

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 - January 2023****1. Short term plan****Maintenance and de-bottlenecking of existing Sewerage Network**

No.	Activity	Implementing agency	Time line	Progress in the month of November-2022	Progress in the month of December-2022	Progress in the month of January 2023	% works completed	Details of works remaining
2.1.1	Pumping lines from the terminal pumping stations namely Kuriyathi, Pattoor, Kannammoola and Enchakkal pumping stations are to be connected directly to STP at Muttathara	Kerala Water Authority	May 2019				100%	100% work of Kuriathy completed. Pumping main of Pattoor, Kannammoola and Enchakkal included in Long term works.



							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					
				Arannoor	0%5%	5%	90%	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 2 nd 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 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 Amayizhancha- nthodu, control storm water entry into sewer to avoid overflow in Thampanoor area. Sewage generated in Rajaji Nagar shall be diverted to main sewer line. Sewage generated in Thoppil area shall be diverted main sewer line	Kerala Water Authority	Dec 2020				100%	Work completed.
	Discharge of sewage in							



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 completed by 31.03.2023 for one AMRUT work
	Total works in progress/completed (76No.) Works dropped						Dropped – 2 No. (Rs. 1.52cr.) State plan-2	Two works dropped due to not getting offers on repeated tenders and expiry of AS



	(2No.)							
2.1.10	Extension of sewer network wherever technically feasible in new areas of existing blocks	Kerala Water Authority	May 2020		0.5%	0.5%	97.5%	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 Expected date of completion 31.03.23
	Tendering/ To be arranged (1No)			0.5%				Land acquisition process for three work completed and land handed over to KWA and AS obtained for arranging the work under State Plan 22-23 and one work arranged and one work to be tendered. LA for one work in initial stage (Details shown in excel To be arranged– 1-Nos. (Rs. 7 885



	<p>changed (nos.) Land acquisition -1 In progress-2</p>						<p>1000 arranged cr.) Land Aquisition in progress-1 Nos</p>	<p>stage.(Details shown in excel sheet attached) Direction from head office to cancel one work and recast the estimate and submit for new AS. Same has been approved in State Plan 2021-22 and tendered. Agreement Executed.Expected date of completion 31.05.23</p>
2.1.11	<p>Procurement of sewer cleaning machines and equipment maintenance</p>	<p>Kerala Water Authority</p>	<p>Mar 2020</p>	<p>0%</p>	<p>0%</p>	<p>0%</p>	<p>100%</p>	<p>Work completed.</p>



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 M/s REPL vide Proceedings No. KWA/SE/SEW/EOI/REPL/338/2020-2021 dated 31/5/22 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'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
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
requirementKerala Water
AuthorityThree
years

obtained a stay against KWA at first up to 22.08.22 which is then got extended up to 14.09.22 against taking any coercive actions. 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. The DPR for cluster 1 was submitted to GoK/KSPCB on 15/10/2022 for obtaining AS under NRCP. Cluster 3, which was 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 of cluster 3 is consisting of Puthenpally and Part of Muttathara is taken up on priority based on the demand of Thiruvananthapuram Corporation. The DPR for Cluster 3 Zone 1 is prepared consisting of Puthenpally and Muttathara (Part) Wards and submitted to Corporation on 11/1/23. The DPR of Cluster 3 Zone 2 and Zone 3 is under preparation. The DPR for cluster 2 is under preparation.



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 of Cluster 3 consisting of Puthenpally and Part of Muttathara (until STP) is taken up on priority based on the demand of Thiruvananthapuram Corporation. This DPR is prepared for Cluster 3 Zone 1 consisting of Puthenpally and Muttathara (Part) Wards and submitted to Corporation for according AS under AMRUT. The DPR of Cluster 3 Zone 2 and Zone 3 is also prepared and is under verification. The DPR for Cluster 2 is under Preparation.</p>						



ACTION PLAN FOR RIVER KARAMANA, KERALA-JANUARY 2023

1. Short term Plan

Maintenance and de-bottlenecking of existing sewerage network

No.	Activity	Implementing Agency	Time line	Progress in the month of November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% works completed	Details of works remaining
2.1.1	Pumping lines from the terminal pumping stations namely Kuriyathi, Pattoor, Kannammoola and Enchakkal pumping stations are to be connected directly to STP at Muttathara Kuriyathi Pumping line	Kerala Water Authority	May-19				100%	When 50 % of sewage (35 MLD) was diverted directly to the STP on completion of laying of pumping line from Kuriyathi to STP, overflow to TS Canal has completely stopped. Kuriyathi pumping main- Completed DER for pumping main from Pattoor,
2.1.2	Rehabilitation/upgradation of Thaliyal and Aranoor Sewerage Pump house by rehabilitation of existing well, construction of new well and grit chamber, installation of new pump sets Aranoor	Kerala Water Authority	May-20				100%	Completed. a) 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. Retendered the work and work in progress.
2.1.3	5 MLD sewage treatment plant at Medical College	Kerala Water Authority	May-20				100%	Work Completed.
2.1.4	Installation of adequate pumps in Mudavanmughal and Enchakkal pumping stations	Kerala Water Authority	Mar-20				100%	Work Completed.
2.1.5	DG sets in all lift and pumping stations - Mudavanmughal, Aranoor, Thaliyal, Kuriyathi, Pattoor, Kannammola, Pattom, Murinjapalam and Enchakkal	Kerala Water Authority	May-20				100%	DG sets installation of seven pumping stations completed. Approval from Electrical inspectorate received. Work completed. Trial run also completed. For Aranoor and Thaliyal. Erection of diesel generator is already included in the item mentioned 2.1.2. For Enchakkal already exists.

No.	Activity	Implementing Agency	Time line	Progress in the month of November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% 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%	Work Completed.
2.1.7	Discharge of sewage in Parayilkadavu shall be stopped as there is overflow of sewage reaches in houses having sewerage connection and this may lead to discharge of sewage into River Karamana	Kerala Water Authority	Completed				100%	Rehabilitation work of existing pipe line is included in the work State Plan -2019-20- Rehabilitation of sewer line from Sathya Nagar to Karamana BHS and allied works. Works Completed.
2.1.8	Divert the sewer line from the School compound of Government Karamana High School	Kerala Water Authority	Awarded				100%	Work mentioned is same as the above work which is completed.
2.1.9	Rehabilitation by laying new lines increasing size of undersized main and reconstruction by dilapidated manholes for the last 3 years	Kerala Water Authority	May-20				98%	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 31.03.2023 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 Authority						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 November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% works completed	Details of works remaining
	In progress/Ongoing (24No.)							In progress –1No. AMRUT-2 State plan-0 .Expected date of completion 31.03.23.
	Tendering/ To be arranged (1No.) Land acquisition -1 In progress-2		May-20	0.50%	0.00%	0.5%	97%	Land acquisition process for three work completed and land handed over to KWA and AS obtained for arranging the work under State Plan 22-23 and same are being 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-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 November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% works completed	Details of works remaining
2.2.1	Slaughter house and poultry waste	Thiruvananthapuram Corporation	Rendering Plant	Dec-22	75%	80%	82%	85%	<p>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, structurecompleted, roof slab casting on progress.Work under progress and willbe completed on Feb.2023.</p> <p>Poultry waste- TMC has started collecting poultry waste coming under jurisdiction of 25 HI Office from 1st November 2019 with online tracking of vehicles. The entire poultry waste generated in whole Corporation area is collected and sent to rendering plant at Elloor. Report November 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. Beemapally Compound 5. Tsunami Colony		45%	45%		50%	

No.	Activity	Implementing Agency	Time line		Progress in the month of November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% works completed	Details of works remaining
	garbage generated in the poonthura slum area between Karamana river and sea		Colony 7. Kumari Chantha 8. Poonthura Marker 9. Moonnat tumukku bridge 10. Ambalat hara- Nilama 11. Fisherme n Flat- Muttathara 12. Perunalli Market Road 13. Poundkadavu old market 14. Market behind Attipra zonal office						13 Location work completed, remaining location not available. This area will be covered in the master plan for providing sewer line for the full capacity utilization of CSTP at Muttathara and by providing Decentralized STP where the re is land availability- KWA.
			15. Tsunami Colony near 110 KV tower (Poundkadavu) 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 November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% 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, TvpM 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 November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% 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.1884190/- 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 negotiaton done, placed before council.	
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 progress Kuravankonam – 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	
2.2.11		Thiruvananthapuram Corporation	Portable aerobins			75%	75%		100%	Project completed

No.	Activity	Implementing Agency	Time line	Progress in the month of November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% works completed	Details of works remaining
2.2.12		Thiruvananthapuram Corporation	Ring compost				42%	Project implementation started. Installed 125 units. Rest of the bins will be installed soon. Action ongoing.
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 are in progress. (ii)Kalladimugham, site cleared after cutting 11 coconut trees. Work started,completed upto plinth level.
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 issued soon.
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 November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% 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 31.06.2022.
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.1582815/- 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 November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% 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 November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% 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 November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% works completed	Details of works remaining	
	Long Term measures proposed by Thiruvananthapuram	Implementing Agency	Time line	Progress in the month of November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% 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

STATE WATER MONITORING PROGRAMME (SWMP) 2023

Analysis Report for the month of January-2023

KASERNA

06/10/2023

SASRIT 03

Sl no	Parameter	SASRIT 03					
		Range	Length	Concentration	Substation	Threshold	Maximum
1	Temperature (degrees cent)	20	26	20	27	26	26
2	pH	7.4	7.5	8.3	8.5	0.0	7.1
3	Hardness (Mg/l)	0.2	1.2	1.1	1.8	1.1	4.2
4	Dissolved Oxygen (mg/l)	80	70	85	110	132	105
5	DO (mg/l)	7.2	6.8	7.0	8.2	8.1	0.4
6	EC (mg/l)	0.2	1.2	1.4	1.8	4.5	5.4
7	Hardness (mg/l)	80	80	80	80	80	80
8	Hardness (mg/l)	800	800	800	800	800	1.4
9	Chloride (mg/l)	8	11	10	26	47	20
10	Fluoride (mg/l)	900	900	900	800	800	900
11	Total Hardness as CaCO ₃ (mg/l)	15	16	26	26	42	20
12	Total Hardness as CaCO ₃ (mg/l)	29	20	22	21	28	20
13	Calcium Hardness as CaCO ₃ (mg/l)	16	22	20	28	46	24
14	Magnesium Hardness as CaCO ₃ (mg/l)	4	8	11	4	18	20
15	Sulfate (mg/l)	4.2	6.4	6.6	6.1	24.8	42
16	Free Chlorine (mg/l)	0.5	1.8	1.8	2.2	1.1	1.1
17	Free Chlorine (mg/l)	0	0	0	0	0	0
18	Free Chlorine (mg/l)	0.21 mg/l	0.2 mg/l	0.2 mg/l	0.2 mg/l	0.2 mg/l	0.2 mg/l
19	Total Chlorine (mg/l)	400	800	1000	1000	4000	4000
20	Free Chlorine (mg/l)	100	200	500	1000	2000	1000
21	Free Chlorine (mg/l)	ND	ND	ND	ND	ND	ND

