

**National Mission for Clean Ganga****Format for Submission of Monthly Progress Report by States/UTs****(Hon'ble NGT in the matter of OA No.673/2018 dated 06.12.2019)****RIVER KARAMANA, THIRUVANANTHAPURAM*****ACTION PLAN FOR RIVER KARAMANA, KERALA- Monthly PR- July 2022*****1. Short term plan****Maintenance and de-bottle necking of existing sewerage network**

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



2.1.2	Rehabilitation/ up-gradation 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%	0%	80%	a. Completed  b. a) Providing RCC lining for the existing two wells. Lining for first well completed. Two Pump sets erected in first well and commissioned. Pumping main also completed. Lining for 2 <sup>nd</sup> well partly completed. b) Diesel generator – to be supplied by contractor. Work terminated at the risk and cost of the contractor. TS issued for re-casted estimate
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								and tendered.
2.1.3	5 MLD sewage Treatment Plant at Medical College	Kerala Water Authority	May 2020				100%	Work Completed on 8.8.2021.
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 in progress. For Arannoor and Thaliyal. Erection of diesel generator is already included in the item mentioned 2.1.2. For Enchakkal already exists.
	Reconnect sewer at Rajaji Nagar, stop outflow of sewage into Amayizhanchanthondu, control storm water entry into							



2.1.6	sewer to avoid overflow in Thampanoor area. Sewage generated in Rajaji Nagar shall be diverted to main sewer line. Sewage generated in Thoppil area shall be diverted main sewer line	Kerala Water Authority	Dec 2020				100%	Work completed.
2.1.7	Discharge of sewage in Parayilkadavu shall be stopped as there is overflow of sewage reaches in houses having sewerage connection and this may lead to discharge of sewage 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 is completed.
								Works completed – 75No. (Rs. 15.41cr)



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%	AMRUT-44, State plan-28 MLA ADF/SDF-3  In progress – 1No. (Rs. 3.cr.) AMRUT-1,  Expected to be completed by 31.10.2022 - AMRUT work
	Total works in progress/completed (76No.) Works in tendering (2No.)					To be arranged – 2 No. (Rs. 1.52 cr.) State plan-2	Two works dropped due to not getting offers on repeated tenders and expiry of AS
2.1.10	Extension of sewer network wherever technically feasible in new areas of existing blocks	Kerala Water Authority	May 2020	1%	0.5%	96.5%	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-2  Expected date of completion 31.12.22
	Tendering/ To be arranged (1No.) Land acquisition -4		1%			To be arranged (Rs. 7.885 cr.)	To be arranged– 1-Nos. Land Acquisition in progress-4 Nos	4 works need Land acquisition. Land acquisition process nearly completed for two works and 2.3 Crores has been remitted to District Collector and the same is in award stage. Now additional amount of 1.35 crore requested by Thahasildar and the same has been remitted. For second work LA completed and land handed over to KWA and AS obtained for arranging the work under State Plan 22-23 and has been tendered. LA for one work in initial stage. The work approved in State



									Plan 2021-22 and were tendered. But quoted rate is high. Estimate revised and submitted for additional AS under State plan 2022-23. Additional AS obtained and work tendered. Expected date of completion 31.12.22
2.1.11	Procurement of sewer cleaning machines and equipment maintenance	Kerala Water Authority	Mar 2020	0%	0%	0%	100%		Work completed.



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

## 1. Long term Plan

	Long term measures proposed	Implementing agency	Amount Required (Rs.in Crore)	Time line	Progress in the month of February	Progress in the month of March	% works completed	Details of works remaining
3.1.1	Extension of sewerage system to Block F to G coastal belt	Kerala Water Authority		Three years				Consultant for preparing Detailed Project Report for uncovered wards of the Thiruvananthapuram Corporation and Rehabilitation of existing system, terminated from the contract due to poor quality of work on 31/5/22. Action is being taken to prepare the DPR of 19 wards abutting Kramana river internally.
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							





	sewerage system					
3.1.7	Additional STP requirement					
	<b>Total Amount required :</b>		<b>5000 Crores</b>			
<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 are to be prepared for 58 wards including 23 wards for which no designs are available. The long term measures are envisaged to cover the entire wards in the Thiruvananthapuram Corporation. For preparing DPR for rehabilitation of existing sewerage system and for establishing Sewerage Septage management system for uncovered areas of Thiruvananthapuram Corporation, AS has been obtained under RKI. The Additional Chief Secretary, Water Resource directed to design the system with decentralized STP units. The Consultant firm M/s REPL, Delhi had submitted draft DPRs. But, on scrutiny, major discrepancies were observed in the survey data and design of M/s REPL. Hence they were terminated from the work and action is being taken to prepare the DPR internally.</p>						



## ACTION PLAN FOR RIVER KARAMANA, KERALA

### 1. Short term Plan

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

No.	Activity	Implementing Agency	Time line	Progress in the month of May 2022	Progress in the month of June 2022	Progress in the month of July 2022	% works completed	Details of works remaining
2.1.1	Pumping lines from the terminal pumping stations namely Kuriyathi, Pattoor, Kannammoola and Enchakkal pumping stations are to be connected directly to STP at Muttathara	Kerala Water Authority	May-19	100%	100%	100%	100%	
	Kuriyathi Pumping line							
2.1.2	Rehabilitation/upgradation of Thalival 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-20	100%	100%	100%	100%	Completed
	Aranmooor			0%	0%		80%	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. TS issued for recasted estimate and tendered.

2.1.3	5 MLD sewage treatment plant at Medical College	Kerala Water Authority	May-20	100%	100%	100%	100%	
2.1.4	Installation of adequate pumps in Mudavanmughal and Enchakkal pumping stations	Kerala Water Authority	Mar-20	100%	100%	100%	100%	
2.1.5	DG sets in all lift and pumping stations - Mudavanmughal, Aranoor, Thaliyal, Kuriyathi, Pattoor, Kannammola, Pattom, Murinjapalam and Enchakkal	Kerala Water Authority	May-20	100%	100%	100%	100%	
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%	100%	100%	100%	
2.1.7	Discharge of sewage in Parayilkadavu shall be stopped as there is overflow of sewage reaches in houses having sewerage connection and this may lead to discharge of sewage into River Karamana	Kerala Water Authority	Completed	100%	100%	100%	100%	
2.1.8	Divert the sewer line from the School compound of Government Karamana High School	Kerala Water Authority	Awarded	100%	100%	100%	100%	

2.1.9	Rehabilitation by laying new lines increasing size of undersized main and reconstruction by dilapidated manholes for the last 3 years	Kerala Water Authority	May-20	98%	98%	98%	98%	Works completed - 75No. (Rs. 15.41cr) AMRUT-44, State plan-28 MLA ADF/SDF-3 In progress - 1No. (Rs. 3.cr.) AMRUT-1, State plan-0 Expected to be completed by 31.10.2022 for one AMRUT work	
	Total works in progress (76 No.)							To be arranged - 2 No. (Rs. 1.52cr.)	Two works dropped due to not getting offers on repeated tenders and expiry of AS
	Works in tendering (3 No.)							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	
	Total 29 no.								In progress - 2No. (Rs. 11.35 cr.) AMRUT-2 State plan-0 Expected date of completion 31.12.22
	In progress (24 No.)								



