DS6	DS7	DS8
1	pH	-	APHA 4500-H ₊ B	7.68	7.21	7.11	6.97	7.72	7.52	7.04	7.38
2	CONDUCTIVITY	µmhos/cm	APHA 2510B	107.8	34.37	58.71	36.03	38.31	27.67	60.78	36.58
3	BOD	mg/L	IS 3025 (Part 44)	0.8	0.33	0.6	0.8	0.87	0.8	0.83	0.47
4	DISSOLVED OXYGEN	mg/L	APHA 4500-O ₂ C	7.73	7.6	8.2	8.07	8.2	7.6	5.53	8.06
5	TOTAL COLIFORM,	CFU/100ml	APHA 9222B	8500	1900	3700	1700	1300	1100	3100	16000
6	FECAL COLIFORM	CFU/100ml	APHA 9222D	5500	1100	2100	1300	400	800	2200	8500
7	FECAL STREPTOCOCCUS	CFU/100ml	APHA 9230 C	180	50	60	80	30	30	130	180
8	TEMPERATURE	°C	APHA 2550B	27	27	27	26	27	27	28	28

Test method variation: None

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

DS1-KUTTYADI RIVER NEAR MARUTHOMKARA-DRAINAGE MOUTH, DS2-KUTTYADI RIVER AT PUZHAYORAM HOTEL, DS3-KUTTYADI RIVER NEAR PARK RESIDENCY HOTEL, DS4-KUTTYADI RIVER AT JANAKI FOREST, DS5-KUTTYADI RIVER NEAR PERUVANNAMUZHI DAM,DS6-KUTTYADI RIVER AT GULIKAPUZHA DRAIN MOUTH,DS7-KUTTYADI RIVER AT KADIYANGAD RIVER & DS8-KUTTYADI RIVER BEHIND KSRTCDEPOT, THOTTILPALAM

AE1
 04/6/23

20
 27/5/23

777 (a)
 9/3/23

MJ
 6/3/2023
 Scientist in charge

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 DECEMBER2022–Kuttiady 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	12/2022 03/21 31.05.2024 03/2022	<u>KuttyadiGramapanchayath</u> Massive awareness program and survey conducted. Community toilet and household latrine schemes implements MRF and MCF. Work in good condition. Project for household compost bin in is completed and carried out drainage work. <u>ChakkittaparaPanchayath</u> Massive awareness program conducted. Community toilet and household latrine schemes implements MRF and MCF. Work in good condition. Project for household compost bin in progress and carried out drainage reparse work <u>Payyoli municipality</u> 1. Action plan prepared under SBM 2.0 2. Action plan prepared under Amrut Scheme <u>ThurayurGramapanchayath</u> Ward wise awareness programme conducted. community toilet 'Take a Break' started and house hold latrine schemes implemented.MCF started.

			Project for house hold bucket compost completed.
2	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured	12/2022 03/21 31.05.2024	<u>KuttyadiGramaPanchayath</u> Committed to implement major scheme next year <u>ChakkittaparaPanchayath</u> Committed to implement major scheme next year <u>Payyoli municipality</u> 1. Action plan prepared under SBM 2.0 2. Action plan prepared under Amrut Scheme <u>ThurayrGramaPanchayath</u> Major scheme will be implemented only by the availability of funds
3	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning	01/2023 03/21 31.12.2024	<u>KuttyadiGramaPanchayath</u> Attached separate report <u>ChakkittaparaPanchayath</u> River origin areas are in Chakkittapara, No industrial unites, ODF Project implemented <u>Payyoli municipality</u> 1. Action plan prepared under SBM 2.0 2. Action plan prepared under Amrut Scheme <u>ThurayurGramaPanchayath</u> No industrial unit in thurayurgramapanjayath ODF project implemented
4	Chief secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none"> • Specifying accountability of nodal authorities not below the secretarylevel 		Not applicable

	<ul style="list-style-type: none"> • Chief secretaries may have an accountable person attached in their office for this purpose • Monitoring at state level must take place 		
5	<p>Progress report may be furnished by the state/UTs to</p> <ul style="list-style-type: none"> • Secretary, ministry of jalshakti • Member secretary, CPC B 	<p>Monthly (preferably before 20th of every month)</p>	<p>Nil</p>
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 insitu treatment</p>	<p>Primary STP (Oil and Grease trap with grit chamber) Will be implemented by 31/3/2021</p> <p>12/2022</p>	<p>Drains identified. Pollution load calculated. Action plan prepared. Notices issued by concerned Panchayath Secretaries to individual units. Action under progress by individual units.</p> <p>Monthly progress report of Kuttiady, Maruthomkara, Cheruvannur, Changaroth, Perambra, Kavilumpara, Velom Panchayaths, Chakittapara, Payyoli, Thurayoor, Irrigation department, Water Authority, Shuchitwa mission for the month of August 2022 is attached as <i>Annexure 3. Kuttyadi Grama Panchayath</i> Survey will be conducted</p>

<p>(ii) <u>status of STPs, I&D and sewage networks</u></p> <p>Details of existing infrastructure, proposed along with completion timeline</p>	3/2021	<p><u>ChakkittaparaPanchayath</u> River originate from ChakkittaparaGrama Panchayat .</p>
	03/2022	<p>Polluting sources are not identified.</p> <p><u>ThurayurGramaPanchayath</u> Polluted area in river are not identified.</p>
	3/21	<p>Mostly rural area. No common STP proposed. Individual septic tank and soak pit system provided for house hold, units like bakery, cool bars small restaurants with less seating capacity. Individual STPs for high rise building, hotels, Restaurants, Commercial buildings.</p>
	31.05.2024	<p><u>ChakkittaparaPanchayath</u> : Nil</p>
	3/21	<p><u>Payyoli municipality</u> Action plan prepared underSBM 2.0</p>
		<p><u>ThurayurGramaPanchayath</u> Nil</p>
	31.12.2024	<p><u>Payyoli municipality</u> ✓ No CETPs proposed ✓ Action plan prepared under SBM 2.0</p>
	03/2022	<p><u>ThurayurGramaPanchayath</u> No industry in the locality <u>KuttyadiGramaPanchayath</u> No industry in the locality <u>ChakkittaparaPanchayath</u> No industry in the locality</p>
(iii) <u>status of CETPs</u>		
Details of existing CETP and ETP infrastructure ,Gap analysis, proposed along with complying status		

<p>(iv) <u>status of solid waste management& details of processing facilities</u> Details of existing infrastructure, Gap analysis, proposed along with completion timeline</p>	31/03/2021	Construction started for block level MRF for 7 panchayath in the Kuttiyady block.
	Completed and functioning	MCF of Kuttiyadi Panchayath set up with shredding unit-work completed and functioning.
	Completed and functioning	Mini MCF set up in all wards of Kuttiyadi panchayath.
	Completed and functioning	<u>Kavilumparapanchayath</u> 3 MCFs are functioning.
	Completed and functioning	<u>Maruthomkara Panchayath</u> MRF completed and functioning. Biogas plant work completed.
	Completed and functioning	<u>Velom Panchayath</u> Community level – Biogas plant. Work under construction (80% work completed). 50 nos of Biogas plant for house hold- Completed and functioning 50 nos of Biogas plant for house hold- Completed and functioning
	31/103/2021	
	31/10/2021	<u>Perambra Panchayath</u> MCF- Tendering in progress Mini MCF – work completed.
	<u>Changaroth Panchayath</u> Project for setting up MCF approved. Site to be identified soon. Biogas plant and Ring compost for house hold proposed. Plastic shredding unit proposed.	
	<u>Chakkittapara Panchayat</u>	