Assistant Environmental Scientist



Activity	Implementing Agency	Time line	Progress in the month of November-2022	Progress in the month of December-2022	Progress in the month of January 2023	Percentage of work completed	Percentage of work remaining
1.11 Long Term resource requirement for the implementation	Implementing Agency	Time line	Progress in the month of November-2022	Progress in the month of December-2022	Progress in the month of January 2023	Percentage of work completed	Percentage of work remaining
1.12 Acquire 58 acres of 700 and rehabilitate 500 yards from the banks of river	Disaster Management Department	5 Years					Completed
1.13 Ongoing 2 million scale additional 2000							
1.14 Development project for River Rehabilitation by the Government of Karnataka	Implementing Agency	4 Years	100%	100%	100%	100%	None
1.15 Acquire and develop 2000 acres of land for the implementation of the project	Implementing Agency	1.5 Years	25%	30%	20%	20%	80%
1.16 Acquire and develop 2000 acres of land for the implementation of the project	Implementing Agency	1.5 Years	10%	15%	10%	10%	90%
1.17 Acquire and develop 2000 acres of land for the implementation of the project	Implementing Agency	1.5 Years	10%	15%	10%	10%	90%
1.18 Acquire and develop 2000 acres of land for the implementation of the project	Implementing Agency	1.5 Years	10%	15%	10%	10%	90%
1.19 Acquire and develop 2000 acres of land for the implementation of the project	Implementing Agency	1.5 Years	10%	15%	10%	10%	90%
1.20 Acquire and develop 2000 acres of land for the implementation of the project	Implementing Agency	1.5 Years	10%	15%	10%	10%	90%

SCIPERINTENDING ENGINEER
 (Water)

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 December -2022	Progress in the month of January-2023	% 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	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 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		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>The Panchayat has resolved to identify all polluting 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	<p>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 500 kg of plastic materials is kept ready for trasportation. 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>	100%	Construction of permanant MCF building, collection and transportation of Non-bio degradable Materials to RRF for processing.
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				Material Collection Facility is fully functional in Kadapra Grama Panchayath	Material Collection Facility is fully functional in Kadapra Grama Panchayath		
				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		

C	Resource Recovery Facility	Mannar Panchayat, Kadapra/ Niranam Panchayath	31.03.2021	Mannar Panchayath not submitted report	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 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.	100%	Collection and transportation of Non-bio degradable Materials to RRF for processing
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				Resource recovery facility is working as a centralised arrangement at BlockPanchayath level in Kadapra Grama Panchayath	Resources Recovery Facility is working as arrangement at Block Panchayat level in Kadapra Grama Panchayath		
				It will be suitable if RRF is established at Block level in Niranam Grama Panchayath	It will be suitable if RRF is established at Block level in Niranam Grama Panchayath		
C	Installing household and community level solid waste management units	Mannar Panchayat	31.03.2021	Mannar Panchayath not submitted report	Collection of Non-biodegradable plastic materials from houses and institutions is conducted by Haritha Karma Sena(HKS).	100%	Construction and operation of Aerobic compost unit.

					<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. 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 waste	Mannar Panchayat	31.03.2021	Mannar Panchayath not submitted report	<p>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.</p>		Continuing
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C	Construction of small sewage treatment plant with screening, septic tank and disinfection to the storm water drain of Parumala Town	Kadapra Panchayat	31.12.2020	The Panchayath has its resolution considered that sewage treatment plants is currently not needed within Panchayath area around Parumala	The Panchayat is considered is sewage treatment plants is currently not need with in panchayat area around Parumala		
C	Construction of small sewage treatment plant with screening, septic tank and disinfection to the storm water drain of Mannar Town	Mannar Panchayat	31.12.2020	Mannar Panchayath not submitted report	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	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	Regualting activites in flood plain zone, protection and management of flood plain zone	Irrigation department	31.03.2021				

	Greenery development Plantatioplan. Plantation on both sides of the river, setting up biodiversity parks on flood plains by removing encroachment	Irrigation department	31.03.2021				
C (b) (ii)	Green Protocol implementation in all Offices institution & Public function	Mannar, Kadapra/ Niranam Panchayat	31.05.2020	Mannar Panchayath not submitted report	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 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.	100%	Continuation of Green Protocol .

				<p>Green protocol has been implemented in Public offices of Kadapra Gramapanchayat</p>	<p>Green protocol has implemented in public officers Kadapra Grama Panchayat</p>		
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				Necessary instruction are given to all offices and institution to strictly comply with the green protocol and is regularly monitored in Niranam Grama Panchayath	Necessary instruction are given to all offices and institution to strictly comply with the green protocol and is regularly monitored in Niranam Grama Panchayath		
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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		
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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 December,2022	Progress in the month of January,2023	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks	NOC has not been issued to industries for Ground Water extraction during December 2022	NOC has not been issued to industries for Ground Water extraction during January 2023	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 9 sites tendered and 9 sites selection notice issued	Artificial Recharge Structure Technical Sanction of 4 sites received and Work Tendered. Selection notice issued for 9 sites.	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 December 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 January 2023 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 ofgroundwater samples collected during November-2020 reveals that the gw quality is good and potable.	(i)Maintaining a network of observation wells in varioushydrogeomorphic 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

email: kspcbpta@gmail.com

Phone/ fax: 0468-2223983

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

KERALA STATE POLLUTION CONTROL BOARD

മിളമ ഓഫീസ്, OPP ജനറൽ ആശുപത്രി, KK Nair Road, കുന്നിങ്ങാട് അരിമുഖിയിൽ, പാതാമുക്ക്-689 645
DISTRICT OFFICE, OPP.GENERAL HOSPITAL, KK NAIR ROAD, BEHIND AVG MOTORS, PATHANAMTHITTA689645

web site: www.keralapcb.nic.in – for Online registration, visit krocmms.nic.in or keralapcbonline.com

PCB/PTA/ICO/4337/2013

13.01.2023

From

Environmental Engineer (I/C)

To

The Chief Environmental Engineer
Regional office
Kerala State Pollution Control Board
Thiruvananthapuram

Sub:- Analysis report of CETP,Kinfra,Adoor - reg

Ref:- That office Letter No.PCB/HO/SEE2/AMR/2019 dated 03.03.2022.

Sir,

With reference to the above,I am forwarding herewith the analysis report of CETP for the month of December, 2022 for your kind information.

Yours faithfully,



ENVIRONMENTAL ENGINEER(I/C)

**KERALA STATE POLLUTION CONTROL BOARD, DISTRICT OFFICE,
PATHANAMTHITTA**

INSPECTION REPORT FOR THE MONTH OF DECEMBER 2022 (CETP)

Date of Inspection	Name of unit	Quantity of Effluent m ³ /day	ETP Units	Analysis Report of Effluent sample			Mode of disposal of treated effluent	Mode of disposal of ETP Sludge
				pH	BOD	FC		
20.12.2022	Common ETP, Kin.fra, Adoor	225	Screen chamber, equalization tank, aeration tank clarifier, filter feed tank, chlorine closing ,activated carbon filter, pressure sand filter, clean water tank, sludge tank, sludge drying beds	6.8	28	Nil	Soak pit	Sludge drying beds

MONTHLY ANALYSIS REPORT OF POLLUTED RIVER STRETCHES JANUARY- 2023

STATION : MANNAR

SAMPLING DATE : 04.01.2023

SI.NO	PARAMETERES	ITTINAYARKADAVU BRIDGE KUTTAMPEROOR	KOTTAKAL KADAVU BRIDGE KORATTIKADAVU	PARUMALA BRIDGE	MANNAR BRIDGE
1	Temp. (°C)	27	28	27	27
2	pH	6.2	6.3	6.3	6.4
3	Conductivity (µS/cm)	49.36	54.34	56.51	44.85
4	DO (mg/L)	5.9	4.5	4.7	5.5
5	BOD (mg/L)	1.3	1.3	1.6	1.2
6	COD (mg/L)	6.4	6.4	6.4	6.4
7	TDS (mg/L)	32	34	30	32
8	TC (CFU/100ml)	890	410	400	260
9	FC (CFU/100ml)	290	130	130	80
10	FSC(CFU/100ml)	Nil	Nil	10	Nil

WATER QUALITY DATA OF POLLUTED RIVER STRETCHES JANUARY- 2023**DISTRICT OFFICE, PATHANAMTHITTA****Date of Sampling: 04.01.2023**

Sl.No	PARAMETERS	THAKZHY	EDATHUA	MANNAR
1	Temperature, °C	27	28	27
2	pH	6.5	6	7.2
3	Conductivity, µmhos/cm	73.85	62.12	52.28
4	Turbidity, NTU	2.6	2.3	2.9
5	Phenolphthalein Alkalinity, as CaCO ₃	Nil	Nil	Nil
6	Total Alkalinity, as CaCO ₃	10	11	10
7	Chloride, mg/l	16	12	10
8	COD, mg/l	6.4	3.2	6.4
9	TKN, mg/l	0.25	0.18	0.2
10	Ammoniacal-N, mg/l	0.162	0.213	0.1105
11	Hardness, as CaCO ₃ mg/l	26	24	22
12	Calcium, as CaCO ₃ mg/l	16	14	12
13	Magnesium as CaCO ₃ , mg/l	10	10	10
14	Sulphate, mg/l	3.2	1.9	2.8
15	Sodium, mg/l	2.43	6.4	5.4
16	Total Dissolved Solids, mg/l	46	40	36
17	Total Fixed Solids, mg/l	40	35	30
18	Total Suspended Solids, mg/l	34	30	24
19	Phosphate, mg/l	BDL	BDL	BDL
20	Boron, mg/l	BDL	BDL	BDL
21	Potassium, mg/l	1.019	0.912	0.995
22	BOD, mg/l	1.4	1.3	1.1
23	Fluoride, mg/l	0.25	0.14	0.18
24	Dissolved Oxygen, mg/l	5.4	5.8	6
25	Nitrate-N, mg/l	0.297	0.254	0.375
26	Total Coliform, CFU/100 ml	260	400	310
27	Faecal Coliform, CFU/100 ml	80	130	100
28	SAR	0.7247	0.5679	0.5005
29	% of sodium	18.3907	15.2636	14.0193
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. Water quality analysis result of the stretch up to January 2023 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 November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% 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%	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%	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
C	Door to door collection of solid waste & Material Collection Facilities (MCF) & Resource Revcovery Facilities (RRF)	Kalloopara, Eraviperoor, Puramattom, Kaviyoor, Peringara, Kuttoorpanchayaths	31.12.2020	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 November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% 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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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 January 2023 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	Implementing agency	Time line	Progress in the month of NOV 2022	Progress in the month of DEC 2022	Progress in the month of JAN 2023	% 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 de-centralized solid waste treatment facility	Mannar Panchayat, Panchayath	31.02.2023	Construction of 2 aerobic compost units completed (One each in Grama Panchayat Office compound and near Mannar Private Bus	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	Construction of 2 aerobic compost units completed (One each in Grama Panchayat Office compound and near Mannar	100%	Inauguration of functioning.