2.2.1	Slaughter house and poultry waste	Thiruvananthapuram Corporation	Rendering Plant	Dec-22	75%	75%	75%	75%	<p>Slaughter House- Work in progress (Site at Kunnukuzhy, Palayam). Construction of ETP work awarded for construction of retaining wall and construction of security cabin and visitors lounge.</p> <p><b>Poultry waste-</b> TMC has started collecting poultry waste coming under jurisdiction of 25 HI Office from 1st November 2019 on pilot basis with online tracking of vehicles. The entire poultry waste generated in whole Corporation area is collected and sent to rendering plant in Elloor</p>
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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%	100%	<p><b>Kumarichanda:</b> Market renovation completed. Pilot project implemented for treatment of wastewater.</p> <p><b>Pangode:</b> Selection Notice issued to the agency on 13.06.2022 . Remi9nder letter issued on 25.07.2022 to the agency stating to submit agreement letter and DPR urgently ..... given to contractor</p>
2.2.3	Provide facility for the treatment of sewage, sullage and	Thiruvananthapuram Corporation	<ol style="list-style-type: none"> <li>1. Moonnathumukku</li> <li>2. Poonthura-HI Office</li> <li>3. Cheriyan muttam-Poonthura</li> <li>4. Beemapally Compound</li> <li>5. Tsunami Colony</li> </ol>		45%	45%	45%	45%	Facing issues with site acquisition

da:Market  
 pleted. Pilot  
 nented for

garbage generated in the poonthura slum area between Karamana river and sea	6. Mother Theresa 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. Poundka davu old market 14. Market behind Attipra zonal office							13 work completed out of 28 Nos
	15. Tsunami Colony near 110 KV tower (Poundkadav) 16. Near Valiyavila Veli St. Thomas Church (Poundkadavu) 17. NearKamales shwaram HSS 18. Valiya veetil Residence associati on 19. Near Arannoor Govt. Quarters 20. Kunjalumoodu Junction							



Around  
Kurukuvil  
shall be p  
treatment s

			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					
2.2.4	The discharge of waste water from the surrounding houses to the pond at Jagathy is to be stopped	Thiruvanantha puram Corporation	Pond desilting					Meeting was conducted on 30.07.2021, 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
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						16.8899 lakhs fine collected from 2019 to 2022 till date.
2.2.6		Thiruvananthapuram Corporation	Bio- Composter		82%	82%	80%	80%	Installed 51,000 bins in total. Tender invited for installation of 25,000 bio compost bins. Proposal approved by the health standing committee. Proposal placed in the health standing committee and forwarded to purchase committee for negotiation

2.2.7

2.2.8

2.2.9

Biodegradable waste (DPR)

Thiruvananthapuram Corporation	Thumboormuzhi aerobic bins		60%	60%	90%	90%	Total 154 locations Completed works (Total - 159 units) Santhikavadam - 3 units, Manathala - 3 units, ITI chackai - 11 bins Kalladimukham - 32 bins Neerazhi Market, Ulloor - 6 bins Thumba station kadavu - 4 units Womens college - 4 bins
Thiruvananthapuram Corporation	Community biogas		60%	60%	60%	60%	Total 13 locations - Institutional Level. Work completed - 6 locations  Vanitha jail and Central jail, Poojapura - 100kg/day, Govt L P S, Kanjirampara - 100kg/day and Womens College, Vazhuthacaud - 500kg/day. Work at Law collage, Palayam - 500 Kg/day, University campus, Palayam - 500Kg/day and Govt. High school, Kulathoor - 100Kg/day.  Ongoing Works are : Mental Hospital,
Thiruvananthapuram Corporation	Organic Waste Converter						Dropped

2.2.10

ations  
orks / Total -

2.2.10	Thiruvananthapuram Corporation	Portable biogas						Dropped
2.2.11	Thiruvananthapuram Corporation	Portable aerobins	75%	75%	100%	100%	100% completed . Total 70 Unit - 28 Unit	
2.2.12	Thiruvananthapuram Corporation	Ring compost			40%	40%	Project implementation started. Installed 30 units.	
2.2.13	Thiruvananthapuram Corporation	Segregation bins					Dropped.	
2.2.14	Thiruvananthapuram Corporation	RRC	40%	40%	33%	33%	Total 2 locations. (i)Work in Manacaud site completed. Tendering activities for electrification are in progress. (ii)Kalladimugham.	
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	Thiruvananthapuram Corporation	Solar electrical cart		Part bil submitted			Work completed.	

2.2.19	Biodegradable waste (DPR)	Thiruvananthapuram Corporation	Swaps shops		90%	95%	100%	100%	Work completed.
2.2.20		Thiruvananthapuram Corporation	PET bottle crushing						Project dropped
2.2.21		Thiruvananthapuram Corporation	Community level unit Napkin destroyer		10%	10%	100%	10%	During Trail run the unit is found to be incompetent  158 Nos purchased and installed at various locations
2.2.22		Thiruvananthapuram Corporation	Animal Crematorium at Kattela						Project dropped
2.2.23		Thiruvananthapuram Corporation	Urban Gardening						Project dropped
2.2.24		Thiruvananthapuram Corporation	Upgradation of present facilities		100%	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 second 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 956015/- as fine From 01.01.2022.
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**Monitoring**

	Activity	Implementing Agency	Time line	Water quality in July/ Pre-monsoon	Water quality in August / Monsoon	Water quality in Post monsoon
2.3.1	River water quality monitoring - Killiyar, Karamana, Parvathiputhanar, Akkulam-Veli lake	Kerala State Pollution Control Board	Ongoing; monthly			Analysis report attached herewith
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			Analysis report attached herewith
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 - 5 month Orange - 15 month Green - 8 month			Analysis report attached herewith

**2. Long term Plan**

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**Sewerage Network**

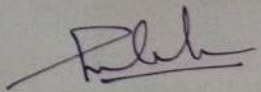
	Long Term measures proposed	Implementing Agency	Amount Required (Rs. In Crore)	Time Line	Progress in the month of May 2022	Progress in the month of June 2022	Progress in the month of July 2022	% Works Completed	Details of work remaining
3.1.1	Extension of sewerage system to Block F to G coastal belt	Kerala Water Authority		Three Years					Consultant for preparing Detailed Project Report for uncovered wards of the Thiruvananthapuram Corporation and Rehabilitation of existing system, appointed and DER preparation in progress under PPD Regional Office Tvm
3.1.2	Extension of sewerage system to Block H to R	Kerala Water Authority		Three Years					
3.1.3	Extension of sewerage system to Newly added	Kerala Water Authority		Three Years					
3.1.4	Providing sewerage system in Block A to E	Kerala Water Authority		Three Years					
3.1.5	Rehabilitation of existing Network and pump house in block A to E	Kerala Water Authority		Three Years					
3.1.6	Procurements of equipments for maintenance sewerage system	Kerala Water Authority		Three Years					
3.1.7	Additional STP requirement	Kerala Water Authority		Three Years					
	<b>Total Amount required</b>		5000 crores						

**Solid Waste Management**

	Long Term measures proposed by Thiruvananthapuram	Implementing Agency	Time line	Progress in the month of May 2022	Progress in the month of June 2022	Progress in the month of July 2022	% works completed	Details of works remaining
3.2.1	Acquire 58 acres of land and rehabilitate 8150 families from the banks of River	Thiruvananthapuram Corporation	5 Years					Dropped

**Desilting and Development**

No.	Activity	Implementing Agency	Time line	Progress in the month of May 2022	Progress in the month of June 2022	Progress in the month of July 2022	% works completed	Details of works remaining
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-	Irrigation Department	1 Year					Flood mitigation work completed
3.3.4	Karimadam tank improvements,de-silting sheet piling/under preparation and providing fencing	Irrigation Department	1.5 Years	15%	20%		20%	Flood mitigation works ongoing
3.3.5	Development of Karamana basin	Irrigation Department	1.5 Years					Desiltation of river completed. E-flow statement is submitted. Protection works at Vulnerable portions are also completed

  
SUPERINTENDING ENGINEER

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**STATE WATER MONITORING PROGRAMME (SWMMP) 2022**