<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>03/2021</p> <p>31/10/2024</p>	<p><u>h</u> House Hold plastic waste collected as per the guidelines of SuchithwaMission .</p> <p><u>Payyoli Municipality</u> One temporary MCF exist & 18 mini MCF under construction.Construction of permanent MCF going on. To be complete by September 2022</p> <p><u>ThurayurGramaPanchayath</u> House hold plastic waste collected as the guideline of Suchitwa mission</p> <p><u>KuttyadiGramaPanchayath</u> Report attached</p> <p>Water quality monitoring result for the month of August 2022 is attached as Annexure-4</p> <p><u>ChakkittaparaPanchayat</u> <u>h</u> No details available</p> <p>Same as Item no. 5.1(v) Biomedical waste from Hospital,labs ,clinics collected through image, plastic waste disposal through recyclers.Individual solid waste processing facilities like bio gas plant, bio bins in high rise building, hotels</p>
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			etc.Fencing proposed by irrigation department. <u>ChakkittaparaPanchayat</u>
		03/2021	<u>h</u> No waste dumping <u>ThurayurGramaNanc</u>
			<u>hayath</u> No waste dumping <u>KuttyadiGramaNanchaya</u>
			<u>th</u> No waste dumping
(vii) ground water regulation		31/10/2023	<u>ChakkittaparaPanchayat</u>
			<u>h</u> Ground water regulation and action taken <u>ThurayurGramaNanc</u>
			<u>hayath</u> Ground water regulation and action taken <u>KuttyadiGramaNanchaya</u>
			<u>th</u> Action taken
(viii) adopting good irrigation practices		31/10/2024	<u>ThurayurGramaNanc</u>
			<u>hayath</u> As per the direction of Government, action will be taken <u>ChakkittaparaPanchayat</u>
			<u>h</u> As per the direction of Government, action will be taken <u>KuttyadiGramaNanchaya</u>
			<u>th</u> As per the direction of Government, action will be taken

<p>(ix) protection and management of flood plain zones(FPZ),</p>	<p>31/10/2024</p>	<p>NIL</p>
<p>(x) Rain waterharvesting</p>	<p>Work in progress</p>	<p><u>Velompanchayath</u> 22527 rain water pit , well recharge – 1500 houses</p>
	<p>31/10/2024</p>	<p><u>Kavilumparapanchayat</u> <u>h</u>well recharge – 160 houses</p>
		<p><u>Maruhtonkarapanchayath</u>Well recharge- work completed</p>
		<p><u>Cheruvanoorpanchayat</u> <u>h</u>Well Recharge – Project in progress</p>
	<p>03/2021</p>	<p><u>ThurayurGramaPanchayath</u> Project for well water and well recharge is in progress as per the action plan of MGNREGS</p>
		<p><u>ChakkittaparaPanchayath</u> Project for well water pit and well recharge adopted</p>
		<p><u>KuttyadiGramaPanchayath</u> Project for rain water pit and well recharge adopted</p>
<p>(xi) Maintaining minimum environmental flowof river</p>	<p>31/10/2024</p>	<p><u>Kavilumparapanchayat</u> <u>h</u> Adopted steps to remove sands and rock dumped durig rain flood <u>Maruhtonkarapanchayath</u> <u>ah</u> 74 works ongoing</p>

		03/2021	<p>under MGNREGS(RWH, soil Conservation). <u>Kavilumparapanchayath</u> 5 works ongoing under MGNREGS for protection of river sides <u>ChakkittaparaPanchayath</u> River Originating area, Noticed environment flow <u>PayyoliMunicipality</u>Rejuvenation/cleaning of Naivaranithodu by removing slit and other solid wastes-Work in Progress <u>ThurayurGramapanchayath</u> River originating area , Noticed environmental <u>KuttyadiGramapanchayath</u> Rain water storage pits provided to house.</p>
(xii) Plantation on bothsides of theriver		03/2021	<p><u>ChakkittaparaPanchayath</u> Bamboo planting will be done in MGNREGS <u>ThurayurGramapanchayath</u> Bamboo planting will be done only by the direction of governing council <u>KuttyadiGramapanchayath</u> Bamboo and Ramacham planted on the banks of kuttiadi river</p>

	<p>(xiii) Setting up biodiversity parks on flood plains by removing encroachment</p>	<p>31.05.2024</p>	<p><u>ChakkittaparaPanchayath</u> Action will be taken depending upon availability of fund <u>ThurayurGramapanchayath</u> Action will be taken depending upon availability of fund <u>KuttyadiGramapanchayath</u> Action will be taken depending upon availability of fund. Projects for Bamboo park and social forestry works adopted.</p>
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(Hon'ble NGT in the matter of OA No.673/2018 dated 06.12.2019)

ACTION PLAN FOR RIVER KUTTIYADI, KERALA

Kuttyadi Grama Panchayath

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of SEPTEMBER 2022	Progress in the month of OCTOBER 2022	Progress in the month of NOVEMBER 2022	Progress in the month of DECEMBER 2022	% works completed	Details of works remaining
D	Geo textiles at river bed	MGNREGS	31.03.2018	100%	100%	100%	100%	100%	Completed
E	Harithasahayastapan a agreement	Kuttyadi Grama Panchayath	31.03.2020	Completed	Completed	Completed	Completed	100%	Agreement signed with south side Resource Management
C(ii)	Removal of Non bio degradable waste	Kuttyadi Grama Panchayath	31.03.2020	Completed	Completed	100%	100%	100%	Completed
C(ii)	Clean green kuttyadi	Kuttyadi Grama Panchayath	31.03.2020	100%	100%	100%	100%	100%	Plastic collection from home Completed
A(b)	Community toilet	Suchitwa mission	31.03.2020					100%	Completed

C(ii)	MRF	Block panchayath	31.03.2020	Nil	Nil	Ni	Ni	Nil	Completed
C(ii)	MCF	KuttyadiGramapanchayath	31.03.2019					100%	Mcf REPAIRING ONGOING
A(b)	Sanitary latrine	KuttyadiGramapanchayath	31.03.2019	50%	50%	50%	50%	95%	5%
B(ii)	Well recharging	MGNREG	31.03.2019	Nil	Nil	Nil	Nil	Nil	Nil
E	Camera surveillance	KuttyadiGramapanchayath	completed					100%	completed
E	Rejuvenation of Kuttyadi river	MGNREGS	31.03.2020	50%	50%	50%	100%	100%	completed
C(ii)	Disposal of non degradable bio waste	KuttyadiGramapanchayath	31.03.2020	99%	99%	99%	100%	100%	completed
E	Clean Village	KuttyadiGramapanchayath	31.03.2020	99%	99%	99%	100%	100%	completed
C(ii)	MRF	Block Panchayat	31.03.2020	Na	Na	Na	Na	100%	completed
C(ii)	MCF	KuttyadiGramapanchayath	31.03.2020	100%	100%	100%	100%	100%	completed
C(ii)	Retrofitting	KuttyadiGramapanchayath	31.03.2020	100%	100%	100%	100%	100%	Nil