				<p>Stand. The work was executed by M/s Floret Technologies, Thiruvananthapuram. An amount of Rs. 13,60,000/- was allocated in the annual plan of Mannar GP for this project.</p>	<p>M/s 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.</p>	<p>Private Bus Stand. The work was executed by M/s 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</p>		
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						Committee on 27/08/2021		
C	Establishment of Material Collection Facility	Mannar Panchayat,	31.02.2023	Second Phase of collection of non-biodegradable plastic materials is completed, segregated and transported to Clean Kerala Company(CKC). A total quantity of 2 tonnes is transported to CKC so far. About 3 tonnes of plastic materials is kept ready for transportation. Socio-Economic	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 9 tonnes of plastic materials handed over to	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	100%	Construction of permanent MCF building.

				<p>Unit (SEU) has been selected as implementing agency for the construction of Two mini MCFs in each ward in all the 18 wards of Mannar GP.</p>	<p>Clean Kerala Company(CKC) so far. About 3 tonnes of plastic materials is kept ready for transportation. Socio-Economic Unit (SEU) has been selected as implementing agency for the construction of Two mini MCFs in each ward in all the 18 wards of Mannar GP. Plastic Waste management Bylaw (draft) has been passed by Mannar GP on 05/02/2021.</p>	<p>e 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</p>		
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						GP is completed. Plastic Waste management Bylaw (Final) has been passed by Mannar GP on 19/06/2021.		
C	Resource Recovery Facility	Mannar Panchayat, Panchayath	31.02.2023	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	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	As there is no RRF in Mavelikkara Block Panchayat in which Mannar GP belongs, nearby Chengannur Block Panchayat has agreed to receive the plastic	100%	

				<p>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.</p>	<p>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 (draft) has been passed by Mannar GP on 05/02/2021.</p>	<p>materials 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</p>		
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						Bylaw (Final) has been passed by Mannar GP on 19/06/2021.		
C	Installing household and community level solid waste management units	Mannar Panchayat	31.02.2023	Construction of 2 aerobic compost units completed (One each in Grama Panchayat Office compound and near Mannar Private Bus Stand. Second Phase of collection of non-biodegradable plastic materials is completed, segregated	Collection, segregation and transportation of non-biodegradable plastic materials is continuing. About 4.5 tonnes of plastic materials handed over to Clean Kerala Company(CKC) so far. About 3 tonnes of plastic materials is kept ready for transportation. So	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	100%	Operation of Aerobic compost unit.

				<p>and transported to Clean Kerala Company(C KC). A total quantity of 2 tonnes is transported to CKC so far. About 3 tonnes of plastic materials is kept ready for transportation. Socio-Economic Unit (SEU) has been selected as implementing agency for the construction of Two mini MCFs in each ward in all the 18 wards of</p>	<p>Unit (SEU) has been selected as implementing agency for the construction of Two mini MCFs in each ward in all the 18 wards of Mannar GP. Plastic Waste management Bylaw (draft) has been passed by Mannar GP on 05/02/2021.</p>	<p>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</p>		
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				Mannar GP.		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.		
C	Door to door collection and transportation of municipal solid waste	Mannar Panchayat	31.02.2023	Second Phase of collection of non-biodegradable plastic materials is completed,	Collection, segregation and transportation of non-biodegradable plastic materials	Collection of Non-biodegradable plastic materials from houses	100%	The process has to be repeated through the year.

				<p>segregated and transported to Clean Kerala Company(CKC). A total quantity of 2 tonnes is transported to CKC so far.</p>	<p>is continuing. About 4.5 tonnes of plastic materials handed over to Clean Kerala Company(CKC) so far. About 3 tonnes of plastic materials is kept ready for transportation. So Socio-Economic Unit (SEU) has been selected as implementing agency for the construction of Two mini MCFs in each ward in all the 18 wards of Mannar GP.</p>	<p>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</p>		
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						<p>of plastic materials is kept ready for transportation</p> <p>.</p> <p>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</p>		
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						Management is approved by Grama Panchayat Committee on 27/08/2021.		
C	Construction of small sewage treatment plant with screening, septic tank and disinfection to the storm water drain of Parumala Town	Kadapra Panchayat	31.12.2020					
C	Construction of small sewage treatment plant with screening, septic tank and disinfection to the storm water drain of Mannar Town	Mannar Panchayat	30.09.2020	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	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	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	0%	Not applicable

				necessary steps in this matter.	matter.	suitable if the Govt . takes necessary steps in this matter.		
C	Construction of compound wall with fencing	Irrigation department	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	Regualting activites in flood plain zone, protection and management of flood plain zone	Irrigation department	31.03.2021					
	Greenery developmentPlantation plan. Plantation on both sides of the river, setting up biodiversity parks on flood plains by removing encroachment	Irrigation department	31.03.2021					
C (b) (ii)	Green Protocol implementation in all Offices institution & Public function	Mannar, Panchayat	31.01.2023	Green Protocol is strictly observed in Mannar GP and other	Green Protocol is strictly observed in Mannar GP and other offices as well as public functions . Strict	Green Protocol is strictly observed in Mannar GP and other offices as well	100%	Continuation of Green Protocol .

				<p>offices as well as public functions .</p> <p>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 Audit was</p>	<p>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.</p> <p>Green Audit was conducted in Mannar GP Office and other 13 Government Offices within the Panchayat Area. 11 offices were certified to have fulfilled</p>	<p>as public functions .</p> <p>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 .</p> <p>Green Audit was conducted in Mannar GP Office and other 13</p>		
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				<p>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>Green Audit parameters. Certificates were awarded to the successful offices and Suchitwa Padavi Declaration in Mannar GP was conducted 26/01/2021.</p>	<p>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>		
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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					
D (b)	Irrigation practices	Irrigation department	30.04.2020					
E	Awareness programmes for sections of public	Kerala State Pollution Control Board	31.05.2020	Awariness classes were conducting	Awariness classes were conducting	Awariness classes were conducting	100%	
C	Management of municipal, plastic, hazardous, biomedical and electrical waste	LSGD	31.03.2021	As for municipal and plastic waste, first phase door-to-door collection using Haritha Karma Sena is completed, segregated and transported to Clean Kerala Company(C	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-biodegradable plastic materials is continuing.	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-	100%	The process is to be repeated periodically.

				<p>KC). A total quantity of 2 tonnes is transported to CKC so far. 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</p>	<p>About 4.5 tonnes of plastic materials handed over to Clean Kerala Company(CKC) so far. About 3 tonnes of plastic materials is kept ready for transportation. So Socio-Economic Unit (SEU) has been selected as implementing agency for the construction of Mannar GP. For the management of electrical, electronic and</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</p>		
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				<p>waste is being collected from source and transported for processing by IMAGE (IMA Goes + Eco-friendly), an initiative run by IMA (Indian Medical Association)</p> <p>.</p>	<p>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-friendly), an initiative run by IMA (Indian</p>	<p>g 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</p>		
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					Medical Association).	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-friendly), an initiative run by IMA (Indian Medical Association).		
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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 November 2022	Progress in the month of December 2022	Progress in the month of January 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					
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 REPORT OF DRAINS OF MANIMALA BETWEEN KALLOOPARA AND THONDRA
JANUARY-2023**

SI NO	BOTTLE NO.	Name of Drains	PH	BOD	COD	TC	FC
1	TK1	Panayampalathodu	6.35	1.6		1500	800
2	TK2	PadathupalamThodu	6.41	0.7		1800	900
3	TK3	Thottappuzha	6.43	0.3		500	300
4	TK4	Kuttapuzha under Kattodubridge	6.81	0.3		500	200
5	TK5	Kadavumbara	6.68	0.3		200	100
6	TK6	Drain under Varappalam Bridge	NA	NA	NA	NA	NA
7	TK7	Drain under kallupalam Bridge	6.59	1.3		900	400
8	TK8	Komalamthodu	6.71	0.8		1500	600
9	TK9	Vennikulam Valiyathodu	6.75	5.8		1500	700
10	TK10	Paduthodu	6.36	2.5		2400	1300
11	TK11	Mallappally Valiyathodu	NA	NA	NA	NA	NA

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	NOV	DEC	JAN	NOV	DEC	JAN	NOV	DEC	JAN	NOV	DEC	JAN	NOV	DEC	JAN	NOV	DEC	JAN
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	6.6	7.24	NA	43.58	64.3	NA	0.3	1.5	NA	-	-		3000	500	NA	1400	200	NA
4	Karuvelil Thodu	6.73	7.15	7.4	42.3	98.29	58.23	0.1	2.2	2.9	-	-		1200	1500	500	600	800	200
5	Nochithodu	6.52	7.15	6.99	124.2	45.35	54.73	4.6	0.5	0.9	-	-		2000	400	2100	900	200	1100
6	Pattaparambil Thodu	6.57	7.07	6.95	44.14	119.8	50.04	0.5	3.1	1.2	-	-		2800	1000	300	1500	600	100
7	Kappiyarissery Thodu	6.35	7.15	NA	98.18	155.4	NA	1.6	3.3	NA	-	-	NA	2100	2000	NA	1100	900	NA
8	Kombankery Thodu	6.6	6.92	6.35	43.21	106.5	98.03	0.4	3.2	0.7	-	-		1500	1200	400	800	500	200
9	Perackalthodu	6.5	7.05	6.91	91.36	145.7	137.1	1.3	3.1	0.4	-	-		2300	200	700	1200	0	500
10	Erathodu	6.3	7.03	6.75	51.91	49.25	53.38	0.9	0.9	2.3	-	-		1600	1900	2500	800	900	1300
11	Kolarayaru	6.73	7	6.58	39.93	42.91	58.16	1.1	0.9	1.7	-	-		1400	400	1500	800	100	700