Analysis Report for the month of JULY -2022

**KARAMANA**

Name of River		SAMPLE ID					
Date and Time of Sample collection		19/7/2022					
Method of analysis		SAMPLE ID					
Sl no.	Parameters	Peppara	Aruvikkara	Mangathukadavu	Pallathukadavu	Thiruvallom	Moornattumukku
1	Temperature,degree celsius	26	26	27	26	26	26
2	pH	7.1	6.9	5.6	6.8	6.8	6.8
3	Turbidity,NTU	2	3.7	4.4	5.2	4.8	3.6
4	Electrical Conductivity,µmhos/cm	55	105	135	178	265	461
5	DO,mg/L	6.2	7.3	7.5	5.5	2.4	0.3
6	BOD,mg/L	0.4	1.6	2.1	2.5	4.8	7.8
7	NH3-N,mg/L	BDL	BDL	BDL	BDL	BDL	BDL
8	Nitrate-N,mg/L	BDL	BDL	BDL	BDL	BDL	1.5
9	Chloride,mg/L	4	15	23	29	55	94
10	Phosphate,mg/L	BDL	BDL	BDL	BDL	BDL	BDL
11	Total Alkalinity as CaCO3,mg/L	20	29	28	36	36	65
12	Total Hardness as CaCO3,mg/L	26	34	40	48	51	106
13	Calcium Hardness as CaCO3,mg/L	16	26	28	35	39	82
14	Magnesium Hardness as CaCO3,mg/L	10	8	12	13	12	24
15	Sodium,mg/L	2.5	8	12.5	15.4	28.9	48.8
16	Potassium,mg/L	0.5	0.6	2.3	2.9	4.5	8.5
17	Boron,mg/L	0	0	0	0	0	0
18	SAR	0.12066	0.351498	0.497406	0.56388	1.036775	1.217371
19	Total Coliform,cfu/100ml	600	1000	1200	2100	3900	42600
20	Faecal Coliform,cfu/100ml	200	500	800	1600	2600	7200
21	Faecal Streptococci,cfu/100ml	ND	ND	ND	ND	ND	ND

Assistant Environmental Scientist

*(Signature)*  
06/08/2022

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

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&amp;D and sewerage networks</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure,Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv)<u>Status of Solid Waste Management &amp; Details of Processing Facilities</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline</p> <p>(v)Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi)Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p> <p>(vii)Ground water regulation</p> <p>(viii) Adopting good irrigation practices</p> <p>(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 JUNE- 2022	Progress in the month of JULY- 2022	% works completed	Details of works remaining
A(a)	No industries	-	-	-	-	-	-
A(a)	Monitoring of river water quality	Kerala State Pollution Control Board	Continuing project				
C(ii)	Establishment of de- centralized solid waste treatment facility	Mannar Panchayat, Kadapra/ Niranam Panchayath	31.03.2021	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	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>Kadapra Panchayath has resolved to identify all polluting sources involved in pollution of river resources and initiation of penal action against them</p>		
				<p>Niranam Gramapanchayat is an upper Kuttanad area , so no such dry land suitable for solid waste treatment plant is available</p>	<p>Niranam Gramapanchayat is an upper Kuttanad area , so no such dry land suitable for solid waste treatment plant is available</p>		

C	Establishment of Material Collection Facility	Mannar Panchayat, Kadapra/ Niranam Panchayath	31.03.2021	<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>	<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%	<p>Construction of permanant MCF building, collection and transportation of Non-bio degradable Materials to RRF for processing.</p>
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				<p>Material Collection Facility is fully functional in Kadapra Grama Panchayath</p>	<p>Material Collection Facility is fully functional in Kadapra Grama Panchayath</p>		
				<p>MCF construction completed 13 mini MCF implimentedc in all wards in Niranam Panchayath</p>	<p>MCF construction completed 13 mini MCF implimentedc in all wards in Niranam Panchayath</p>		



C	Resource Recovery Facility	Mannar Panchayat, Kadapra/ Niranam Panchayath	31.03.2021	<p>As there is no RRF in Mavelikkara Block Panchayat in which Mannar GP belongs, nearby Chengannur Block Panchayat has agreed to receive the plastic materials collected and transported by Mannar GP. Mannar GP has 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.</p> <p><b>Resource recovery facility is working as a centralised arrangement at BlockPanchayath level in Kadapra Grama Panchayath</b></p>	<p>As there is no RRF in Mavelikkara Block Panchayat in which Mannar GP belongs, nearby Chengannur Block Panchayat has agreed to receive the plastic materials 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</p> <p><b>Resource recovery facility is working as a centralised arrangement at BlockPanchayath level in Kadapra Grama Panchayath</b></p>	100%	Collection and transportation of Non-bio degradable Materials to RRF for processing
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				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	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	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	100%	Construction and operation of Aerobic compost unit.

				by Grama Panchayat Committee on 27/08/2021.	Committee on 27/08/2021		
C	Door to door collection and transportation of municipal solid waste	Mannar Panchayat	31.03.2021	Collection of Non-biodegradable plastic materials from houses and institutions is conducted by Haritha Karma Sena(HKS). Collection, segregation and transportation of non-biodegradable plastic materials is continuing. About 12 tonnes of plastic materials handed over to Clean Kerala Company(CKC) so far. About 500 kg of plastic materials is kept ready for transportation. Construction of Two mini MCFs in each ward in all the 18 wards of Mannar GP is completed. Plastic Waste management Bylaw(final) has been passed by Mannar GP on 19/06/2021. Action Plan on solid waste Management is approved by Grama Panchayat Committee on 27/08/2021	Collection of Non-biodegradable plastic materials from houses and institutions is conducted by Haritha Karma Sena(HKS). Collection, segregation and transportation of non-biodegradable plastic materials is continuing. About 12 tonnes of plastic materials handed over to Clean Kerala Company(CKC) so far. About 500 kg of plastic materials is kept ready for transportation. Construction of Two mini MCFs in each ward in all the 18 wards of Mannar GP is completed. Plastic Waste management Bylaw(final) has been passed by Mannar GP on 19/06/2021. Action Plan on solid waste Management is approved by Grama Panchayat Committee on 27/08/2021		Continuing

C	Construction of small sewage treatment plant with screening, septic tank and disinfection to the storm water drain of Parumala Town	Kadapra Panchayat	31.12.2020	The Panchayath has its resolution considered that sewage treatment plants is currently not needed within Panchayath area around Parumala	The Panchayath has its resolution considered that sewage treatment plants is currently not needed within Panchayath area around Parumala		
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	Due to the lack of space and fund, construction of small STP is not included in the annual plan of Mannar Grama Panchayat. It will be suitable if the Govt . takes necessary steps in this matter.	Due to the lack of space and fund, construction of small STP is not included in the annual plan of Mannar Grama Panchayat. It will be suitable if the Govt . takes necessary steps in this matter.	0%	Not applicable
C	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	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.	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 .

				Green protocol has been implemented in Public offices of Kadapra Gramapanchayat	Green protocol has been implemented in Public offices of Kadapra Gramapanchayat		
				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		
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	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	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-		

			<p>plasticmaterials is continuing. About 12 tonnes of plastic materials handed over to Clean Kerala Company(CKC) so far. About 500 kg of plastic materials is kept ready for transportation.Socio-Economic Unit (SEU) has been selected as implementing agency for the construction Two mini MCFs in each ward in all the 18 wards of Mannar GP.For the management of electrical, electronic and hazardous waste, the Grama Panchayat has reached in an agreement with Clean Kerala Company. Collection and handing over of electrical, electronic and hazardous waste will start. Biomedical waste is being collected from source and transported for processing by IMAGE (IMA Goes + Eco-friendly), an initiative run by IMA (Indian Medical Association).</p>	<p>biodegradable plastic materials is continuing. About 12 tonnes of plastic materials handed over to Clean Kerala Company(CKC) so far. About 500 kg of plastic materials is kept ready for transportation.Socio-Economic Unit (SEU) has been selected as implementing agency for the construction Two mini MCFs in each ward in all the 18 wards of Mannar GP.For the management of electrical, electronic and hazardous waste, the Grama Panchayat has reached in an agreement with Clean Kerala Company. Collection and handing over of electrical, electronic and hazardous waste will start. Biomedicallis being collected from source and transported for processing by IMAGE (IMA Goes + Eco-friendly), an initiative run by IMA (Indian Medical Association).</p>		
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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 JUNE-2022	Progress in the month of JULY 2022	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks	NOC has not been issued to industries for Ground Water extraction during June 2022	NOC has not been issued to industries for Ground Water extraction during July 2022	Demand based	1.As per the GEC estimation all the blocks in the District has been categorized as SAFE. 2.Provisions of GW (control & Regulation) Act 2002 is implementing strictly for regulating extraction of GW resource in the district
2	B(ii)	Ground water recharging / rain water harvesting	Artificial Recharge Structure 5 sites found feasible.Estimate under Preparation	Artificial Recharge Structure 5 estimate prepared and new 11 sites found feasible.	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 June 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 July 2022 from monitoring wells (borewells and open wells) collected and sent to Analytical Lab Thiruvananthapuram for chemical analysis soon	Periodical assessment (Regular programme) Chemical analysis result of groundwater samples collected during November-2020 reveals that the gw quality is good and potable.	(i) Maintaining a network of observation wells in various hydrogeomorphic units throughout the district from which water level and water samples have been collected periodically and analysed. (ii) Generally groundwater quality is good and potable
4	B(iv)	For regulating use of ground water for irrigation purpose, adopting good irrigation practices	Borewell/ tube well construction is regulated in the district by insisting permit of local bodies based on the feasibility report  ii) Promoting conjunctive use of groundwater and surface water for irrigation purpose.	Borewell/ tube well construction is regulated in the district by insisting permit of local bodies based on the feasibility report  ii) Promoting conjunctive use of groundwater and surface water for irrigation purpose.	Continuing programme	i) Borewell/tube well construction is regulated in the district by insisting permit of local bodies based on the feasibility report of GWD ii) Promoting conjunctive use of groundwater and surface water for irrigation purpose. iii) Awareness programmes organised to the public to adopt rainwater harvesting measures