VelamGramaPanchayath

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of SEPTEMBER 2022	Progress in the month of OCTOBER 2022	Progress in the month of NOVEMBER 2022	Progress in the month of DECEMBER 2022	% works completed	Details of works remaining
C(ii)	Govardhian Biogas plant	Velam GP	31.03.2020				100	100	completed
C(ii)	MCF	Suchitwa mission	31.03.2020				100	100	completed
C(ii)	Biogas plant 50 No.s	Suchitwa mission	31.03.2020						
B(ii)	Well recharge 1500 houses	MGNREGS	31.03.2020				50	50	Nil
	Installation of Biogas plant for individual beneficiaries	Socio Economic unit Foundation	31.12.2019				5nos		0
C(ii)	Installation of Ring compost	Socio Economic unit Foundation	31.12.2019				14		0
C(ii)	Making compostpit	MGNREGS	31.0.2020	5			19		20

Maruthomkara Grama Panchayath

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of SEPTEMBER 2022	Progress in the month of OCTOBER 2022	Progress in the month of NOVEMBER 2022	Progress in the month of DECEMBER 2022	% works completed	Details of works remaining
C(ii)	MRF	Block panchayath	2019-2020	Completed	Completed	Completed	Completed	100%	Completed
C(ii)	Biogas plant	Maruthomkara GP	2019-2020	completed	Completed	Completed	Completed	100%	Completed
B(ii)	Well recharge	Maruthomkara GP	2019-2020	completed	Completed	Completed	Completed	100%	Completed
A(b)	Sanitary complex	Maruthomkara GP	2019-2020	completed	Completed	Completed	Completed	100%	Concrete Completed
E	Harithasahayath apana agreement	Maruthomkara GP	2019-2020	completed	Completed	Completed	Completed	100%	Completed
	Biobin for home	Maruthomkara GP	2021-2022	Completed	Completed	Completed	Completed	100%	
	Nidival River Cleaning	Maruthomkara GP	2021-2022	Completed	Completed	Completed	Completed	100%	
C(ii)	Biogas plant	Maruthomkara GP	31.03.2020						
A(b)	Sanitary Complex	Maruthomkara GP	31.03.2020						

PerambraGrama Panchayat

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of SEPTEMBER 2022	Progress in the month of OCTOBER 2022	Progress in the month of NOVEMBER 2022	Progress in the month of DECEMBER 2022	% works completed	Details of works remaining
E	Harithasahaya sthapan agreement	Perambra gramapanchayat	31.03.2020	HSS identified	HSS identified	HSS identified	HSS identified		
C(ii)	Solid waste removal	Perambra gramapanchayat	31.03.2020	completed	completed	completed	completed	completed	Fortnight collection of non biodegradable waste from houses is being continued
C(ii)	Zero waste Perambra	Perambra gramapanchayat	31.03.2020	Completed	Completed	Completed	Completed	100%	
A(b)	Publictoilet	Perambra gramapanchayat	31.07.2019	Commissioned	Commissioned	Commissioned	Commissioned	100%	
C(ii)	MCF	Perambra gramapanchayat	31.10.2019	Commissioned	Commissioned	Commissioned	Commissioned	95%	Electrification tender

Kavilumpara Grama Panchayath

No. (as per Action Plan).	Activity	Implementing agency	Time line	Progress in the month of AUGUST 2022	Progress in the month of SEPTEMBER 2022	Progress in the month of OCTOBER 2022	Progress in the month of NOVEMBER 2022	% works completed	Details of works remaining
E	Harithasahayasthapan a agreement	Kavilumpara GP	30.03.2023	Completed	NA			100% Completed	NA
C(ii)	Collection of non-biodegradable waste	Kavilumpara GP	30.03.2023	Collected	Collected	Collected	Collected	100 % Completed	
C(ii)	MCF	Kavilumpara GP	30.03.2023	Completed	Completed	Completed	Completed	100% Completed	NA
B(ii)	Well recharge	MGNREGS	30.03.2023	Application Nil	Application Nil	Application Nil	RECEIVED 5 APPLICATIONS ACCORDED	NIL	Work Started
D	River cleaning	Kavilumpara GP	30.03.2023	NA	NA	NA	NA	100%	

ChakkittaparaGramaPanchayath

No.(as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of SEPTEMBER 2022	Progress in the month of OCTOBER 2022	Progress in the month Of NOVEMBER2022	Progress in the month Of DECEMBER2022	% works completed	Details of works remaining
D	Removal of pebbles dumped if any	MGNREGS	31.03.2020	Nil	Nil	Nil	Nil		Nil
E	Harithasahayastapana agreement	ChakkittaparaGramaPanchayath	31.03.2020	Completed	Completed	Completed	Completed	100%	Nil
C(ii)	Removal of Non bio degradable waste	ChakkittaparaGramaPanchayath	31.03.2020	Completed	Completed	Completed	Completed	100%	Nil
A(b)	Community toilet	Suchitwa mission	31.03.2020					100%	Nil
C(ii)	MCF	ChakkittaparaGramaPanchayath	31.03.2020					100%	Nil
A(b)	Sanitary latrine	ChakkittaparaGramaPanchayath	31.03.2020	86.6%	86.6%	86.6%	86.6%	86.6%	
B(ii)	Well recharging	MGNREG	31.03.2020	38.4%	38.4%	38.4%	38.6%	38.6%	

E	Rejuvenation of KuttiyadiPuzha	MGNREGS	31.03.2020	Nil	Nil	Nil	Nil	Nil	Nil
C(ii)	Disposal of non degradable bio waste	ChakkittaparaGramapanchayath	31.03.2020	82.4%	82.4%	82.4%	82.4%	82.4%	Collection from MCF
E	Clean Village	ChakkittaparaGramapanchayath	31.03.2020	35%	35%	35%	35%	35%	
C(ii)	MCF	ChakkittaparaGramapanchayath	31.03.2020					100%	Nil

CheruvannurGramapanchayath

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of OCTOBER 2022	Progress in the month of NOVEMBER 2022	Progress in the month of DECEMBER 2022	% works completed	Details of works remaining
E	HarithaSahayaSthapana agreement	Cheruvannur GP	31.03.2020	Completed	Completed	Completed	100%	Nil
C(ii)	Collection of plastic waste	Cheruvannur GP	31.03.2019	Completed	Completed	Completed	100 %	Nil
A(b)	Repairing of households toilets	Cheruvannur GP	31.03.2020	Completed	Completed	Completed	100%	Nil