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)(i v)	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 water bodies 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					

KERALA STATE POLLUTION CONTROL BOARD
ENVIRONMENTAL SURVEILLANCE CENTRE, ELOOR
ANALYSIS REPORT OF RIVER PERIYAR - JANUARY 2023
Sampling point: VETTUKADAVU

Sl. No	Parameter	Unit	05.01.2023	25.01.2023
1	Temp	°c	29.6	30.6
2	pH		5.8	7.4
3	Conductivity	µS/cm	395.50	13150.00
4	Turbidity	NTU	*	*
5	Chlorides	mg/L	98.3	4765.8
6	Hardness	"	64.0	1410.0
7	D.O.	"	3.9	9.0
8	Calcium	"	12.8	188.0
9	Magnesium	"	7.776	228.420
10	Ammoniacal Nitrogen	"	0.854	1.897
11	Phosphate	"	BDL	BDL
12	Total alkalinity	"	24.0	48.0
13	BOD	"	3.5	7.3
14	Sulphate	"	9.618	68.850
15	Nitrates	"	BDL	BDL
16	TC	cfu/100ml	1120.0	900.0
17	FC	"	240.0	140.0
18	FS	"	NIL	NIL

* TURBIDITY METER IS OUT OF ORDER

urgent
AEE1

From: kspcbnwmp@gmail.com
To: "Sheela A.M" <ms.kspcb@gov.in>, pcbdo1@gmail.com, pcbrokekm@gmail.com
Sent: Monday, February 20, 2023 2:18:29 PM
Subject: Water Quality Data Of Polluted River Stretches -JANUARY 2023

Sir/Madam,

Forwarding herewith the analysis report of the following river Stretches.

- 1.River Periyar
- 2.River Kadambrayar
- 3.River Chithrapuzha
4. River Chalakudy

Yours faithfully
Chief Environmental Scientist

Analysis report of polluted river stretches-R Periyar, R- Chithrapuzha,R-Kadambrayar, R-Chalaky For the month of JANUARY 2023

STNCode	Sampling Date	Sampling Time	StnName	TypeWaterBody	NameOf WaterBody	RiverBasin
17	06.01.2023	10:40	Periyar at Eloor	River	Periyar River	
1338	07.01.2023	10:30	Periyar at SDP Aluva	River	Periyar River	
2334	13.01.2023	11:00	Periyar at Pathalam	River	Periyar River	
2335	13.01.2023	12:15	Periyar at Kalamassery	River	Periyar River	
3468	07.01.2023	10:45	Periyar at KWA Aluva	River	Periyar River	
2337	04.01.2023	11:30	Kadambrayar At Brahmapuram	River	Kadambrayar River	
2338	04.01.2023	11:00	Kadambrayar At Manackakadavu	River	Kadambrayar River	
1573	04.01.2023	12:00	Chithrapuzha At Irumpanam	River	Chithrapuzha River	
1154	07.01.2023	12:40	Chalaky at Pulikkakadavu	River	Chalaky River	

Sl. No.	Parameters	Values									
		Station Code									
		17	1338	2334	2335	3468	2337	2338	1573	1154	
1	Temperature, °C	28	27	28	27	27	30	29	29	28	
2	Dissolved Oxygen, mg/l	5.6	6.2	6.9	6.8	7.4	2.1	5.2	3.1	7	
3	pH	6.7	7	8.8	7.9	7.2	6.7	6.8	6.7	7.2	
4	Conductivity, µmhos/cm	3711	52	6520	51	49	135	123	1406	143	
5	BOD, mg/l	1.8	2.6	2.5	1.6	2	2.5	1.7	3.1	2.6	
6	Nitrate-N, mg/l	0.51	0.74	2.01	0.61	0.25	0.24	0.75	12.21	0.82	
7	Turbidity, NTU	1.3	0.8	3	0.4	0.5	5.1	5.3	4.3	1.1	
8	Total Alkalinity, as CaCO3	57	13	23	14	13	30	25	34	20	
9	Chloride, mg/l	1080	5	2100	4	4.8	20	19	425	32	
10	COD, mg/l	8.8	5.6	9.6	6.4	4.8	9.6	8	10.4	7.2	
11	TKN, mg/l	3.2	3.6	3.3	2.3	2.6	3	5.4	10.8	4.1	
12	Ammoniacal-N, mg/l	2.07	2.21	0.06	0.01	2.04	0	0	11.63	3.17	
13	Total Hardness, as CaCO3 mg/l	360	12	740	13	14	29	23	180	36	
14	Calcium, as CaCO3 mg/l	220	8	560	8	9	24	16	140	29	
15	Magnesium as CaCO3, mg/l	140	4	180	5	5	5	7	40	7	
16	Sulphate, mg/l	122.4	0.21	53.52	0.62	0	0.51	1.35	112.03	0.21	
17	Sodium, mg/l	565.76	10.2	1100	2.26	2.54	10.84	10.56	240	17.21	
18	Total Dissolved Solids, mg/l	2045	29	3870	28	27	75	70	952	92	
19	Total Fixed Solids, mg/l	1630	22	3090	21	20	60	55	760	72	
20	Total Suspended Solids, mg/l	33	13	36	15	11	27	26	30	24	
21	Phosphate, mg/l	0.01	0	0.02	0.02	0.02	0	0	2.5	0.01	
22	Boron, mg/l	0.37	0	0.54	0	0	0.03	0	0.23	0	
23	Potassium, mg/l	20.44	1.38	34.48	1.03	1.35	2.51	3.04	7.76	2.27	
24	Fluoride, mg/l	0.01	0.02	0.2	0.05	0.01	0.01	0.01	2.82	0.01	
25	Total Coliform, MPN/100 ml	2500	4900	6300	4300	400	1700	1500	6300	1500	
26	Feacal Coliform, MPN/100 ml	1100	2200	4000	2000	200	540	1100	4900	310	
27	Feacal Streptococci, MPN/100ml	27	430	84	43	20	79	140	350	34	

Analysis report of polluted river stretches-R Periyar, R- Chithrapuzha,R-Kadambrayar, R-Chalakudy For the month of JANUARY 2023

STNCode	Sampling Date	Sampling Time	StnName	TypeWaterBody	NameOfWaterBody	RiverBasin
17	06.01.2023	10:40	Periyar at Eloor	River	Periyar River	
1338	07.01.2023	10:30	Periyar at SDP Aluva	River	Periyar River	
2334	13.01.2023	11:00	Periyar at Pathalam	River	Periyar River	
2335	13.01.2023	12:15	Periyar at Kalamassery	River	Periyar River	
3468	07.01.2023	10:45	Periyar at KWA Aluva	River	Periyar River	
2337	04.01.2023	11:30	Kadambrayar At Brahmapuram	River	Kadambrayar River	
2338	04.01.2023	11:00	Kadambrayar At Manackakadavu	River	Kadambrayar River	
1573	04.01.2023	12:00	Chithrapuzha At Irumpanam	River	Chithrapuzha River	
1154	07.01.2023	12:40	Chalakudy at Pulikkakadavu	River	Chalakudy River	

Sl. No.	Parameters	Values									
		Station Code									
		17	1338	2334	2335	3468	2337	2338	1573	1154	
1	Temperature, °C	28	27	28	27	27	30	29	29	28	
2	Dissolved Oxygen, mg/l	5.6	6.2	6.9	6.8	7.4	2.1	5.2	3.1	7	
3	pH	6.7	7	8.8	7.9	7.2	6.7	6.8	6.7	7.2	
4	Conductivity, µmhos/cm	3711	52	6520	51	49	135	123	1406	143	
5	BOD, mg/l	1.8	2.6	2.5	1.6	2	2.5	1.7	3.1	2.6	
6	Nitrate-N, mg/l	0.51	0.74	2.01	0.61	0.25	0.24	0.75	12.21	0.82	
7	Turbidity, NTU	1.3	0.8	3	0.4	0.5	5.1	5.3	4.3	1.1	
8	Total Alkalinity, as CaCO ₃	57	13	23	14	13	30	25	34	20	
9	Chloride, mg/l	1080	5	2100	4	4.8	20	19	425	32	
10	COD, mg/l	8.8	5.6	9.6	6.4	4.8	9.6	8	10.4	7.2	
11	TKN, mg/l	3.2	3.6	3.3	2.3	2.6	3	5.4	10.8	4.1	
12	Ammoniacal-N, mg/l	2.07	2.21	0.06	0.01	2.04	0	0	11.63	3.17	
13	Total Hardness, as CaCO ₃ mg/l	360	12	740	13	14	29	23	180	36	
14	Calcium, as CaCO ₃ mg/l	220	8	560	8	9	24	16	140	29	
15	Magnesium as CaCO ₃ , mg/l	140	4	180	5	5	5	7	40	7	
16	Sulphate, mg/l	122.4	0.21	53.52	0.62	0	0.51	1.35	112.03	0.21	
17	Sodium, mg/l	565.76	10.2	1100	2.26	2.54	10.84	10.56	240	17.21	
18	Total Dissolved Solids, mg/l	2045	29	3870	28	27	75	70	952	92	
19	Total Fixed Solids, mg/l	1630	22	3090	21	20	60	55	760	72	
20	Total Suspended Solids, mg/l	33	13	36	15	11	27	26	30	24	
21	Phosphate, mg/l	0.01	0	0.02	0.02	0.02	0	0	2.5	0.01	
22	Boron, mg/l	0.37	0	0.54	0	0	0.03	0	0.23	0	
23	Potassium, mg/l	20.44	1.38	34.48	1.03	1.35	2.51	3.04	7.76	2.27	
24	Fluoride, mg/l	0.01	0.02	0.2	0.05	0.01	0.01	0.01	2.82	0.01	
25	Total Coliform, MPN/100 ml	2500	4900	6300	4300	400	1700	1500	6300	1500	
26	Feacal Coliform, MPN/100 ml	1100	2200	4000	2000	200	540	1100	4900	310	