email: kspcbpta@gmail.com

Phone/fax: 0464-2223983

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

KERALA STATE POLLUTION CONTROL BOARD

കില്ലാ ആഫീസ്, OPP ജനറൽ ആശുപത്രി, KKNairRoad, കുന്തിരോട്ടത്തിൻ്റെ മീൻഡിങ്, പത്തനംതിട്ട 689 645  
DISTRICT OFFICE, OPP. GENERAL HOSPITAL, KKNairRoad, KUNNITHOTTATHIL Bldgs, PATHANAMTHITTA 689645

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

No. PCB/PTA/TG-3/2001

10.08.2022

From

Environmental Engineer

To

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

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

Madam,

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

Encl.As above

Yours faithfully,

ENVIRONMENTAL ENGINEER

STATE WATER MONITORING PROGRAMME (SWMP) 2022

ANALYSIS REPORT FOR THE MONTH OF JULY

Name of River		PAMBA				
Date & Time of sampling collection		19.07.2022				
Method of analysis		APHA				
Sl.No	parameters	PULINKKUNNU	THAKAZHY	EDATHUA	CHENGANNOOR	KOHENCHERRY
1	Temperature ,°C	29	29	28	28	28
2	pH	6.5	6.6	6.5	6.8	6.5
3	Turbidity ,NTU	1.7	1.6	1.6	1.8	1.2
4	Electrical Conductivity , $\mu$ /cm	58.13	69.32	50.71	44.23	37.28
5	DO, mg/l	6.6	6.8	5.6	7.0	7.6
6	BOD, mg/l	0.4	0.5	1.3	0.4	0.2
7	NH <sub>3</sub> N, mg/l	0.193	0.282	0.154	0.102	0.114
8	Nitrate , mg/l	0.152	BDL	0.137	BDL	BDL
9	Chloride mg/l	10	10	10	8	10
10	Phosphate , mg/l	-	-	-	-	-

11	Total Alkalinity, mg/l	11	11	10	10	12
12	Total Hardness, mg/l	24	26	22	22	26
13	Calcium , mg/l	14	14	12	12	14
14	Magnesium, mg/l	10	10	10	10	12
15	Sodium, mg/l	5.21	5.32	5.2	4.28	4.38
16	Potassium , mg/l	0.784	0.612	1.015	0.318	0.212
17	Boron , mg/l	-	-	-	-	-
18	SAR	0.4623	0.4536	0.4820	0.3967	0.3734
19	TC, CFU/100ml	300	200	250	300	310
20	FC, CFU/100ml	100	66	80	100	110
21	FS, CFU/100ml	NIL	NIL	NIL	NIL	NIL

*AKP*

**ASSISTANT SCIENTIST**

## STATE WATER MONITORING PROGRAMME (SWMP) 2022

## ANALYSIS REPORT FOR THE MONTH OF JULY

Name of River		PAMBA							
Date & Time of sampling collection		19.07.2022							
Method of analysis		APHA							
Si. no	parameters	RANNI	ATHIKAYAM	VADASSERIKKARA	PAMBA (D/S)	THRIVENI (U/S)	KAKKIYAR	KOCHUPAMBA	NJUNAGAR
1	Temperature, °C	27	27	28	26	26	26	26	26
2	pH	6.8	7.0	6.6	6.4	6.7	6.6	7.4	6.7
3	Turbidity, NTU	1.2	1.1	1.8	2.9	2.0	1.5	1.2	2.2
4	Electrical Conductivity, $\mu$ /cm	36.14	54.28	30.23	61.0	49.0	60.28	35.32	58.32
5	DO, mg/l	7.6	7.0	6.8	6.9	7.2	6.8	7.2	6.6
6	BOD, mg/l	0.2	0.4	0.4	0.4	0.3	0.5	0.3	0.8
7	NH <sub>3</sub> N, mg/l	BDL	BDL	0.218	0.227	0.201	0.156	0.192	0.918
8	Nitrate, mg/l	0.128	BDL	BDL	0.295	0.191	0.186	BDL	0.732
9	Chloride, mg/l	10	14	10	10	8	12	10	12

10	Phosphate, mg/l	-	-	-	-	-	-	-	-
11	Total Alkalinity, mg/l	10	10	12	10	10	14	11	14
12	Total Hardness mg/l	24	26	26	24	22	30	24	26
13	Calcium , mg/l	14	16	16	16	12	16	14	16
14	Magnesium, mg/l	10	10	10	8	10	14	10	10
15	Sodium, mg/l	5.32	6.34	5.41	5.5	4.3	4.54	5.68	6.32
16	Potassium, mg/l	0.612	0.724	0.218	0.317	0.219	1.126	0.898	1.634
17	Boron, mg/l	-	-	-	-	-	-	-	-
18	SAR	0.4721	0.5405	0.4612	0.4881	0.3985	0.3603	0.5040	0.5388
19	TC, CFU/100ml	240	280	400	470	300	450	560	980
20	FC, CFU/100ml	80	90	120	150	100	150	180	340
21	FS,CFU/100ml	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL

*AP*

ASSISTANT SCIENTIST

**MONTHLY ANALYSIS REPORT OF POLLUTED RIVER STRETCHES JULY- 2022****STATION : MANNAR****Sampling date : 04.07.2022**

<b>SI.NO</b>	<b>PARAMETERES</b>	<b>ITTINAYARKADAVU BRIDGE KUTTAMPEROOR</b>	<b>KOTTAKAL KADAVU BRIDGE KORATTIKADAVU</b>	<b>PARUMALA BRIDGE</b>	<b>MANNAR BRIDGE</b>
<b>1</b>	<b>Temp. (°C)</b>	<b>28</b>	<b>28</b>	<b>29</b>	<b>29</b>
<b>2</b>	<b>pH</b>	<b>6.5</b>	<b>6.7</b>	<b>6.6</b>	<b>6.5</b>
<b>3</b>	<b>Conductivity (µS/cm)</b>	<b>34.71</b>	<b>32.64</b>	<b>37.43</b>	<b>33.45</b>
<b>4</b>	<b>DO (mg/l)</b>	<b>7.2</b>	<b>7.5</b>	<b>7.4</b>	<b>7.3</b>
<b>5</b>	<b>BOD (mg/l)</b>	<b>0.6</b>	<b>0.1</b>	<b>0.5</b>	<b>0.3</b>
<b>6</b>	<b>COD (mg/l)</b>	<b>3.2</b>	<b>3.2</b>	<b>3.2</b>	<b>3.2</b>
<b>7</b>	<b>TDS (mg/l)</b>	<b>38</b>	<b>34</b>	<b>36</b>	<b>32</b>
<b>8</b>	<b>TC (CFU/100ml)</b>	<b>640</b>	<b>100</b>	<b>160</b>	<b>90</b>
<b>9</b>	<b>FC (CFU/100ml)</b>	<b>210</b>	<b>30</b>	<b>50</b>	<b>30</b>
<b>10</b>	<b>FSC(CFU/100ml)</b>	<b>Nil</b>	<b>Nil</b>	<b>Nil</b>	<b>Nil</b>