A(b)	Construction of Community toilet at Nirappam Stadium	Cheruvannur GP	31.03.2020	Completed	Completed	Completed	100%	Nil
B(ii)	Well recharging	Gramapanchayath & MGNREGS	31.03.2019	Completed	Completed	Completed	100%	Nil
A(b)	Latrine Construction	Gramapanchayath & MGNREGS	31.03.2019	Completed	Completed	Completed	100%	Nil
new	Take a break toilet cum relaxation centre	Cheruvannur GP	31.03.2022	Work Completed	Work Completed	Finishing work ongoing	95%	Nil
new	Thumburmoozhi Aerobic bin compost	Cheruvannur GP	31.03.2021				0	Construction on work

Koorachund Grama Panchayat

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of SEPTEMBER 2022	Progress in the month of OCTOBER 2022	Progress in the month of NOVEMBER 2022	Progress in the month of DECEMBER 2022	% works completed	Details of works remaining
	Setting up of MCF	Koorachund GP	31/06/2022	completed	Ongoing	Ongoing	Ongoing	95%	Ongoing
	Collection of non degradable waste	Koorachund GP harithakarmasena	Throughout the year	collected	collected	collected	collected	100%	Ongoing
	Transportation of waste material	Green worms	Throughout the year	ongoing	ongoing	ongoing	ongoing	90%	Ongoing
896	Renewal/construction of public toilet Take a Break	Koorachund GP MGNREGS	31/09/2022	ongoing	ongoing	ongoing	ongoing	90%	Ongoing
859	Brook cleaning	Koorachund GP MGNREGS	31/05/2022	ongoing	ongoing	ongoing	ongoing	80%	Ongoing
1211	Setting up of mini MCF	Koorachund GP MGNREGS	31/09/2022	ongoing	ongoing	ongoing	ongoing	65%	Ongoing
199	Well recharge	Koorachund GP MGNREGS	Throughout the year					65%	Ongoing
	Cleaning of AthiyodithoduTheleineerozhukumNava keralam	Koorachund GP MGNREGS	31/05/2022		Ongoing	Ongoing	Ongoing	100%	completed

Thiruvallur Grama Panchayat

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of SEPTEMBER 2022	Progress in the month of OCTOBER 2022	Progress in the month Of NOVEMBER 2022	Progress in the month Of DECEMBER 2022	% works completed	Details of works remaining
1	drainage cleaning	Thiruvallur GP	2020-21	Completed	Completed	Completed	Completed	100%	Nil
2	harithasahayasthabana agreement	Thiruvallur GP	2020-21	Completed	Completed	Completed	Completed	100%	Nil
3	Removal of non bio degradable waste	Thiruvallur GP	2020-21	Completed	Completed	Completed	Completed	100%	Nil
4	Community toilet	suchitwa mission	2020-21	nil	Nil	Nil	Nil		
5	MCF	Thiruvallur GP	2020-21	Not started	Started	Started	Started		Due to social assault work temporarily stopped.MCF functioning in a rental building

6	non recyclable inorganic waste hand over to clean kerala company	Thiruvallur GP	2020-21	Negotiation completed agreement to be executed with clean kerala company.	Nil	Nil	Nil		Negotiation on progress
7	Waste management project to veterinary hospital	Thiruvallur GP	2020-21	Annual plan for waste management exists.	Nil	Nil	Nil		Letter send to AE ,LSGD for preparing deep burial pit
8	Renovation of various canals	Thiruvallur GP	2020-21	completed	Work progressing	Completed	Completed	100%	Nil
9	Toilet to schools, anganvadies and bus stand	Thiruvallur GP	2020-21	Started	Toilet to schools completed toilet at bus stand to be started.	Started	Started		Work completed up to lintel level bus stand building construction project started

Thurayur Grama Panchayat

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of SEPTEMBER 2022	Progress in the month of OCTOBER 2022	Progress in the month of NOVEMBER 2022	Progress in the month of DECEMBER 2022	% works completed	Details of works remaining
	Removal of pebbles dumped if any	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	Harithasahayasthabana agreement	Thurayur GP	31.03.2020	Completed	Completed	Completed	Completed	100%	Nil
	Removal of non bio degradable waste	Thurayur GP	31.03.2020	Completed	Completed	Completed	Completed	100%	Nil
	Community toilet	SUCHITWA MISSION	31.03.2020	Nil	Completed	Completed	Completed	100%	Nil
	MCF	Thurayur GP	31.03.2020		Completed	Completed	Completed	100%	Nil
(b)	Sanitary latrine	Thurayur GP	31.03.2020	Nil	Nil	Nil	Nil	Nil	
ii)	Well recharge	MGNREGS	31.03.2020	Nil	Nil	Nil	Nil	Nil	
	Rejuvenation of kuttiadi river	MGNREGS	31.03.2020	Nil	Nil	Nil	Nil	Nil	
	Disposal of non degradable bio waste	Thurayur GP	31.03.2020	70%	70%	80%	90%	90%	Collection directly from houses
	Clean village	Thurayur GP	31.03.2020	Nil	Nil	Nil	Nil		
ii)	MCF	Thurayur GP	31.03.2020					partial	Basement

			1						completed
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ManiyurGrama Panchayat									
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of SEPTEMBER 2022	Progress in the month of OCTOBER 2022	Progress in the month of NOVEMBER 2022	Progress in the month of DECEMBER 2022	% works completed	Details of works remaining
15	innovation of canals	MGNREGS	2020-21	15 canals innovation completed	15 canals innovation completed	15 canals innovation completed	15 canals innovation completed	100%	Nil
68	innovation of streams	MGNREGS	2020-21	17 streams innovation completed	17 streams innovation completed	17 streams innovation completed	17 streams innovation completed	100%	51
2	innovation of streams	Maniyur GP	2020-21	2 streams innovation completed	2 streams innovation completed	2 streams innovation completed	2 streams innovation completed	100%	Nil
21	building up of mini MCF	MGNREGS	2020-21	Work of 7 mini MCF completed	Work of 9 mini MCF completed	Work of 9 mini MCF completed	Work of 9 mini MCF completed	43%	12
21 wards	collection of non-bio degradable waste	HarithakarmasenaManiyur GP	2022-23	waste in five wards was removed in December month 2020	waste in 19 th wards was removed in February month 2020	Plastic waste in five wards was removed in April month 2022	Plastic waste in five wards was removed in April month 2022	38%	Plastic waste in 16 wards

	Well recharge	MGNREGS	2020-21					86%	24%
220	Construction of soak pit	MGNREGS	2021-2022				10 Soakpits construction completed	2%	NIL
36	Innovation of Streams	MGNREGS	2021-2022				36 Streams Innovation completed	100%	NIL
22	Construction of Mini MCF	MGNREGS	2020-21 2021-22				Works of 22 mini MCF completed	96%	NIL

CHANGAROTH GRAMAPANCHAYATH

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of SEPTEMBER 2022	Progress in the month of OCTOBER 2022	Progress in the month of NOVEMBER 2022	Progress in the month of DECEMBER 2022	% works completed	Details of works remaining
C(ii)	Setting up of MCF	Changaroth GP	Sep-19	Completed	Completed	Started procedure acquire land from irrigation department	Started procedure acquire land from irrigation department	Completed	Completed