27	Feacal Streptococci, MPN/100ml	27	430	84	43	20	79	140	350	34
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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 November 2022	Progress in the month Of December 2022	Progress in the month of January 2023	% 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 റുള്ളം	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 മീറ്ററേ	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 മീറ്റർ വരുന്ന ഭാഗം തൊഴിലുറപ്പ് പദ്ധതികൾ ഉൾപ്പെടുത്തി എല്ലാ വർഷവും വൃത്തിയാക്കുന്നു എന്ന് പഞ്ചായത്ത് അധികൃതർ അറിയിച്ചിട്ടുണ്ട്.</p> <p>ആയതിനാൽ ടിപ്രവൃത്തി ആവശ്യമില്ല</p>	<p>റാജം വരുന്ന ഭാഗം തൊഴി ലുറപ്പ് പദ്ധതികൾ ഉൾപ്പെടുത്തി എല്ലാ വർഷവും വൃത്തിയാക്കുന്നു എന്ന് പഞ്ചായത്ത് അധികൃതർ അറിയിച്ചിട്ടുണ്ട്.</p> <p>ആയതിനാൽ ടിപ്രവൃത്തി ആവശ്യമില്ല</p>		
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				<p>കർഷകരുടെ അഭിപ്രായപ്പെട്ടു എന്ന വിവരം അസിസ്റ്റന്റ് എഞ്ചിനീയർ, മൈനർ ഇറിഗേഷൻ സെക്ഷൻ, ചേർപ്പ് സ്ഥല പരിശോധനയ്ക്കു ശേഷം റിപ്പോർട്ട് ചെയ്തിട്ടുള്ളതായി എക്സിക്യൂട്ടീവ് എഞ്ചിനീയർ, മൈനർ</p>	<p>അറിയിച്ചിട്ടുണ്ട്. ആയതിനാൽ ടിപ്രവൃത്തി ആവശ്യമില്ല എന്ന ജനപ്രതിനിധികളും, കർഷകരുടെയും പരാധർമ്മങ്ങളും അഭിപ്രായപ്പെട്ടു എന്ന വിവരം അസിസ്റ്റന്റ് എഞ്ചിനീയർ, മൈനർ ഇറിഗേഷൻ സെക്ഷൻ, ചേർപ്പ് സ്ഥല പരിശോധനയ്ക്കു ശേഷം റിപ്പോർട്ട് ചെയ്തിട്ടുള്ളതായി എക്സിക്യൂട്ടീവ് എഞ്ചിനീയർ, മൈനർ ഇറിഗേഷൻ</p>	<p>പ്രകാരമുള്ളതായി വിവരം അസിസ്റ്റന്റ് എഞ്ചിനീയർ, മൈനർ ഇറിഗേഷൻ സെക്ഷൻ, ചേർപ്പ് സ്ഥല പരിശോധനയ്ക്കു 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>ഉതായ 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% Completed	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 November monthly basis	Monitoring is going on December monthly basis	Monitoring is going on monthly basis		
A(b)	Inspection & effluent quality monitoring of the Flats, industrial units, service stations, hospitals,hotels etc	KSPCB	Ongoing	Going on November monthly basis.	Going on December monthly basis.	Going on monthly basis		
Long Term Plan								
A(b)	Sewage treatment facilities to all house holds	Vallachira Grama Panachayat	1 yr	Nil	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	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		

				producing Bio manure for sale.	well and producing Bio manure for sale.	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 November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% 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					
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 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 November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% 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	nil	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	nil	100	0
C	Cluster 2-Kurumaly puzha sub river bed -Project document preparation	Puthukkad Panchayath	1 year	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 of 7 k.m. have been completed &	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.	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

12.01.2023

SL. NO	PARAMETER	UNIT	KT	MRK	KND	MDK	THR	KRV
1	PH		6.96	7.03	6.96	6.69	6.88	6.93
2	EC	μ/cm	45.13	96.01	33.47	53.65	53.73	45.51
3	BOD	mg/L	0.906	0.82	1.23	2.45	1.6	2.8
4	DO	mg/L	6.25	6.89	7.45	6.57	6.11	7.24
5	COD	mg/L	4	4	4	8	4	8
6	TC	CFU/100 ml	600	450	400	600	500	400
7	FC	CFU/100 ml	200	200	100	200	150	200
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 November2022	Progress in the month of December 2022	Progress in the month of January 2023	% 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.	Completed		

				Doing regular inspection	Doing regular inspection.			
E	Installation of CCTV s on the bank of river in town	Wadakkanchery Municipality	31.03.2022		It has been informed that steps have been taken to obtain approval from the council 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	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		Estimate submitted for FS.

						FS.		
A (b)	Common STP	Wadakkanchery Municipality, Kerala Infrastructure Investment Fund Board	March 2022	Topographical survey completed . Site identified and report submitted before Hon. District Collector for getting land	Topographical survey completed . Site identified and report submitted before Hon. District Collector for getting land.			Site for one STP identified. Applied for NOC from District Collector (Land is Puzha Puramboke and Irrigation Department Canal Puramboke)
C(iii)	Windrow composting at Kumbalangaad yard	Wadakkanchery Municipality	March 2022	Construction of windrow compost plant work completed and trial run started	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 Board	March 2022	Lack of suitable site for the project	Lack of suitable site for the project			Lack of suitable site for 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 Municipality	Ongoing work					
	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	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 include			

				been included in the Job Guarantee Project and removed. 913741 rupees were spent in this work. Garbage that fell due to rain was removed in many places.	d in the Job Guarantee Project and removed. 913741 rupees were spent in this work. Garbage that fell due to rain was removed in many places.			
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	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 s were plante d on both sides of the river throug h "Wada kanch erry riversi de affores tation" . 15597 6 rupees were spente d for this work.	Bambo o sapling s were planted on both sides of the river throug h "Wada kanche rry riversid e afforest ation". 155976 rupees were spente d for this work. The garbag e in the			
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				The garbage in the flood-prone areas has been removed and the flow has been facilitated.	flood-prone areas has been removed and the 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 Panchayat	Action taken					Stop Memo 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			
E	Survey process of Kechery river portion belong to Choondal Grama Panchayat to mark the boundary and encroachment	Revenue Department	completed	completed	completed			
E	Laying of survey station	Choondal Grama Panchayat	completed	completed	Completed			
E	Digital mapping and seminar on pollution control	Forestry College, Vellanikkara	31/05/2020	Not started	completed			

IRRIGATION DEPARTMENT

No.	Activity	Implementing agency	Time line	Progress in the month of November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% works completed	Details of works remaining
1	Issues relating to E-flow, maintaining minimum environmental flow of river (by having watershed management provisions)	Irrigation Department	30-03-2022	കേച്ചേരി പുഴയുടെ പാരിസ്ഥിതിക നീരൊഴുക്ക് പഠനം (E-flow) പൂർത്തിയാക്കി റിപ്പോർട്ട് 18/05/2022 ന് ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും ഭരണവും, തിരുവനന്തപുരത്ത് സമർപ്പിച്ചിട്ടുണ്ട്.	കേച്ചേരി പുഴയുടെ പാരിസ്ഥിതിക നീരൊഴുക്ക് പഠനം (E-flow) പൂർത്തിയാക്കി റിപ്പോർട്ട് 18/05/2022 ന് ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും ഭരണവും, തിരുവനന്തപുരത്ത് സമർപ്പിച്ചിട്ടുണ്ട്.	കേച്ചേരി പുഴയുടെ പാരിസ്ഥിതിക നീരൊഴുക്ക് പഠനം (E-flow) പൂർത്തിയാക്കി റിപ്പോർട്ട് 18/05/2022 ന് ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും ഭരണവും, തിരുവനന്തപുരത്ത് സമർപ്പിച്ചിട്ടുണ്ട്.		

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	Progress in the month of January 2023	% 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					
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 collected from GWD observation wells		
4	B(iv)	For regulating use of ground water for irrigation purpose, adopting good irrigation practices			Awareness class on groundwater resource		

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 -09.01.2023				
SL. NO	PARAMETER	UNIT	VAD1	VAD2
1	pH	-	8.69	8.3
2	Electrical Conductivity	µs/cm	168.5	112.1
3	BOD	mg/L	0.64	0.74
4	DO	mg/L	7.56	6.25
5	COD	mg/L	8	12
6	TC	CFU/100ml	600	500
7	F C	CFU/100ml	450	300
8	FSC	CFU/100ml	NIL	NIL
VAD1 - WADAKKANCHERY PUZHA (WADAKKANCHERY BRIDGE), KECHERY				
VAD2 - WADAKKANCHERY PUZHA(CHALIPPADAM ROAD), KECHERY				

National Mission for Clean Ganga

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(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 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 PUZHAKKAL, KERALA
SHORT TERM MEASURES**

No. (as per Action Plan)	Activity	Implementin g agency	Time line	Progress in the month of November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% works comple ted	Details of works remaining
A(b)	Identification of illegal outlets into the Panchikkal thodu and subsidiary drains	Thrissur Corporation	3 months		0	0	87%	
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 months	3	5	12	88	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						Instruction has been provide to temple authorities for construction of waste

								disposal facilities accordance with swm2016
E	Desilting of Karakattuchal	Irrigation Department	4 months	ടി പ്രവൃത്തിക്കായി 10 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് പ്രൈസ് 3 യിൽ തയ്യാറാക്കി പ്രേഷാസൽ സാമ്പത്തികാനുമതി ലഭിക്കുന്നതിനായി സുപ്രീംസ് എഞ്ചിനീയർ, മൈനർ ഇറിഗേഷൻ	ടി പ്രവൃത്തിക്കായി 10.00 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് ജുഡ്രല 3.0 ൽ തയ്യാറാക്കി 15/09/2022 ന് ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും ഭരണവും തിരുവനന്തപുരത്തിന് സാമ്പത്തികാനുമതിയ്ക്കായി സമർപ്പിച്ചിട്ടു് .	ടി പ്രവൃത്തിയ്ക്കായി 10.00 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് Price 3.0 ൽ തയ്യാറാക്കി 15/09/2022 ന് ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും ഭരണവും തിരുവനന്തപുരത്തിന് സാമ്പത്തികാനുമതിയ്ക്കായി സമർപ്പിച്ചിട്ടു് .		

				<p>ൻ സെൻട്രൽ സർക്കിൾ എറണാകുളത്തി നും, സുപ്രിം ഓഫീസിൻ എഞ്ചിനീയർ, ഇറിഗേഷൻ സെൻട്രൽ സർക്കിൾ, ത്യൂർനിന നും സമർപ്പി ച്ചിട്ടുണ്ട്. പ്രവൃത്തി നടപ്പിലാ ക്കുന്നതി ന് ഫണ്ട് ലഭ്യമായി ട്ടില്ല.</p>	<p>നന്തപ രത്തി 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	970 meter side protection wall completed. 25 meter protection wall proposed and work in progress. 130 Nos. Works are proposed and work not started.		

					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 and 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			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 covering slabs completed and More works	35.30 KM of drain work and 5.85 KM of covering slabs completed and More	37.10 KM of drain work and 6.70 KM of covering slabs completed and More works proposed under annual plan 2022-23.		

				prop osed under annu al plan and 48 numb ers of work comp leted.	works prop osed under annual plan 2022- 23 and 46 numbe rs of work compl eted			
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	37.10 KM of drain work and 6.70 KM of covering slabs complete		

				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	d and More works proposed under annual plan 2022-23.		
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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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**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 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>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	Project cancelled in AMR UT-1 and proposed in AMR UT 2.0		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, Thiruvananthapuram 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 November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% 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	Three sites selected for the implementation of artificial		

				work order issued.	recharge schemes.		
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 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.		One day seminar conducted for giving awareness to Hydrological Data users Group.		