**WATER QUALITY DATA OF POLLUTED RIVER STRETCHES JULY- 2022****DISTRICT OFFICE, PATHANAMTHITTA****Date of Sampling: 04.07.2022**

Sl.No	PARAMETERS	THAKZHY	EDATHUA	MANNAR
1	Temperature, °C	28	28	28
2	pH	6.5	6.5	6.6
3	Conductivity, µmhos/cm	68	50.71	53
4	Turbidity, NTU	2.3	1.6	2.5
5	Phenolphthalein Alkalinity, as CaCO <sub>3</sub>	Nil	Nil	Nil
6	Total Alkalinity, as CaCO <sub>3</sub>	11	10	11
7	Chloride, mg/l	14	10	10
8	COD, mg/l	3.2	6.4	3.2
9	TKN, mg/l	0.3	0.15	0.25
10	Ammoniacal-N, mg/l	0.084	0.154	0.045
11	Hardness, as CaCO <sub>3</sub> mg/l	26	30	20
12	Calcium, as CaCO <sub>3</sub> mg/l	16	20	12
13	Magnesium as CaCO <sub>3</sub> , mg/l	10	10	8
14	Sulphate, mg/l	2.4	2.1	1.9
15	Sodium, mg/l	7.3	5.2	5.3
16	Total Dissolved Solids, mg/l	44	40	36
17	Total Fixed Solids, mg/l	39	35	30
18	Total Suspended Solids, mg/l	34	29	25
19	Phosphate, mg/l	BDL	BDL	BDL
20	Boron, mg/l	-	-	-
21	Potassium, mg/l	1.011	1.015	0.981
22	BOD, mg/l	0.5	1.3	0.6
23	Fluoride, mg/l	0.3	0.2	0.25
24	Dissolved Oxygen, mg/l	6.5	5.6	6.3
25	Nitrate-N, mg/l	0.194	0.137	0.218
26	Total Coliform, CFU/100 ml	220	250	230
27	Faecal Coliform, CFU/100 ml	70	80	70
28	SAR	0.61392	0.4127	0.51526
29	% of sodium	16.1565	10.9069	15.23416
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**

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

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&amp;D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management &amp; Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic</p>	<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 July 2022 is enclosed. Awareness campaigns initiated.</p> <p>No groundwater pollution is noted in the area action yet to be initiated.</p>
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## ACTION PLAN FOR RIVER PAMBA, KERALA

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of May 2022	Progress in the month of June2022	Progress in the month of July 2022	% works completed	Details of works remaining
A(a)	Monitoring of river water quality	Kerala State Pollution Control Board	Continuing project	Result attached	Result attached	Result attached	100%	NIL
A(b)	Rendering Plant at Eraviperoor or Thiruvalla	Eraviperoor/ Thiruvalla local body	31.03.2021	NIL			0%	Worktobeinitiated
C(ii)	Fencing of bridges, desilting, dredging and protection works, surveillance cameras at vantage points	Irrigation department	31.03.2021	NIL			0%	Worktobeinitiated
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	NIL			0%	Yet to be initiated
C(b)(ii)	Green Protocol implementation in all offices, institution & public functions	Kalloopara, Eraviperoor, Puramattom, Kaviyoor, Peringara, Kuttoorpanchayaths	31.03.2020	100%	100%	100%	100%	0

D(a)	Issues relating to E-flow, maintaining minimum environmental flow of river (by having watershed management provisions)	Irrigation department, Hydrographic survey department	31.03.2021					Work to be initiated
C(ii)	Establishment of decentralized solid waste treatment facilities	Kalloopara, Eraviperoor, Puramattom, Kaviyoor, Peringara, Kuttoorpanchayaths	31.12.2020	100%	100%	100%	100%	0
C	Installing household & community level solid and domestic sewage waste management	Kalloopara, Eraviperoor, Puramattom, Kaviyoor, Peringara, Kuttoorpanchayaths	31.12.2020	NA	NA	NA	NA	NA
C	Door to door collection of solid waste & Material Collection Facilities (MCF) & Resource Recovery Facilities (RRF)	Kalloopara, Eraviperoor, Puramattom, Kaviyoor, Peringara, Kuttoorpanchayaths	31.12.2020	NA	NA	NA	NA	NA

### ACTION BY GROUND WATER DEPARTMENT

Sl. No	Ref para item nos as per NGT Order no.673/2018 dated 20.09.2018	Activity	Timeline	Progress in the month of May 2022	Progress in the month of June 2022	Progress in the month of July 2022	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks	31.03.2021					
2	B(ii)	Ground water recharging / rain water harvesting in Govt offices	31.03.2021					

3	NGT order in O.A no.496/2016 Identification of illegal bore wells in the catchment area.	NGT order in O.A no.496/2016 Identification of illegal bore wells in the catchment area.	31.03.2021					
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## 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"><li>• Specifying accountability of nodal authorities not below the Secretary level</li><li>• Chief Secretaries may have an accountable person attached in their office for this purpose</li></ul>		NA

	<ul style="list-style-type: none"> <li>Monitoring at State level must take place</li> </ul>		
6	<p>Progress report may be furnished by the State/UTs to</p> <ul style="list-style-type: none"> <li>Secretary, Ministry of Jal Shakti</li> <li>Member Secretary, CPCB</li> </ul>	Monthly (preferably before 20 <sup>th</sup> of every month)	NA
6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&amp;D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion</p>	2019-2020	<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 July 2022 is enclosed.</p>

	<p>timeline, No. of industries and complying status</p> <p>(iv)<u>Status of Solid Waste Management &amp; Details of Processing Facilities</u>  Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline</p> <p>(v)Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi)Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p> <p>(vii)Ground water regulation</p>		<p>Awareness campaign to be initiated</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>(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 May 2022	Progress in the month of June 2022	Progress in the month of July 2022	% works completed	Details of works remaining
A(a)	No industries	-	-				-	-

A(a)	Monitoring of river water quality	Kerala State Pollution Control Board	Continuing project	Result attached	Result attached	Result attached	100%	Nil
C(ii)	Establishment of decentralized solid waste treatment facility	Mannar Panchayat, Kadappa/Nirana mPanchayath	30.08.2022	Construction of 2 aerobic compost units completed (One each in Grama Panchayat Office compound and near Mannar Private Bus Stand. The work was executed by M/s Floret Technologies, Thiruvananthapuram. An amount of Rs. 13,60,000/- was allocated in the annual plan of Mannar GP for this project.	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.	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	100%	Inauguration of functioning.
C	Establishment of Material Collection Facility	Mannar Panchayat,	30.08.2022	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.	Collection of Non-biodegradable plastic materials from houses and institutions is conducted by Haritha Karma Sena(HKS). Non- biodegradable plastic materials has bCollection,	Collection of Non-biodegradable plastic materials from houses and institutions is conducted by Haritha Karma Sena(HKS). Non- biodegradable plastic materials has bCollection,	100%	Construction of permanent MCF building.