C(ii)	Collection of non-biodegradable waste	Haritha karma sena	throughout the year	175kg	300kg	275kg	275kg	-	-
C(ii)	Bio gas plants for house hold	Changaroath GP	Nov-19	Completed	Completed	100%	100%	100%	Completed
C(ii)	Ring compost unit	Changaroath GP	Dec-19	Completed	Completed	Completed	Completed	100%	Completed
C(ii)	Plastic shredding unit	Changaroath GP	Mar-20	Dropped	Dropped	Dropped	Dropped	Dropped-	Dropped
A(b)	House hold sanitary units	Changaroath GP	Jan-20	99%	99%	99%v	99%v	-	ongoing
C(ii)	Transportation of waste material to refinement unit	Changaroath GP	Sep-19	Completed	Completed	Completed	Completed	Completed	ongoing
C(iii)	Bamboo Cultivation river banks	MGNREGS	31.03.2020	No progress	No progress	No progress	No progress	canceled	Unavailability of bamboo plants

PAYYOLI MUNICIPALITY

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of SEPTEMBER 2022	Progress in the month of OCTOBER 2022	Progress in the month of NOVEMBER 2022	Progress in the month of DECEMBER 2022	% works completed	Details of works remaining
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	Included in the watershed area based development master plan.A municipal level committee formed for monitoring	Payyolimunicipality,Irrigation department	31.12.2021	Preparing the estimate	Preparing the estimate	Preparing the estimate	Preparing the estimate	NA	Work in progress
	Establishment of 2000units of ring compost	Payyoli municipality	31.03.2021	NA	NA	NA	NA	NA	Work in progress
	Establishment of 500 units of bio gas plant	31.03.2021	NA	NA	NA	NA	NA	NA	Work in progress
	Establishment of 5000units of bio bin	Payyoli municipality	31.03.2021	NA	NA	NA	NA	NA	Work in progress
	A contract agreement has been signed between municipality and fresh cut organic pvtltd,arentering plant functioning at Ambayathode,Thamarassery for the scientific treatment of chicken stall waste generated	Fresh cut organic pvt ltd	04.09.2020	100% chicken waste collected	100% chicken waste collected	100% chicken waste collected	100% chicken waste collected	100%	Completed
	Implementation of green protocol	Payyoli municipality	30.06.2020	Completed	Completed	Completed	Completed	100%	Completed
	Rejuvation/cleaning of Naivaranithodu by removing slit and other solid wastes	Payyoli municipality	31.3.2021						Work in progress

	Collection of plastic/non bio degradable household waste	Harithakarmasena	Ongoing	Collection started in 13wards	Collection started in 13wards	Collection started in 13wards	Collection started in 13wards	25%	NA
	Action taken against littering in public places	Payyoli municipality	Continuing	20notice issued.Fined -Rs.30190/-	20notice issued.Fined - Rs.30190/-	20notice issued.Fined - Rs.30190/-			NA

Irrigation Department

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of JUNE 2022	Progress in the month of JULY 2022	Progress in the month of AUGUST 2022	% works complete d	Details of works remaining
E	Salt water Extrusion - Construction of RCB upstream of Perincherikadavu across Kuttiady river (Gulikapuzha) in Kozhikode District	Irrigation Dept	July 31 2022					
C(ii)	Fencing the sides of Bridges to prevent dumping of wastes - 5 no's	Irrigation Dept	July 31 2022					

Kerala State Pollution Control Board

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of OCTOBER 2022	Progress in the month of NOVEMBE R 2022	Progress in the month of DECEMBE R 2022	% works complete d	Details of works remaining
1	River water quality monitoring- KUTTIYADI riverNational Water Quality Monitoring Programme(NWMP)	KSPCB	Ongoing; monthly frequency			Ong oing;		
2	River water quality monitoring– Kuttiyadi rivers State Water Monitoring Programme, KSPCB fund(SWMP)	KSPCB	Ongoing. Seasonal monitoring– pre- monsoon, monsoon, post- monsoon			ON GOI NG		
3	Inspection and effluent quality monitoring of the flats, industrial units, service stations, hospitals, hotels etc .in KUTTIYADI area	KSPCB	Ongoing Interval: Red– 1month.Oran ge – 3 months. Green – 6 months.			Insp ectio n cond ucte d pig farm		

Note – As per analysis report the fecal coliform high and it is observed that it is due to the illegal outlets . inspection was conducted in the pig farm situated in Chakkittaparamapanchayath and it is found that from the unit there is one pipe is connected to river side . Show cause notice was issued to the unit.Necessary follow up will be done from this office .



KERALA STATE POLLUTION CONTROL BOARD
 മലയാള സമരസംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്
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 3RD FLOOR, JAYAKANTH'S SQUARE, 1ST CROSS ROAD, KODIMODE - 673 002
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ANALYSIS REPORT OF RIVER WATER

Report No.	K R O S 4 5 4 0 / 1 to 8	Date:	2 7 1 2 2 0 2 2
Date of Sample Collection	1 4 1 2 2 0 2 2	Date of receipt of the sample	1 4 1 2 2 0 2 2
		Time	Hours: 1 7 : 3 0
Sampled by:	RL,KKD	Sample ID	DS1,DS2,DS3,DS4,DS5,DS6,DS7 & DS8
Sampling Method	APHA1060B,a	Sample Lab Code	KROS 4540/1-8
Sample container	PC 2.5 L	Ref.letter No.	PCB/KOD/DO/Co-1179/Field/Riv contd/2018 Dated 17.12.2022
Source:	KUTTYADI RIVER WATER	Received from:	EE,DO,KKD
		Period of analysis:	14.12.2022-24.12.2022
Specific sampling location:	GIVEN BELOW	No. of samples	8
		Analysed by:	BRS/CVR/CNR
Sample preservation:	Ice box	Method:Standard Methods for the examination of Water and Wastewater, APHA AWWA WEF (22 ND Ed.)	

Sl no	Parameters	unit	Method No.	SAMPLE ID							
				DS1	DS2	DS3	DS4	DS5	DS6	DS7	DS8
1	pH	-	APHA 4500-H+&B	6.46	6.53	6.58	6.74	6.31	6.46	6.53	6.56
2	CONDUCTIVITY	µmhos/cm	APHA 2510B	50.12	31.35	44.94	27.13	24.97	40.94	46.87	39.42
3	BOD	mg/L	IS3025 (Part 44)	0.5	0.6	0.13	1	0.6	1	0.8	0.4
4	DISSOLVED OXYGEN	mg/L	APHA 4500-DO	8.2	8	8	7.6	7.5	7.3	8	8.2
5	TOTAL COLIFORM,	CFU/100ml	APHA 5222B	6800	4700	6200	4800	520	3200	4900	8000
6	FECAL COLIFORM	CFU/100ml	APHA 5222D	3300	2400	2800	3200	340	2000	2800	6200
7	FECAL STREPTOCOCCUS	CFU/100ml	APHA 9230 C	100	60	140	280	30	140	140	320
8	TEMPERATURE	°C	APHA 2550B	27	28	27	28	28	27	27	27