ACTION PLAN BY GRAMAPANCHAYATH

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% 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 %	com plet ed

C	side protection to water bodies coir geo textile	MGNREGS	31.03.2020				90%	8
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PUZHAKKAL						
Date of sampling – 19.01.2023						
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	300	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 – JANURAY 2023

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	Field Survey was completed and the location was identified for STP. Kerala Water Authority is preparing a DPR for sewerage network and STP for Pattambi Municipality.
	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	March 2021 (Primary STP and Septage Treatment Plant proposed, not STP)	Kerala Water Authority is preparing a DPR for sewerage network and STP.
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>(vii) Ground water regulation</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>No specific proposal</p>	<p>Kerala Water Authority is preparing a DPR for sewerage network and STP.</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 JANUARY 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> <p>Not Applicable</p>
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<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 by Irrigation Department and submitted for approval of State Government</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 by Irrigation Department and submitted for approval of State Government</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 BHARATHAPUZHA, KERALA

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2022	Progress in the month of January 2023	% 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	Household level project Technical Sanction approved	Tendering work is in progress	79% implemented	21% implementation remaining
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	A more comprehensive DPR by Irrigation Department and submitted for approval of State Government. Planning Board	Implementation not started	Full implementation remaining

					approved budget of 500 Crore for NGT related projects. That fund may be utilised for the implementation of DPR.		
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 DECEMBER 2022	Water quality monitoring in Bharathapuzha at Pattambi and two additional points were completed until JANUARY 2023	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	KWA has proposed a plan to construct a STP	Field Survey was completed and the location was identified for STP. Kerala Water Authority is preparing a DPR for sewerage network and STP for Pattambi Municipality.	20% implemented	80% remaining
12	Installation of Modern Slaughter House and Rendering Plant	Pattambi Municipality	March 2021	Project submitted before DPC for purchasing land for slaughter house	Project submitted before DPC for purchasing land for slaughter house.	10% implemented	90% remaining
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.	DPR preparation on the renovation of two sanitary complexes and four new sanitary complexes at Pattambi Municipality is in progress.	15% implemented	85% remaining
14	Green Protocol implementation in all offices institution & public function	Pattambi Municipality	March 2021	Implemented	Implemented	100% Implemented	Nil

**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- JANUARY 2023

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 JANUARY 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 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 DECEMBER 2022	Progress in the month of JANUARY 2023	% works completed	Details of works remaining
C(ii)	Establishment of MSW treatment Plant (Solid Waste Management)	Pudur Grama Panchayath	2019-2020	Own fund position insufficient for doing the project	Own fund position insufficient for completing the project	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 bin in the colonies. Mini MCF facility were installed in the four	Minis MCF in the colonies of Pudur Panchayath were started as an alternative of installation of waste bin in the colonies. Mini MCF facility were	62% implemented	38 % implementation remaining

				wards and its coverage will be extend over all the 13 wards	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 %	The community toilet underway is over and above action plan
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 & Ranganathapuram were	Implemented	100	NIL

				completed			
D	Construction of Check dams at the identified locations	Irrigation department	2020 - 21	Checkdam at Boothivazhy, Anakkal&Chemmannura are proposed in the DPR	Checkdam at Boothivazhy, Anakkal&Chemmanur are proposed in the DPR	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	Implementation not started	Full implementation 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 were completed until December 2022	Water quality monitoring in Bhavani at Elachivazhi and three additional points were completed until January 2023	Implemented. Will continue up to the full implementation of the action plan.	Implemented.

**POLLUTED RIVER STRETCH MONITORING PROGRAMME
(DATA SHEET JANURAY 2023)**

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)	05-01-2023					
		1	1	:	0	0	
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	15.4 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	29
2	Dissolved Oxygen, mg/l	7.8
3	pH	7.92
4	Conductivity, µmhos/cm	447
5	BOD, mg/l	0.6
6	Nitrate-N, mg/l	0.13
7	Turbidity, NTU	BDL
8	Phenolphthalein Alkalinity, mg/l	BDL
9	Total Alkalinity, mg/l	136
10	Chloride, mg/l	58
11	COD, mg/l	1.6
12	TKN, mg/l	BDL
13	Ammoniacal-N, mg/l	BDL
14	Hardness as CaCO ₃ , mg/l	146
15	Calcium as CaCO ₃ , mg/l	79
16	Magnesium as CaCO ₃ , mg/l	67
17	Sulphate, mg/l	17.6
18	Calcium (Ca ²⁺), mg/l	31.6
19	Magnesium (Mg ²⁺), mg/l	16.28
20	Sodium, mg/l	34
21	Total Dissolved Solids, mg/l	280
22	Total Fixed Solids, mg/l	176.4
23	Total Suspended Solids, mg/l	BDL
24	Phosphate, mg/l	0.076
25	Boron, mg/l	BDL
26	Potassium, mg/l	6
27	Fluoride, mg/l	0.211
28	Total Coliform, MPN/100 ml	500
29	Fecal Coliform, MPN/100 ml	300
30	Fecal Streptococcus, MPN/100 ml	60
31	% SODIUM	32.47
32	SAR	1.22

**POLLUTED RIVER STRETCH MONITORING PROGRAMME
(DATA SHEET JANUARY 2023)**

Veliampkallu regulator (D/S of NWWMP-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)	05-01-2023									
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	222.4 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	29
2	Dissolved Oxygen, mg/l	7.73
3	pH	8.17
4	Conductivity, µmhos/cm	214
5	BOD, mg/l	3.06
6	Nitrate-N, mg/l	0.463
7	Turbidity, NTU	BDL
8	Phenolphthalein Alkalinity, mg/l	BDL
9	Total Alkalinity, mg/l	77
10	Chloride, mg/l	21.9
11	COD, mg/l	9.18
12	TKN, mg/l	0.009
13	Ammoniacal-N, mg/l	BDL
14	Hardness as CaCO ₃ , mg/l	77
15	Calcium as CaCO ₃ , mg/l	44
16	Magnesium as CaCO ₃ , mg/l	33
17	Sulphate, mg/l	5
18	Calcium (Ca ²⁺), mg/l	17.6
19	Magnesium (Mg ²⁺), mg/l	8.01
20	Sodium, mg/l	13
21	Total Dissolved Solids, mg/l	137
22	Total Fixed Solids, mg/l	89.05
23	Total Suspended Solids, mg/l	BDL
24	Phosphate, mg/l	0.044
25	Boron, mg/l	BDL
26	Potassium, mg/l	4
27	Fluoride, mg/l	0.231
28	Total Coliform, MPN/100 ml	600

**POLLUTED RIVER STRETCH MONITORING PROGRAMME
(DATA SHEET JANURAY 2023)**

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)	06-01-2023									
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			D/s of town or			Pilgrim center/Bathing		None ✓	
11	Flow rate	9.45 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	22
2	Dissolved Oxygen, mg/l	8.26
3	pH	7.9
4	Conductivity, µmhos/cm	134
5	BOD, mg/l	1.53
6	Nitrate-N, mg/l	0.14
7	Turbidity, NTU	BDL
8	Phenolphthalein Alkalinity, mg/l	BDL
9	Total Alkalinity, mg/l	62
10	Chloride, mg/l	8
11	COD, mg/l	4.59
12	TKN, mg/l	0.004
13	Ammoniacal-N, mg/l	BDL
14	Hardness as CaCO ₃ , mg/l	62
15	Calcium as CaCO ₃ , mg/l	38
16	Magnesium as CaCO ₃ , mg/l	24
17	Sulphate, mg/l	0.001
18	Calcium (Ca ²⁺), mg/l	15.2
19	Magnesium (Mg ²⁺), mg/l	5.8
20	Sodium, mg/l	6
21	Total Dissolved Solids, mg/l	82
22	Total Fixed Solids, mg/l	54.12
23	Total Suspended Solids, mg/l	BDL
24	Phosphate, mg/l	0.038
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	400
30	Fecal Streptococcus, MPN/100 ml	20
31	% SODIUM	17.08
32	SAR	0.33

**POLLUTED RIVER STRETCH MONITORING PROGRAMME
(DATA SHEET JANURAY 2023)**

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)	06-01-2023									
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	D/s of town or	Pilgrim center/Bathing	None	✓					
11	Flow rate	14.4 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	22
2	Dissolved Oxygen, mg/l	8.26
3	pH	7.88
4	Conductivity, µmhos/cm	140
5	BOD, mg/l	1.46
6	Nitrate-N, mg/l	0.22
7	Turbidity, NTU	BDL
8	Phenolphthalein Alkalinity, mg/l	BDL
9	Total Alkalinity, mg/l	55
10	Chloride, mg/l	13
11	COD, mg/l	4.38
12	TKN, mg/l	0.003
13	Ammoniacal-N, mg/l	BDL
14	Hardness as CaCO ₃ , mg/l	61.4
15	Calcium as CaCO ₃ , mg/l	37
16	Magnesium as CaCO ₃ , mg/l	24.4
17	Sulphate, mg/l	2
18	Calcium (Ca ²⁺), mg/l	14.8
19	Magnesium (Mg ²⁺), mg/l	5.92
20	Sodium, mg/l	6
21	Total Dissolved Solids, mg/l	80
22	Total Fixed Solids, mg/l	50.4
23	Total Suspended Solids, mg/l	BDL
24	Phosphate, mg/l	0.076
25	Boron, mg/l	BDL
26	Potassium, mg/l	1
27	Fluoride, mg/l	0.113
28	Total Coliform, MPN/100 ml	600
29	Fecal Coliform, MPN/100 ml	400
30	Fecal Streptococcus, MPN/100 ml	80
31	% SODIUM	17.22
32	SAR	0.33