				<p>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.</p>	<p>segregation and transportation of non-biodegradable plastic materials is continuing. About 9 tonnes of plastic materials handed over to 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>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.</p>		
C	Resource Recovery Facility	Mannar Panchayat, Kadapra/Nirana mPanchayath	30.08.2021	<p>As there is no RRF in Mavelikkara Block Panchayat in which Mannar GP belongs, nearby Chengannur Block Panchayat has agreed to receive the plastic materials collected and transported by Mannar GP. Mannar GP has started stockpiling of plastic waste materials collected through HKS in a hall above the Vridhdhasadanam owned by GP and segregated and</p>	<p>As there is no RRF in Mavelikkara Block Panchayat in which Mannar GP belongs, nearby Chengannur Block Panchayat has agreed to receive the plastic materials 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</p>	<p>As there is no RRF in Mavelikkara Block Panchayat in which Mannar GP belongs, nearby Chengannur Block Panchayat has agreed to receive the plastic materials collected and transported by Mannar GP. Mannar GP has started stockpiling of plastic waste materials collected through HKS in a hall above the Vridhdhasadanam</p>	100%	

				transported to Clean Kerala company.	by GP and segregated and transported to Clean Kerala company. Plastic Waste management Bylaw (draft) has been passed by Mannar GP on 05/02/2021.	owned by GP and segregated and transported to Clean Kerala company. Plastic Waste management Bylaw (Final) has been passed by Mannar GP on 19/06/2021.		
C	Installing household and community level solid waste management units	Mannar Panchayat	30.08.2022	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 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 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.	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. 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.	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	100%	Operation of Aerobic compost unit.

						Grama Panchayat Committee on 27/08/2021.		
C	Door to door collection and transportation of municipal solid waste	Mannar Panchayat	30.08.2022	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.	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.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.	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.	100%	The process has to be repeated throughout the year.



C	Construction of small sewage treatment plant with screening , septic tank and disinfection to the storm water drain of Parumala Town	Kadpr aPanch ayat	31.12.2020					
C	Construction of small sewage treatment plant with screening , septic tank and	Mannar Panchayat	30.08.2020	Due to the lack of space and fund, construction of small STP is not included in the annual plan of Mannar Grama Panchayat. It will be suitable if the Govt . takes necessary steps in this matter.	Due to the lack of space and fund, construction of small STP is not included in the annual plan of Mannar Grama Panchayat. It will be suitable if the Govt . takes necessary steps in this matter.	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

	disinfection to the storm water drain of Mannar Town							
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,	Irrigation department	31.03.2021					

	protection and management of flood plain zone							
	Greenery developmentPlantation plan. Plantation on both sides of the river, setting up biodiversity parks on flood plains by removing encroachment	Irrigation department	31.03.2021					
C (b) (ii)	Green Protocol implementation in all Offices institution & Public function	Mannar , Kadapra/ Nirana mPanchayat	30.06.2020	Green Protocol is strictly observed in Mannar GP and other offices as well as public functions . Strict instruction in writing is given to owners of auditoriums , assembly halls, etc to comply with Green protocol while conducting ceremonies. Rs. 1,50,000/- has been allocated for a project for	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	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	100%	Continuation of Green Protocol .

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

D (b)	Irrigation practices	Irrigation department	30.04.2020					
E	Awareness programmes for sections of public	Kerala State Pollution Control Board	31.05.2020	Awareness classes were conducting	Awareness classes were conducting	Awareness classes were conducting	100%	
C	Management of municipal, plastic, hazardous, biomedical and electrical waste	LSGD	31.03.2021	Draft by-law of Plastic Waste Handling has been passed by the Gramapanchayat Committee on 05/02/2021. Collection, segregation and transportation of non-biodegradable plastic materials is continuing. About 12 tonnes of plastic materials handed over to Clean Kerala Company(CKC) so far. About 500 kg of plastic materials is kept ready for transportation. Socio-Economic Unit (SEU) has been selected as implementing agency for the construction Two mini			100%	The process is to be repeated periodically.

				<p>MCFs in each ward in all the 18 wards of Mannar GP. For the management of electrical, electronic and hazardous waste, the GramaPanchayat 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 Medical Association).</p>				
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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 May 2022	Progress in the month of June 2022	Progress in the month of July 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 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					

**ANALYSIS REPORT OF DRAINS OF MANIMALA BETWEEN KALLOOPARA AND THONDRA  
JULY-22**

SI NO	BOTTLE NO.	Name of Drains	PH	BOD	COD	TC
1	TK1	Panayampalathodu	7	1.6	8	300
2	TK2	PadathupalamThodu	6.7	1.2	4	400
3	TK3	Thottappuzha	6.7	1.7	8	0
4	TK4	Kuttapuzha under Kattodubridge	6.8	2.1	12	100
5	TK5	Kadavumbara	7	0.5	4	800
6	TK6	Drain under Varappalam Bridge	6.9	0.6	4	100
7	TK7	Drain under kallupalam Bridge	7.1	0.5	8	1800
8	TK8	Komalamthodu	6.9	0.9	8	900
9	TK9	Vennikulam Valiyathodu	7	1	4	2800
10	TK10	Paduthodu	6.9	1.6	4	1300
11	TK11	Mallappally Valiyathodu	7	2.7	8	400



**Analysis Result of Drains Joining to Mannar-Thakazhi Stretch of Pamba River (2022-2023)**

Sl. No	Name of Drain	Parameters														
		pH			Electrical Conductivity( $\mu$ S/cm)			BOD(mg/l)			COD(mg/l)			TC(Nos/100ml)		
		MAY	JUNE	JULY	MAY	JUNE	JULY	MAY	JUNE	JULY	MAY	JUNE	JULY	MAY	JUNE	JULY
Months	MAY	JUNE	JULY	MAY	JUNE	JULY	MAY	JUNE	JULY	MAY	JUNE	JULY	MAY	JUNE	JULY	
1	Parumala Drain	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
3	Kuriyathkadavu Thodu	6.8	6.5	6.7	104.7	141.7	71.17	4.4	3.3	3.3	20	12	8	400	3200	1000
4	KaruvelilThodu	7	6.3	6.9	49.99	58.63	87.59	1.5	0.9	0.5	8	8	4	800	800	1600
5	Nochithodu	6.8	6.7	6.9	79.87	124.6	33.76	3.1	0.9	0.4	8	4	8	2200	1800	1200
6	Pattaparambil Thodu	7.1	6.7	6.9	39.03	79.86	34.07	0.5	2	0.3	4	4	8	400	800	800
7	Kappiyarissery Thodu	7.1	7	6.8	44.13	129.7	45.18	1.3	0.8	0.9	4	8	4	1000	2000	900
8	KombankeryThodu	7.2	7	7	38.64	93.11	31.92	0.2	0.9	0.1	4	4	8	400	2400	700
9	Perackalthodu	7	7	6.9	54.71	327.7	36.97	0.6	2.2	0.5	8	12	8	300	900	400
10	Erathodu	7	7	6.8	44.85	56.02	34.92	1.1	0.2	0.5	4	8	12	800	1600	600
11	Kolarayaru	7.1	7	6.8	44.7	43.4	30.2	0.2	4.1	0.3	8	16	8	800	500	1500



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

**RIVER CHITHRAPUZHA. ERNAKULAM**

<b>S. No.</b>	<b>Activity to be monitored</b>	<b>Timeline</b>	<b>Submission of progress by State/UT- Compliance status</b>
1	Ensure 100% treatment of sewage at least in-situ remediation		Major units have own treatment facility
	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		Proposed to construct Combined STP with the Thrikkakara Municipality in Brahmapuram Plant(for both Municipalities)
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none"> <li>• Specifying accountability of nodal authorities not below the Secretary level</li> <li>• Chief Secretaries may have an accountable person attached in their office for this purpose</li> </ul>		
	<ul style="list-style-type: none"> <li>• Monitoring at State level must take place</li> </ul>		
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none"> <li>• Secretary,Ministry of Jal Shakti</li> <li>• Member Secretary,CPCB</li> </ul>		

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&amp;D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management &amp; Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p>	Thrippunithura Municipality	<p>2 persons identified and Fine Imposed Amount - 30,000</p> <p>Plastic Waste given to a Government Approved agency for recycling processing and Bio waste processed in Brahmapuram Plant.</p> <p>Bio Medical waste collect to IMAGE and plastic waste given to government approved agencies, bio waste processing to Brahmapuram Plant.</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>	<p>Thrippunithura Municipality</p>	<p>Done.</p> <p>Completed.</p>
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**ACTION PLAN FOR RIVER CHITHRAPUZHA, KERALA  
SHORT TERM MEASURES**