Test method variation: None

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

DS1-KUTTYADI RIVER NEAR MARUTHOMKARA-DRAINAGE MOUTH, DS2-KUTTYADI RIVER AT PUZHAYORAM HOTEL, DS3-KUTTYADI RIVER NEAR PARK RESIDENCY HOTEL, DS4-KUTTYADI RIVER AT JANAKI FOREST, DS5-KUTTYADI RIVER NEAR PERUVANNAMUZHI DAM, DS6-KUTTYADI RIVER AT GULIKAPUZHA DRAIN MOUTH, DS7-KUTTYADI RIVER AT KADIYANGAD RIVER & DS8-KUTTYADI RIVER BEHIND KSRTCDEPOT, THOTTILPALAM

HE1

DA 675

4/1/23

[Signature]
27/12/2022

Scientist in charge



KERALA STATE POLLUTION CONTROL BOARD
 കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്
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 Telephone: 2330745, 46, 47
 www.kspcb.org



ANALYSIS REPORT OF RIVER WATER

Report No. **K R O R 4 5 3 5 / 1 to 5** Date: **2 7 1 2 2 0 2 2**

Date of Sample Collection	1 0 1 2 2 0 2 2	Date of receipt of the sample	1 0 1 2 2 0 2 2
Sampled by:	RL, KKD	Time	Hours: 1 7 : 0 0
Sampling Method	APHA1060B,a	Sample ID	KL1, KL2, KL3, KL5, & KL6
Sample container	PC 2.5 L	Sample Lab Code	KRDS 4535/1-5
Source:	KALLAI RIVER WATER	Ref.letter No.	PCB/KDD/Palathumkandi River Samples Vol. IV. Dated 02.12.2022
Specific sampling location:	GIVEN BELOW	Received from:	EE,DO,KKD
Sample preservation:	Ice box	Period of analysis:	10.12.2022-03.12.2022
		No. of samples	5
		Analysed by:	BRS/CVR/CNR
		Method: Standard Methods for the examination of Water and Wastewater, APHA AWWA WEF (22 ND 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	6.8	7.13	7.26	7.57	7.94
2	CONDUCTIVITY	µmhos/cm	APHA 2510B	9391	21450	177780	34120	42950
3	BOD	mg/L	53025 (Part 44)	3.65	2.88	5.28	3.08	2.88
4	DISSOLVED OXYGEN	mg/L	APHA 4500-D,C	4	5.5	3.5	4.4	5.2
5	TOTAL COLIFORM,	CFU/100ml	APHA 9222B	25000	92000	97000	52000	4900
6	FECAL COLIFORM	CFU/100ml	APHA 9222D	17000	78000	82000	39000	3300
7	FECAL STREPTOCOCCUS	CFU/100ml	APHA 9230 C	400	700	1800	1100	700
8	TEMPERATURE	°C	APHA 2550B	27	28	28	28	28

Test method variation: None

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

DE1
 DR 673
 KLI-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]
 27/12/2022
 Scientist in charge

90
 4/1/23

POLLUTED RIVER STRETCH WATER QUALITY MONITORING PROGRAMME DECEMBER 2022

Station Name		RAMAPURAM RIVER			
Type of Water body		RIVER			
Completed by		JSA1,JSA2			
Agency		KERALA STATE POLLUTION CONTROL BOARD KANNUR			
Date of sample		17-12-2022	17-12-2022	07-12-2022	17-12-2022
Sl.No	Determinants	KAPUGAI	ATHIYADAM	RAMAPURAM	VAYALAPRA
1	Temperature, °C	30	30	28	30
2	Dissolved Oxygen, mg/l	6.62	5.6	6.13	5.58
3	pH	6.63	6.39	6.18	7.72
4	Conductivity, µmhos/cm	106.3	124.7	2660	31200
5	BOD, mg/l	0.84	2.6	2.06	3.8
6	Turbidity, NTU	0.8	1	0.3	1.8
7	Total Alkalinity, mg/l	20	21	40	43
8	Chloride, mg/l	26	39	930	14600
9	Ammoniacal-N, mg/l	BDL	0.07	0.0041	0.1063
10	Hardness as CaCO ₃ , mg/l	16	22	24	5900
11	Calcium as CaCO ₃ , mg/l	14	10	13	2100
12	Magnesium as CaCO ₃ , mg/l	2	11	11	3800
13	Sulphate, mg/l	2	5.38	75.08	106.7
14	Phosphate, mg/l	BDL	BDL	BDL	BDL
15	Fluoride, mg/l	BDL	BDL	BDL	BDL
16	Total Coliform, MPN/100 ml	500	360	900	720
17	Fecal Coliform, MPN/100 ml	250	140	600	420

POLLUTED RIVER STRETCH WATER QUALITY MONITORING PROGRAMME December 2022

Station Name		KAVVAYI RIVER			
Type of Water body		RIVER			
Completed by		JSAI JSA2			
Agency		KERALA STATE POLLUTION CONTROL BOARD			
Date and time of sample taken		09-12-2022	09-12-2022	09-12-2022	05-12-2022
Sl.No	Determinants	Kunkol	Karikuzhibada	Thottarakkavu bridge	Kuthiyol palam
1	Temperature, 0C	30	30	31	27
2	Dissolved Oxygen, mg/l	6.2	6.21	6	4.67
3	pH	5.99	6.8	6.87	5.63
4	Conductivity, μ mhos/cm	68.5	91.9	27600	76.7
5	BOD, mg/l	0.46	2.2	3.12	1.14
6	Turbidity, NTU	0.6	1.1	1	0.9
7	Total Alkalinity, mg/l	12	14	75	16
8	Chloride, mg/l	17	17	7200	16
9	Ammoniacal-N, mg/l	BDL	BDL	0.22	BDL
10	Hardness as CaCO ₃ , mg/l	14	16	6000	14
11	Calcium as CaCO ₃ , mg/l	12	13	3200	11
12	Magnesium as CaCO ₃ , mg/l	2	10	2800	3
13	Sulphate, mg/l	BDL	BDL	7.3	BDL
14	Phosphate, mg/l	BDL	BDL	BDL	BDL
15	Fluoride, mg/l	BDL	BDL	BDL	0.6
16	Total Coliform, MPN/100 ml	600	600	420	400
17	Fecal Coliform, MPN/100 ml	300	510	260	200

Aneesh K K
Aneesh K K

Assistant Scientist
Kerala State Pollution Control Board
District Office, Kannur-670002


POLLUTED RIVER STRETCH WATER QUALITY MONITORING PROGRAMME DECEMBER 2022

Station Name		PERUMBA RIVER			
Type of Water body		RIVER			
Completed by		JSA1 JSA2			
Agency		KERALA STATE POLLUTION CONTROL BOARD KANNUR			
Date of sample taken		14-12-2022	14-12-2022	05-12-2022	09-12-2022
SIN	Determinants	KACHERIKADVC	MATAHAMAGAL AM	CILANDAPURA	KANDAKALI
1	Temperature, °C	30	30	27	31
2	Dissolved Oxygen, mg/l	6.2	6.24	7.6	5.2
3	pH	6.32	6.84	6.3	7.02
4	Conductivity, µmhos/cm	62.3	64.1	52.5	30200
5	BOD, mg/l	0.63	1.22	1	2.68
6	Turbidity, NTU	0.8	0.8	1.8	1.1
7	Total Alkalinity, mg/l	10	7	15	23
8	Chloride, mg/l	1	12	10	2600
9	Ammoniacal-N, mg/l	BDL	BDL	0.0281	0.1159
10	Hardness as CaCO ₃ , mg/l	12	20	9	2700
11	Calcium as CaCO ₃ , mg/l	8	10	8	1200
12	Magnesium as CaCO ₃ , mg/l	4	10	1	1500
13	Sulphate, mg/l	6.11	2.76	BDL	116.2
14	Phosphate, mg/l	BDL	BDL	0.0024	BDL
15	Fluoride, mg/l	BDL	BDL	0.1	BDL
16	Total Coliform, MPN/100 ml	480	360	70	600
17	Fecal Coliform, MPN/100 ml	240	140	30	360