POLLUTED RIVER STRETCH MONITORING PROGRAMME (DATA SHEET JANURAY 2023)													
Karathur (D/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)	06-01-2023											
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			D/s of town or			Pilgrim center/Bathing		None ✓			
11	Flow rate	24.7 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	22
2	Dissolved Oxygen, mg/l	7.26
3	pH	7.96
4	Conductivity, µmhos/cm	188
5	BOD, mg/l	0.6
6	Nitrate-N, mg/l	0.22
7	Turbidity, NTU	BDL
8	Phenolphthalein Alkalinity, mg/l	BDL
9	Total Alkalinity, mg/l	79
10	Chloride, mg/l	14
11	COD, mg/l	1.8
12	TKN, mg/l	BDL
13	Ammoniacal-N, mg/l	BDL
14	Hardness as CaCO ₃ , mg/l	80
15	Calcium as CaCO ₃ , mg/l	54
16	Magnesium as CaCO ₃ , mg/l	26
17	Sulphate, mg/l	3.22
18	Calcium (Ca ²⁺), mg/l	21.6
19	Magnesium (Mg ²⁺), mg/l	6.3
20	Sodium, mg/l	8
21	Total Dissolved Solids, mg/l	110
22	Total Fixed Solids, mg/l	68.2
23	Total Suspended Solids, mg/l	BDL
24	Phosphate, mg/l	0.044
25	Boron, mg/l	BDL
26	Potassium, mg/l	2
27	Fluoride, mg/l	0.109
28	Total Coliform, MPN/100 ml	600
29	Fecal Coliform, MPN/100 ml	300
30	Fecal Streptococcus, MPN/100 ml	40
31	% SODIUM	17.4
32	SAR	0.39

**NATIONAL WATER QUALITY MONITORING PROGRAMME
(NWMP -6 DATA- JANUARY - 2023)**

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)	06-01-2023												
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			
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			D/s of town or			Pilgrim center/Bathing			None ✓			
11	Flow rate	18 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	Determinant	Value
1	Temperature, °C	23
2	Dissolved Oxygen, mg/l	8.26
3	pH	8.03
4	Conductivity, µmhos/cm	166
5	BOD, mg/l	0.86
6	Nitrate-N, mg/l	0.3
7	Turbidity, NTU	BDL
8	Phenolphthalein Alkalinity, as CaCO ₃ mg/l	BDL
9	Total Alkalinity, as CaCO ₃ mg/l	78
10	Chloride, mg/l	10
11	COD, mg/l	2.58
12	TKN, mg/l	BDL
13	Ammoniacal-N, mg/l	BDL
14	Hardness, as CaCO ₃ mg/l	79
15	Calcium, as CaCO ₃ mg/l	43
16	Magnesium as CaCO ₃ , mg/l	36
17	Sulphate, mg/l	0.15
18	Calcium (Ca ²⁺), mg/l	17.2
19	Magnesium (Mg ²⁺), mg/l	8.74
20	Sodium, mg/l	6
21	Total Dissolved Solids, mg/l	100
22	Total Fixed Solids, mg/l	62
23	Total Suspended Solids, mg/l	BDL
24	Phosphate, mg/l	0.89
25	Boron, mg/l	BDL
26	Potassium, mg/l	1
27	Fluoride, mg/l	0.167
28	Total Coliform, MPN/100 ml	800
29	Fecal Coliform, MPN/100 ml	400
30	Fecal streptococci, MPN/100 ml	60
31	% Sodium	13.97
32	SAR	0.29

**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 January 20 ,2023</p> <p>(I) Identified 3 drains on 10/12/2018 at the hajiya 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 January 2023. 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 November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% 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 November 2022	Progress in the month of December20 22	Progress in the month of January2 023	% 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 January 20, 2023</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 January 2023)</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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	<ul style="list-style-type: none">(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		<p>(xiii) Reported that encroachment survey is completed and now the process of laying survey stones is in progress.</p>
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ACTION PLAN FOR RIVER TIRUR, KERALA

1. IRRIGATION DEPARTMENT								
1.								
No.	Activity	Implementing agency	Time line 31.03.2020	Progress during month of November2022	Progress during month of December	Progress during month of January2023	% works completed	Details of works remaining
1.1.1	Strengthening the right side bund of Tirur- Ponnani Puzha at Porur, ward no. 1 Tirur Municipality	Irrigation Department	6 Months		No progress	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 5% Mechanical works 90%	No progress	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 November 2022	Progress during month of December2022	Progress during month of January2023	% 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	Civil work and	In progress	In progress		

			2020	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	A project 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	No progress	(See minutes)
2.9	Setting up of STP at Private Bus stand	Tirur Municipality	June 2020	All the equipments installed and three phase electric connection	In progress. Trail run will be conducted 25 th of this month	In progress	95%	In progress (See minutes)

				obtained.Sewer line work and road work under progress.Trial run will be 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 November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% 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, VETOM, MANGALAM, CHERIYAMUNDAM

No.	Activity	Implementing agency	Time line	Progress in the month of November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% 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	Vetom - KS SECURITY SYSTEM	Spill over due to lack of fund	complete d	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	No progress	No progress	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 November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% 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	NA	No permits issued	No permits issued	No permits issued NO ACTION INCLUDE UNDER THIS PLAN BY GROUND WATER DEPARTMENT	NA	NA

		induced industries							
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 INCLUDE 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 INCLUDE UNDER THIS PLAN BY GROUND WATER DEPARTMENT	NA	NA

6.REVENUE DEPARTMENT

No	Activity	Implementing agency	Timeline	Progress November2022	Progress December 2022	Progress January2023	% 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
JANUARY 2023**

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	7.8	4.3	1.0	4	70
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	7.7	5.6	1.2	4	65
7	Canal at Pullooni	7.6	4.2	0.8	3	80
8	Drain near Mangattiri bridge	Not accessible				
9	Drain near Ettirikkadavu bridge	7.6	5.4	0.9	4	72
10	Epothingal	7.5	5.0	1.0	4	84
11	Asarikkadav	7.0	5.0	0.4	2	76
12	Kandanath kadav	7.2	6	1.4	5.6	55
13	Pancharamoola	Not accessible				
14	Kakadav	7.4	3.6	0.9	4	100
15	Kanathkadav	7.3	4.6	0.9	3.6	56
16	Drain near tirur railway station	7.3	3.9	1.1	4.4	124
17	Payyanangadi(kadayithodu)	Not accessible				

**ANALYSIS REPORT OF POLLUTED STRETCH POINTS IN
KADALUNDY RIVER JANUARY 2023 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	7.3	1.4	6	100
<i>2</i>	Valiyangadi bypass drain	Not accessible				
<i>3</i>	Valiyathod drain	7.6	7.3	1.6	6.4	60
<i>4</i>	Hajiyarpally	7.4	7.6	1.2	5	120

POLLUTED RIVER STRETCH WATER QUALITY MONITORING PROGRAM (I) JANUARY 2023

Station Name		CAVAYYI RIVER			
Type of Assessment		REVIS			
Conducted By		J.S.L.P.S.A.Z			
Agency		KERALA STATE POLLUTION CONTROL BOARD			
Sl. No.	Parameter/Parameter	18-01-2023	18-10-2023	18-11-2023	18-01-2024
		Sample	Sample	Sample	Sample
1	Temperature, °C	34	31	31	34
2	Dissolved Oxygen, mg/l	4.5	5.2	3.4	5.2
3	pH	6.3	6.8	6.85	6
4	Conductivity, $\mu\text{mhos/cm}$	90.2	98.6	33300	118
5	BOD, mg/l	1.2	2.4	2.9	2.5
6	Turbidity, NTU	1.1	1.6	2.1	1
7	Total Alkalinity, mg/l	18	19	55	18
8	Chloride, mg/l	16	18	19900	20
9	Ammoniacal-N, mg/l	NDL	NDL	NDL	NDL
10	Hardness as CaCO ₃ , mg/l	20	34	7900	20
11	Calcium as CaCO ₃ , mg/l	12	12	5500	14
12	Magnesium as CaCO ₃ , mg/l	8	6	2400	5
13	Sulphate, mg/l	0.00	0.002	52.63	BDL
14	Phosphate, mg/l	BDL	BDL	BDL	BDL
15	Thiocyane, mg/l	BDL	BDL	BDL	BDL
16	Total Coliform, MPN/100 ml	600	800	600	600
17	Fecal Coliform, MPN/100 ml	300	420	320	300

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

POLLUTED RIVERS RILCO WATER QUALITY MONITORING PROGRAMME JANUARY 2023

Station Name	PERUMBA RIVER			
Type of water body	RIVER			
Completed by	JKAL/532			
Agency	KERALA STATE POLLUTION CONTROL BOARD KANNUR			
Date of sample collection	20-01-2023	20-01-2023	15-01-2023	19-01-2023
S/N	Parameter	KAS - JETTAYATI	MATHAMANGALAM	CHIANDIPIRA
1	Temperature, °C	30	30	28
2	Dissolved Oxygen, mg/l	2.6	6.32	6.3
3	pH	6.94	6.84	5.7
4	Conductivity, $\mu\text{mhos/cm}$	86.2	70	71.7
5	BOD, mg/l	0.92	1.11	3.83
6	Turbidity, NTU	1.3	0.8	2.2
7	Total Alkalinity, mg/l	10	12	17
8	Chloride, mg/l	1	16	15
9	Ammoniacal-N, mg/l	BDL	BDL	0.0321
10	Hardness as CaCO_3 , mg/l	12	26	17
11	Calcium as CaCO_3 , mg/l	8	13	13
12	Magnesium as CaCO_3 , mg/l	4	13	4
13	Sulphate, mg/l	6.11	2.76	BDL
14	Phosphate, mg/l	BDL	BDL	0.0024
15	Fluoride, mg/l	BDL	BDL	1.05
16	Total Calcium, Ca^{++} 100 ml	480	360	200
17	Total Calcium, Ca^{++} 100 ml	240	140	100


 Scientist
 Kerala State Pollution Control Board
 Puzhuvathur, Kuttanur-671002

POLLUTED RIVER WATER QUALITY MONITORING PROGRAMME JANUARY 2023


Station Name: **KUPPAM RIVER**
 Name of Water body: **RIVER**
 Completed by: **SALILKAR**
 Agency: **KARNATAKA STATE POLLUTION CONTROL BOARD BANGUR**

Sl.No	Parameter	19-01-2023	19-01-2023	12-01-2023	19-01-2023	19-01-2023	19-01-2023
		VILICHAN KILL	MANGALAS SURBY	KUPPAM BRIDGE	VAULYKOT DAM	VILASU	KOTITY ERKADARA
1	Temperature, °C	29	34	29	30	31	31
2	Dissolved Oxygen, mg/l	6.1	7.82	6.6	6.5	6.2	6.5
3	pH	6.67	6.6	6.4	6.66	6.28	6.5
4	Conductivity, μ mhos/cm	24400	21400	18500	18660	15060	9600
5	BOD, mg/l	2.9	3	2.2	2.1	2	1.4
6	Turbidity, NTU	2.3	2.6	1.8	3.1	2.3	1.3
7	Total Alkalinity, mg/l	38	37	29	20	26	21
8	Chloride, mg/l	20000	8200	6200	6000	14009	10600
9	Ammoniacal-N, mg/l	0.0112	BDL	0.0909	BDL	BDL	BDL
10	Hardness as CaCO ₃ , mg/l	4100	2500	2100	2000	2160	1200
11	Cadmium as CaCl ₂ , mg/l	3200	1500	1800	1400	1000	860
12	Magnesium as CaCl ₂ , mg/l	900	1300	300	900	1160	40
13	Sulphate, mg/l	211.3	232.14	179.09	46.32	68.11	30.26
14	Phosphate, mg/l	ODT.	BDL	0.06	BDL	BDL	BDL
15	Fluoride, mg/l	0.3	0.6	0.08	BDL	BDL	BDL
16	Total Coliform, MPN/100 ml	800	630	900	600	520	620
17	Total Coliform, MPN/100 ml	600	380	450	180	180	380