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of July 2022	Progress in the month of August 2022	% works completed	Details of works remaining
<b>(1) Drain joining Chithrapuzha (near Brahmapuram dumping yard) (Near FACT CD)</b>							
C (ii)	Restricting seepage of leachate of plastic dumped in the dumping yard <b>(Biomining of legacy waste is to be carried out)</b>	Kochi Corporation	3 years	Bio mining started and progressing	progressing	NA	
Aa (iv)	Effluent monitoring from FACT	KSPCB	Periodical	ongoing	ongoing		
Aa (iv)	Periodical Monitoring	KSPCB	Periodical	ongoing	ongoing		
<b>(2) Drain from Cochin Refinery area</b>							
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of July 2022	Progress in the month of August 2022	% works completed	Details of works remaining
Aa (iv)	Surveillance to restrict the dumping of wastes into the river and its branches	Vadavucode – Puthencruz Panchayat with the help of Police	Periodical	ongoing	ongoing		
A(b)	Sanitation Survey	Vadavucode – Puthencruz Panchayat	3 months	Completed 1700 houses.	Progressing. Covered 5000 houses. DLTC		

					directed to submit the detailed report on sanitation survey.		
E	Periodical Cleaning of Chithrapuzha	Irrigation Department	Twice in 3 years	Reach I – <b>Third term</b> cleaning started  Reach II, <b>Second term</b> term cleaning Started  Reach I-66%  Reach II -65%  For Reach III, Estimate submitted to CE  Reach III will be implemented through Operation Vahini.	Work Completed.		
	Already implemented Effluent Treatment facility in Kochi Refinery and periodical monitoring are ongoing	KSPCB		ongoing	ongoing		
<b>(3)Athikkayi branch (Provided temporary bund in joining section to check salinity intrusion)</b>							
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of July 2022	Progress in the month of August 2022	% works completed	Details of works remaining
A(b)	Identification of major pollution causing units(Apartments,	Thrikkakkara Municipality	3 months	Progressing	Progressing		

	hospitals, service stations, markets and industries) in upstream	KSPCB		Progressing	Progressing		
Aa(iv)	Surveillance to restrict the dumping of wastes into the river and its branches	Thrikkakkara Municipality with the help of Police	Periodical Monitoring	Camera installed.40 violations identified and action initiated	Identified 52 violations. 3 persons fined		
Aa(iv)	Periodical Monitoring	KSPCB	Periodical	Monthly monitoring progressing.	Monthly monitoring progressing.		
A(b)	Sanitation Survey	Thrikkakara Municipality	6 months	Sanitation survey started	Sanitation survey progressing.		
E	Periodical Cleaning.	Irrigation Department	Once in a year	Estimate Submitted to CE	Estimate Submitted to CE	Work not started	
<b>(4) Drain joining Chithrappuzha from CSEZ(Chittethukara)</b>							
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of July 2022	Progress in the month of August 2022	% Works completed	Details of works remaining
A(b)	Ensure proper functioning of ETP in CSEZ	KSPCB	Periodical	The CETP is functional. But, discharge standards not fully complied. Violation noted, action being initiated.	At present ETP functional. Monitoring will continue		
A(b)	Sanitation Survey and periodical cleaning	Thrikkakara Municipality	6 months	No progress reported	Sanitation survey progressing.		
Aa(iv)	Periodical Monitoring	KSPCB	Periodical	Ongoing	Ongoing		



<b>(5) Vettuvelikkadavu (Konothupuzha joining Chithrappuzha)</b>							
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of July 2022	Progress in the month of August 2022	% Works completed	Details of works remaining
A(b)	Identifying and closing of all unauthorized outlets into the stream joining the river	Thripunithura Municipality	6 months	The secretary reported the action is progressing. 15 notices issued	Action progressing		
A(b)	Sanitation Survey	Thripunithura Municipality	3 months	Completed, Environmental Engineer, KSPCB informed the municipality to submit the sanitation survey report. Sanitation survey report not submitted to DLTC	Action progressing		
Aa(iv)	Periodical Monitoring	KSPCB	Periodical	ongoing	Ongoing		
C(ii)	Surveillance to restrict the dumping of wastes into the river and its branches	Thripunithura Municipality with the help of Police	6 months	Secretary informed that surveillance squad is already formed and action will be initiated for the inspections and night surveillance of squad. Squad inspection progressing. Environmental Engineer,			

				KSPCB informed the municipality to submit the details of inspections. Night Squad inspection progressing. 18 cases identified. Collected Rs 88,750 as fine.			
E	Cleaning of Konothupuzha (work Proposal already submitted by Minor Irrigation)	Irrigation Department (Minor Irrigation)	Twice in a year	Action initiated as per the directions of Hon'ble NGT OA 237/2017			
<b>Main Stretch (Kadambrayar-Chithrappuzha Confluence point to Irumpanam)</b>							
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of July 2022	Progress in the month of August 2022	% works completed	Details of works remaining
E	Periodic Cleaning	Irrigation Department	Once in a year	Reach II(second time cleaning )will start on January	Reach II completed, Reach III 70% completed	completed	
C(ii)	Surveillance to restrict the dumping of wastes into the river	Vadavucode - Puthercruz with the help of Police	Periodical Monitoring	Ongoing.	Ongoing.		

		Thripunithura Municipality with the help of Police	6 months	Surveillance squad is already formed and action being taken for the night surveillance	Squad inspection progressing.		
Aa(iv)	River water quality monitoring	KSPCB	Ongoing	Conducting monthly monitoring	Conducting monthly monitoring		
A(b)	Inspection and effluent quality monitoring of the flats, industrial units, service stations, hospitals, hotels etc	KSPCB	Ongoing	Ongoing	Ongoing		
C(ii)	Surveillance e of restrict dumping of waste to the river, Sanitation survey (with the help of Police)	Vadavukode Puthenkruze Panchayath	6 months	Ongoing	Ongoing		

### LONG TERM MEASURES

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of July 2022	Progress in the month of August 2022	% works completed	Details of works remaining
E	Provide inspection bund for Chithrapuzha	Irrigation Department	3 years	Remind letter submitted to Thahasidar Kanayannur Thaluk regarding the survey	Remind letter submitted to Thahasidar Kanayannur Thaluk regarding the survey	45%	Remaining work is Land survey.

A(b)	Additional STP requirement (if needed)	Thrikkakkara Municipality, Thripunithura Municipality	3 years				
	Restriction of illegal dumping of Septage in to the river	Police					
	Flood Plain Zone(Management and Protection) Preparation of Inundation maps	Irrigation Department	3 years	Detailed study and investigations has to be done with the consultation of Hydrology Wing.	Detailed study and investigations has to be done with the consultation of Hydrology Wing.		