Cherubol
 Assistant Scientist
 Kerala State Pollution Control Board

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1.Kavvayi

Sl.no	Drain	BOD on November 2022	Remarks
1	Korti thodu	8.2	Waste disposal from side by shops , Hotels, near by mosque. 
2	School ground thodu	No water	
3	Kalikadapuram thodu	No water	
4	Koorikadavu	No water	Drain covered with mud ,plastic wastes
5	Ulliyathu kadavu	4.68	Plastic waste seen , black color water with h/s smell.
6	Kallatu kadavu	Small amount of water which cannot be fetched	
7	Muttathu kadavu	3.2	Plastic waste seen.
8	Vaodipram thodu	Small amount of water which cannot be fetched	Construction work going on, one side is full of plastic waste

2.Peruvamba

Drain	BOD on DECEMBER 2022	Remarks
1 Naranga thodu	4.2	Plastic waste was noticed , water with smell. 
2 Perumba thodu	3.6	Plastic waste was noticed ,water with smell, nearby shopping complex shops are dumping waste.
3 Vallioththodu	3.4	Water with Plastic waste.
4 Parappuzha thodu	0.62	
5 Perumkottu Chal	0.88	Plastic waste seen side wise road.
6 Manjangottu thode	0.36	
7 Kannalamthodu	1.2	

8	Appithodu	0.82	
9	Mavullapoyil thodu	0.86	Plastic waste,
10	Kottali thodu	1.2	Small amount of water
11	Kannada thodu	0.64	
12	Koyakkodu thodu Thokadu	0.32	
13	Cherottuvayal thodu	No water	
14	Kayyil arakulam thodu Kunjimagalam puzha	3.2	
15	Tattanvayal thodu	0.66	


3. Ramapuram thodu

Sl.no	Drain	BOD on November 2022	Remark
1	Kapugal thodu	0.82	
2	Chembali kundu	3.2	Plastic waste and floating bottles are noticed.
3	Kulapram kundan thodu Kavilavalapu thodu	3.6	
4	Aduthila thodu	No water	
5	Ottayi thodu	3.4	

6	Moolakadavu	2.82	Oil presence in water, decayed organic materials are seen ,
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4.Kuppam

Sl.no	Drain	BOD on DECEMBER 2022	Remarks
1	Karuvanchal	1.2	
2	Karthikapuram	1.6	Plastic waste was noticed
3	Near Udayagiri Bridge	0.88	
4	Mukkada Thodu	1.6	
5	Moonamkunnu Thodu	1.1	
6	Kuttaparamba- Neduvodu Thodu	2	Plastic waste, are floating in water and the thodu is full of plastic wastes coming from upstream and so
7	D/S of Alakode Hospital	No water	
8	Pathayachira	3.42	Turbid water present with high Plastic waste.
9	Near the houses on bank of main River (@ Pariyaram GP)	3.2	
10	Near House Boat @ Pariyaram GP	3.6	
11	Kavinmunabu	2.1	

12	Manja Thodu	3.29	
13	Sulhan Thodu	4.8	floating waste is seen, plastic and intestinal waste of animals are floating. 
14	Cheru thodu	3.6	

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 MOGRAL, 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">• Specifying accountability of nodal authorities not below the Secretary level• Chief Secretaries may have an accountable person attached in their office for this purpose		
	<ul style="list-style-type: none">• Monitoring at State level must take place		
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none">• Secretary, Ministry of Jal Shakti• Member Secretary, CPCB		

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&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 & 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 MOGRAL, KASARAGOD DISTRICT, KERALA
MONTHLY PROGRESS REPORT FOR THE MONTH OF DECEMBER 2022

RIVER MOGRAL, KASARGOD

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of October 2022	Progress in the month of November 2022	Progress in the month of December 2022	% works completed	Details of works remaining
C	Material collection facility	Mogral Puthur Grama Panchayath	March 2020	Completed	Completed	Completed	100 %	NA
C	Waste collection including vehicle hire charge to collect waste.	Mogral Puthur Grama Panchayath	March 2020	NIL	NIL	NIL	0 %	
E	Installation of camera	Mogral Puthur Grama Panchayath	June 2020	NA	NA	NA	0%	
A (b)	Drainage Cleaning at Ballor, Kottakkunnu, Majal, Neerchal, Blarkode, Goovathadka, Pernadka, Shankra, Eriyal, KK Puram Arjal Vishnu Temple	Mogral Puthur Grama Panchayath	2019	Completed	Completed	Completed	100 %	NA

C(ii)	Haritha Karmasena Activity/ Collecting Non Bio degradable materials including Plastics from households	Mogral Puthur Grama Panchayath	On-going	Started	Started	Started	75%	
C(iii)	Bamboo Capital Bamboo Planting- aiming water conservation and raising water levels thus preventing solid erosion, waste dumping in public places	Mogral Puthur Grama Panchayath	On-going	Completed	Completed	Completed	100 %	NA
E	River cleaning	Mogral Puthur Grama Panchayath	2019	Completed	Completed	Completed	100 %	NA
C(iii)	Bamboo Plantation of Madhur	Madhur grama Panchayath	2019	18500 being maintained by NREGA	18500 being maintained by NREGA	18500 being maintained by NREGA	100 %	NIL
C(ii)	Viability Gap Funding for Haritha Karmasena	Madhur grama Panchayath	2019	Total Amount Rs 250000/- Expenditure RS 75000/-	Total Amount Rs 250000/- Expenditure RS 75000	Total Amount Rs250000/- Expenditure RS249965	72.9%	NIL
C(ii)	Material recovery facility centre	Madhur grama	2019	Completed	Completed	Completed	100%	Completed

		Panchayath						
C(ii)	Construction of Plastic Shredding Machine building	Madhur grama Panchayath	2019	Completed	Completed	Completed	100 %	Completed
C(ii)	Purchase of Plastic shredding machine	Madhur grama Panchayath	2019	-----	-----	-----	-	Yet to float tender
C	Tying of net on both sides of the bridge	Irrigation Department	2019-2020	DPR submitted to Chief Engineer (Price ID: 2019/10715/IA) for approval. Present status reported to Superintending Engineer, Minor Irrigation Circle, Kozhikode on 20.07.2021	DPR submitted to Chief Engineer (Price ID: 2019/10715/IA) for approval. Present status reported to Superintending Engineer, Minor Irrigation Circle, Kozhikode on 20.07.2021	DPR submitted to Chief Engineer (Price ID: 2019/10715/IA) for approval. Present status reported to Superintending Engineer, Minor Irrigation Circle, Kozhikode on 20.07.2021	DPR submitted to Chief Engineer (Price ID: 2019/10715/IA) for approval.	Work still under process.
A(a)	Water quality monitoring	KSPCB	Being done regularly					