 Assistant Scientist
 Karna State Pollution Control Board

MUNICIPALITY STRETCH WATER QUALITY MONITORING PROGRAMME JANUARY 2023

Station Name		RAMAPURAM RIVER			
Type of Water body		RIVER			
Completed In		MAY 2022			
Agency		KERALA STATE POLLUTION CONTROL BOARD KANMUR			
Sl. No	Parameter	19-01-2022	19-01-2023	12-01-2023	17-01-2023
		KAPUDAL	ADUVADAM	RAMAPURAM	VATHALAPARA
1	Temperature, °C	29	30	29	30
2	Dissolved Oxygen, mg/l	5.4	7.1	5.6	5.9
3	pH	7.15	6.77	6.7	7.06
4	conductivity, microhm/cm	88.4	135	5310	39900
5	TCOD, mg/l	2.6	3	4.53	2.9
6	Acidity, N/l	1.1	1.4	0.1	2.9
7	Total Alkalinity, mg/l	12	16	50	50
8	Chloride, mg/l	19	24	1700	18000
9	Ammoniacal N, mg/l	0.0045	NDL	0.18	0.0092
10	Hardness as CaCO ₃ , mg/l	25	30	250	5400
11	Calcium as CaCO ₃ , mg/l	17	7	110	9200
12	Magnesium as CaCO ₃ , mg/l	8	7	140	2200
13	Sulphate, mg/l	6.93	5.38	62.03	128.2
14	Phosphate, mg/l	NDL	NDL	NDL	NDL
15	Fluoride, mg/l	NDL	NDL	NDL	NDL
16	Total Coliforms, MPN/100 ml	600	360	910	900
17	Fecal Coliforms, MPN/100 ml	300	180	500	470


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

1. Kāvayī

Sl.no	Drain	DOT for January 2023	Remarks
1	Sebil Pann	No water	Waste disposal from side by shops, Hotels, nearby mosque.
2	Arreed ground drain	No water	
3	Kallavapuram thodu	No water	
4	Voerisacath	No water	Drain covered with mud, plastic wastes.
5	Uliyathu cadavu	3.6	Plastic waste seen , black color water with his smell. No change in water from last month.
6	Kalab kadavu	Small amount of water which cannot be fetched	
7	Murtathi kadavu	4.8	Plastic waste seen.
8	Vadprom thodu	Small amount of water which cannot be fetched	Construction work going on, one side is full of plastic waste.

2. Peruvaimba

	Drain	DOT for January 2023	Remarks
1	Narayan thodu	5.1	Plastic waste was noticed, water with smell.
2	Perumbai thodu	1.4	Plastic waste was noticed , water with smell, nearby shopping complex shops are dumping waste.

3	Vallamthodu	3.5	Water with Plastic waste.
4	Panapuzha thodu	0.62	
5	Poomkuttu Chol	0.92	Plastic waste seen side wise road.
6	Melanganika thodu	1.2	
7	Kammalambathu	1.33	
8	Ayalthodu	0.62	
9	Yanilapuzha thodu	1.2	Plastic waste.
10	Kallali thodu	No water	Small amount of water
11	Kammala thodu	1.1	
12	Kovakkal thodu thekka	1.2	
13	Cheruvayal thodu	No water	
14	Kozhikalakulam thodu Kanjimangalam pusha	2.1	
15	Taluvayal thodu	No water	

3. Ramapuram thodu

Sl.no	Drain	HQSD on January 2023	Remark
1	Kapuzhal thodu	1.32	
2	Chembai thodu	4.4	Plastic waste and building banks are not used.

3	Kulapattam - smaller thodu Kovilambattu thodu	0.6	
4	Aduthala thodu	No water	
5	Ottayal thodu	3.3	
6	Moolakadavu	4.1	Oil presence in water, decayed organic materials are seen .

4.Kuppam

Sl.No	Drain	BOD in January 2023	Remarks
1	Karuvatchal	2.2	
2	Karthikapuram	1.8	Plastic wastes was noticed
3	Near Udayagiri Bridge	0.68	
4	Makkada Thodu	1.8	
5	Moonankunnu Thodu	2	
6	Kutaparamba- Neduvodu Thodu	0.98	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	2.62	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.	
11	Kavimmanahu	2.25	
12	Manja Thodu	3.32	
13	Sulthun Thodu	5.6	floating waste is seen, plastic and intestinal waste of animals are floating.
14	Chemu thodu	8.2	

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 JANUARY 2023
RIVER MOGRAL, KASARGOD

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of November 2022	Progress in the month of December 2022	Progress in the month of January 2023	% 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

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		
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 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 JANUARY 2023
RIVER UPPALA, KASARGOD

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of November2022	Progress in the month of December2022	Progress in the month of January 2023	% 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	50%	After monsoon work will complete
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	-	New projects will plan for the protection of river Uppala.
E	Installation of camera	Mangalpady Grama Panchayath	March 2020	Not submitted the report	Not submitted the report	Not submitted the report		Project will implement within 3 months
C	Electrification of material collection facility	Manjeshwaram Grama Panchayat	2019-2020	Electrified	Electrified	Not submitted the report	100%	Completed
C	Transportation of collected waste	Manjeshwaram Grama Panchayat	March 2020	948 kg plastic waste transported	948 kg plastic waste transported	Not submitted the report		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, project forwarded to PWD Electrical Wing, permission not yet received	Not submitted the report		Tendered

C	Tying of net on both sides of the bridge	Irrigation Department	2019-2020	DPR submitted to Chief Engineer (Price ID: 2019/10825/IA) for approval. Present status reported to Superintending Engineer, Minor Irrigation Circle, Kozhikode on 20.07.2021	DPR submitted to Chief Engineer (Price ID: 2019/10825/IA) for approval. Present status reported to Superintending Engineer, Minor Irrigation Circle, Kozhikode on 20.07.2021	DPR submitted to Chief Engineer (Price ID: 2019/10825/IA) 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

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		10.01.2023	
Nature and flow of the river		Medium flow, water level decreased	
Sl.No	Parameters	Unit	Mogral Bridge
1	Temperature	°C	29
2	pH	-	5.96
3	Conductivity	µmhos/cm	48220
4	Turbidity	NTU	0.9
5	BOD	mg/l	2.2
6	Dissolved Oxygen	mg/l	7.2
7	Total Coliforms	cfu/100ml	580
8	Feacal Coliforms	cfu/100ml	224
9	Feacal Streptococcus	cfu/100ml	80
10	Chlorides	mg/l	17800
11	Total Alkalinity	mg/l	99
12	Total Hardness	mg/l	6200
13	Calcium Hardness	mg/l	5500
14	Magnesium Hardness	mg/l	700
15	Calcium	mg/l	2200
16	Magnesium	mg/l	170.1
17	Total Dissolved Solids	mg/l	31360
18	Sodium	mg/l	9213
19	Potassium	mg/l	230

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		10.01.2023	
Nature and flow of the river		Water level decreased, Medium flow	
Sl.No	Parameters	Unit	Puzhakkara
1	Temperature	°C	29
2	pH	-	7.83
3	Conductivity	µmhos/cm	1131
4	Turbidity	NTU	0.1
5	BOD	mg/l	0.4
6	Dissolved Oxygen	mg/l	6.8
7	Total Coliforms	cfu/100ml	450
8	Feacal Coliforms	cfu/100ml	176
9	Feacal Streptococcus	cfu/100ml	80
10	Chlorides	mg/l	320
11	Total Alkalinity	mg/l	48
12	Total Hardness	mg/l	230
13	Calcium Hardness	mg/l	180
14	Magnesium Hardness	mg/l	50
15	Calcium	mg/l	72
16	Magnesium	mg/l	12.15
17	Total Dissolved Solids	mg/l	735
18	Sodium	mg/l	168
19	Potassium	mg/l	15

Sd/-
Assistant Scientist

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		10.01.2023	
Nature and flow of the river		Moderate flow, water level decreased	
Sl.No	Parameters	Unit	Uppala Bridge
1	Temperature	° C	29
2	pH	-	6.39
3	Conductivity	µmhos/cm	45650
4	Turbidity	NTU	0.1
5	BOD	mg/l	0.4
6	Dissolved Oxygen	mg/l	5.3
7	Total Coliforms	cfu/100ml	290
8	Feacal Coliforms	cfu/100ml	76
9	Feacal Streptococcus	cfu/100ml	30
10	Chlorides	mg/l	17000
11	Total Alkalinity	mg/l	115
12	Total Hardness	mg/l	5700
13	Calcium Hardness	mg/l	5100
14	Magnesium Hardness	mg/l	600
15	Calcium	mg/l	2040
16	Magnesium	mg/l	145.8
17	Total Dissolved Solids	mg/l	29680
18	Sodium	mg/l	8787
19	Potassium	mg/l	240

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		10.01.2023	
Nature and flow of the river		Water level decreased, moderate flow	
Sl.No	Parameters	Unit	Uppala River Near Bhagavathi Temple (Bhagavathi Gate)
1	Temperature	° C	29
2	pH	-	7.1
3	Conductivity	µmhos/cm	18130
4	Turbidity	NTU	0.5
5	BOD	mg/l	1.8
6	Dissolved Oxygen	mg/l	7
7	Total Coliforms	cfu/100ml	420
8	Feacal Coliforms	cfu/100ml	144
9	Feacal Streptococcus	cfu/100ml	60
10	Chlorides	mg/l	6200
11	Total Alkalinity	mg/l	50
12	Total Hardness	mg/l	2700
13	Calcium Hardness	mg/l	2000
14	Magnesium Hardness	mg/l	700
15	Calcium	mg/l	800
16	Magnesium	mg/l	170.1
17	Total Dissolved Solids	mg/l	11790
18	Sodium	mg/l	3211
19	Potassium	mg/l	105

Sd/-
Assistant Scientist