Sd/-

Environmental Engineer

MOGRAL RIVER - MOGRAL BRIDGE (Existing NWMP Station)			
Sampling Point		Mogral Bridge	
NWMP Station Code		2304	
Latitude		12°33'36.5"N	
Longitude		74°57'21.0"E	
Date of Sampling		14.12.2022	
Nature and flow of the river		Medium flow, water level decreased	
Sl.No	Parameters	Unit	Mogral Bridge
1	Temperature	°C	28
2	pH	-	7.41
3	Conductivity	µmhos/cm	3481
4	Turbidity	NTU	0.5
5	BOD	mg/l	2.1
6	Dissolved Oxygen	mg/l	7.3
7	Total Coliforms	cfu/100ml	520
8	Feacal Coliforms	cfu/100ml	188
9	Feacal Streptococcus	cfu/100ml	40
10	Chlorides	mg/l	1220
11	Total Alkalinity	mg/l	45
12	Total Hardness	mg/l	410
13	Calcium Hardness	mg/l	300
14	Magnesium Hardness	mg/l	110
15	Calcium	mg/l	120
16	Magnesium	mg/l	26.73
17	Total Dissolved Solids	mg/l	2200
18	Sodium	mg/l	650
19	Potassium	mg/l	68

MOGRAL RIVER - PUZHAKKARA (Proposed NWMP Station)			
Sampling Point		Puzhakkara	
Distance from existing NWMP Station		3.25 km	
Latitude		12°33'58.1"N	
Longitude		74°58'43.7"E	
Date of Sampling		14.12.2022	
Nature and flow of the river		Water level decreased, Medium flow	
Sl.No	Parameters	Unit	Puzhakkara
1	Temperature	°C	28
2	pH	-	7.42
3	Conductivity	µmhos/cm	208.9
4	Turbidity	NTU	0.8
5	BOD	mg/l	2.2
6	Dissolved Oxygen	mg/l	6.9
7	Total Coliforms	cfu/100ml	520
8	Feacal Coliforms	cfu/100ml	152
9	Feacal Streptococcus	cfu/100ml	30
10	Chlorides	mg/l	63
11	Total Alkalinity	mg/l	23
12	Total Hardness	mg/l	34
13	Calcium Hardness	mg/l	18
14	Magnesium Hardness	mg/l	16
15	Calcium	mg/l	7.2
16	Magnesium	mg/l	3.88
17	Total Dissolved Solids	mg/l	132
18	Sodium	mg/l	34.1
19	Potassium	mg/l	3.1

Sd/-
Assistant Scientist

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">• Specifying accountability of nodal authorities not below the Secretary level• Chief Secretaries may have an accountable person attached in their office for this purpose		
	<ul style="list-style-type: none">• Monitoring at State level must take place		
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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&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 & 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>		
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	<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>		
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ACTION PLAN FOR RIVER UPPALA, KASARAGOD DISTRICT, KERALA
MONTHLY PROGRESS REPORT FOR THE MONTH OF DECEMBER 2022
RIVER UPPALA, KASARGOD

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of October2022	Progress in the month of November2022	Progress in the month of December2022	% works completed	Details of works remaining
C(ii)	Material collection facility. Operation	Mangalpady Grama Panchayath	2019	Not submitted the report	Not submitted the report	Not submitted the report	---	---
C	Waste management including purchase of vehicle to collect waste.	Mangalpady Grama Panchayath/ Green Space Private company	2019- 2020	Not submitted the report	Not submitted the report	Not submitted the report	---	---
E	Installation of camera	Mangalpady Grama Panchayath	March 2020	Not submitted the report	Not submitted the report	Not submitted the report	---	---
C	Electrification of material collection facility	Manjeshwaram Grama Panchayat	2019-2020	Electrified	Electrified	Electrified	100%	Completed
C	Transportation of collected waste	Manjeshwaram Grama Panchayat	March 2020	3590 kg plastic waste transported	948 kg plastic waste transported	948 kg plastic waste transported		Work yet to be completed.
E	Installation of camera	Manjeshwaram Grama Panchayat	March 2020	New Project formulated to Install 25 CC Cameras	New Project formulated to Install 25 CC Cameras	New Project formulated to Install 25 CC Cameras, project forwarded to PWD Electrical Wing, permission not yet received		Tendered

C	Tying of net on both sides of the bridge	Irrigation Department	2019-2020	DPR submitted to Chief Engineer (Price ID: 2019/10825/1A) for approval. Present status reported to Superintending Engineer, Minor Irrigation Circle, Kozhikode on 20.07.2021	DPR submitted to Chief Engineer (Price ID: 2019/10825/1A) for approval. Present status reported to Superintending Engineer, Minor Irrigation Circle, Kozhikode on 20.07.2021	DPR submitted to Chief Engineer (Price ID: 2019/10825/1A) for approval.		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		14.12.2022	
Nature and flow of the river		Moderate flow, water level decreased	
Sl.No	Parameters	Unit	Uppala Bridge
1	Temperature	° C	28
2	pH	-	7.31
3	Conductivity	µmhos/cm	680.8
4	Turbidity	NTU	0.4
5	BOD	mg/l	0.4
6	Dissolved Oxygen	mg/l	7.4
7	Total Coliforms	cfu/100ml	340
8	Feacal Coliforms	cfu/100ml	116
9	Feacal Streptococcus	cfu/100ml	30
10	Chlorides	mg/l	238
11	Total Alkalinity	mg/l	31
12	Total Hardness	mg/l	91
13	Calcium Hardness	mg/l	51
14	Magnesium Hardness	mg/l	40
15	Calcium	mg/l	20.4
16	Magnesium	mg/l	9.720
17	Total Dissolved Solids	mg/l	430
18	Sodium	mg/l	123
19	Potassium	mg/l	12

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		14.12.2022	
Nature and flow of the river		Water level decreased, moderate flow	
Sl.No	Parameters	Unit	Uppala River Near Bhagavathi Temple
1	Temperature	° C	28
2	pH	-	7.42
3	Conductivity	µmhos/cm	103.2
4	Turbidity	NTU	0.3
5	BOD	mg/l	0.2
6	Dissolved Oxygen	mg/l	7
7	Total Coliforms	cfu/100ml	410
8	Feacal Coliforms	cfu/100ml	156
9	Feacal Streptococcus	cfu/100ml	30
10	Chlorides	mg/l	25
11	Total Alkalinity	mg/l	20
12	Total Hardness	mg/l	25
13	Calcium Hardness	mg/l	20
14	Magnesium Hardness	mg/l	5
15	Calcium	mg/l	8
16	Magnesium	mg/l	1.215
17	Total Dissolved Solids	mg/l	65
18	Sodium	mg/l	14.12
19	Potassium	mg/l	0.71

Sd/-
Assistant Scientist