### 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 July 2022	Progress in the month of August 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	NA			
2	B(ii)	Ground water recharging / rain water harvesting	Ongoing			
3	B(iii)	Periodic ground waste quality assessment and remedial actions in	Cleaning of wells are ongoing			

		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	NA			

**National Mission for Clean Ganga**

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

**RIVER KADAMBRAYAR, ERNAKULAM**

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

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&amp;D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management &amp; Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p>		<p>Ongoing by KSPCB and Thrikkakkara Municipality</p> <p>Submitted earlier.</p> <p>Submitted earlier.</p> <p>The Kadambayar river shares the western boundary of Kunnathunadu Grama Panchayat for a stretch of approximately 6Kms. And 90% of this stretch consists of swamps, hence direct access to the river via land is ruled out. And in the remaining stretch, i.e., in and around Manakkakadvu bridge the DTTC operates a boat club with a riverside walkway and park. Any kind of possible river polluting activities by the general public in this area is monitored by the erection of CCTV camera's provided with the CSR aid of Wonderla Amusements Park. Also the police authorities are conducting routine surveillance operation so as to</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>	<p>prevent any possible illegal activities which pollutes the river. In addition to these preventive measures, there operates a Ward Monitoring Committee under the supervision of Kunnathunadu Grama Panchayat Committee which ensures the prevention of polluting activities by the local people.</p> <p>Ground Water Department:As per Groundwater resources of Kerala, 2017 estimate a total number of 2 blocks (Mulanthuruthiand Vadavakkodu) comes under the Kadambrayarriver basin. All the blocks in the river stretch are safe with stage of groundwater extraction ranges from25.38% to 68.01%</p> <p>Ground Water Department and Irrigation Department : : Not submitted</p>
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**ACTION PLAN FOR RIVER KADAMBAYAR, KERALA**  
**SHORT TERM MEASURES**

**Short term plan**

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of July 2022	Progress in the month of August 2022	% works completed	Details of works remaining
	<b>(2) Manakkakkadavu</b>						
2.1.2 C(ii)	Surveillance to restrict the dumping of wastes into river and its branches	KunnathunaduPanchayat and with the help of Police		Action completed. Informed that the PWD work progressing and hence the power is temporarily disconnected will reinstate immediately after the road work.	Camera operational	100%	
	<b>(4) Canal joining Kadambayar near Infopark Phasell</b>						
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of July 2022	Progress in the month of August 2022	% works completed	Details of works remaining
2. 2. 1E	Cleaning of thodu	Kerala Irrigation Department  &	6 months	EE, Irrigation informed that the project will be implemented through Operation Vahini.Work started.	Work completed.	Manual cleaning for the year 2021-2022 started. 95%	

		Vadavucode – Puthencruz Panchayat		Manual cleaning for the year 2021-22 started. 95% completed	Completed.	completed	
2.2.3 C(ii)	Surveillance to restrict the dumping of wastes into river and its branches	Vadavucode – Puthencruz Panchayat with the help of Police	2 months	Action completed. Installed cameras.	Camera operational		Work completed
<b><u>Main Stream (Manakkadavu to Kadambayar-Chithrappuzha Confluence point) (Provided temporary bund (Kozhichira Bund) in Kadambayar-Chithrappuzha joining section to check salinity intrusion)</u></b>							
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of July 2022	Progress in the month of August 2022	% works completed	Details of works remaining
A(a)	Restricting seepage of leachate of plastic dumped in the dumping yard ( <b>Bio-mining of legacy waste going on</b> )	Kochi Corporation	January 2024	30% work completed. RDF 30 tonnes waste disposed to Dalmia Cements. The work presently stopped due to rain. No progress. Bio-mining work Stopped. Notice issued for breach of agreement	The company informed that they will resume the bio mining. The bailing machine will be installed by Aug 27. The company submitted revised action plan requesting 18 months extension approved by technical committee.		Completion of the work of bio mining by January 2024

A(b)	Provide proper facilities for restricting the seepage of leachate <b>(Construction of Leachate treatment Plant: Collection tank)</b>	Kochi Corporation	April 2022	<p>Leachate treatment plant is proposing to construct after reconstruction of the composting plant. Project completion April 2023. Selection notice was sent. Agreement signed on 14/03/2022. Estimate 39Cr for the composting plant. Submitted for council approval. Presently the leachate treating in the septage treatment plant. ,</p> <p>Approval obtained for 80 Lakhs for the repair of existing composting plant</p>	Inception report of new leachate treatment Plant submitted to Suchitwa mission for vetting.		
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A(c)	Provide proper facilities for collecting and treating leachate <b>(Construction of leachate treatment plant)</b>	Kochi Corporation	April 2023	Leachate treatment plant is proposing to construct after reconstruction of the composting plant. Project completion April 2023. Selection notice was sent. Agreement signed on 14/03/2022. Estimate 39Cr for the composting plant. Submitted for council approval. Presently the leachate treating in the septage treatment plant. ,  Approval obtained for 80 Lakhs for the repair of existing composting plant	Inception report of new leachate treatment Plant submitted to Suchitwa mission for vetting.	No progress	Technical committee of Suchitwa Mission held on 25.09.20 suggested treating of the leachate in septage treatment plant till reconstruction of compost plant.
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### Action plan by Gramapanchayath

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of July 2022	Progress in the month of August 2022	% works completed	Details of works remaining
E	Installation of CCTV camera at Manakkakadavu	Kunnathunadu	30.09.2019	Completed	Action Completed	100%	
C(ii)	Cleaning of Thodu	Vadavukad-puthenkruze	6 months	-	Manual cleaning for the year 2021-2022 started.	95%	
C(ii)	Surveillance to restrict dumping of waste to the river and branches (with the help of Police)	Vadavukad-puthenkruze	2 months	Installed cameras. Action completed.	Camera operational.	100%	

## 2. Long term Plan

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of July 2022	Progress in the month of August 2022	% works completed	Details of works remaining
4.5 C(ii)	Solid waste treatment facility at Brahmapuram <b>(Construction of waste to energy plant)</b>	Kochi Corporation	December 2023	About 500 TPD WtE Plant is proposed by KSIDC in this land.M/s.ZontaInfratech Pvt Ltd informed that following procedures should be done before execution. Characterisation report not submitted till date. Construction agreement given for vetting.	Matter regarding signing of Concessionaire agreement was discussed in the council held on 30-06-2022 and it was decided to request to the government to check the legal validity of signing the agreement by the secretary as the tender process was done by KSIDC and to act accordingly to the direction of the government.  Accordingly a letter has been sent to Government on 5/07/2022 for orders.	Not started	
4.6 A(b)	Restriction of illegal dumping of septage in to the river	Police	As soon as possible				

#### 4. REVISED ACTIONPLAN

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of July 2022	Progress in the month of August 2022	% works completed	Details of works remaining
3.1	Slaughter house and poultry waste Rendering plant	Thrikkakkara Municipality		The land identified and the land inspected by the sub- committee. The proposal submitted for council approval. Council not approved the proposal since land value is found higher than the market value.	The proposal cancelled and municipality decided to give advertisement again.		Action pending
3.2	Sanitation facility and treatment of waste water inthe markets  Treatment plant, Portable aerobic bins	Thrikkakkara Municipality	2020-21  2021-22	The Secretary informed that they have no adequate land for construction of waste management facility in market	Market construction completed. The land identified near NGO quarters found inadequate. Requested suchitwa mission to prepare DPR for the waste management in market.		Action pending
3.3	Provide facility for the treatment of sewage, sullage and garbage generated	Thrikkakkara Municipality		No progress. Land has been identified near to NGO quarters for setting up aero bins and the proposal submitted for	Market construction completed. The land identified near NGO quarters found inadequate. Requested suchitwa mission to prepare DPR for		

	Proposed places for the installation of Aerobins (1) Municipal office compound (2) NGO quarters (3) Kakkanad Market Near Eechamukku TV-Centre Anganavadi			council approval.	the waste management in market.		
3.4	Providing facility for restricting discharge of waste water from the surrounding houses to the river	Thrikkakkara Municipality		Survey continuing. DLTC Convener informed the municipality to submit the sanitation survey report. Survey reported to be Progressing. 1200 completed. Report of survey not submitted to DLTC.	Progressing		
3.5	Providing effluent treatment plant for industries  No.of industries :75 no.s	Thrikkakkara Municipality		Survey reported to be Progressing. 1200 completed. Report of survey not submitted to DLTC.	KSPCB is ensuring that the industries are operating with proper treatment systems.		

3.6	Identification of illegal outlets into storm water drains and fine shall be imposed on such units – 30 units	Thrikkakkara Municipality		Action initiated	The Municipality informed that their	Action initiated	Action pending
3.7	Biodegradable waste management  Bio-Composter – 2000 No.s Thumboormuzhi aerobins - 4 No.s Portable biogas – 1500 No.s Ring compost – 500 No.s Napkin destroyer – 6 No.s Viability gap Fund	Thrikkakkara Municipality		Actions initiated to issue notice to close the outlet.	No progress		

## 5. MONITORING

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of July 2022	Progress in the month of August 2022	% works completed	Details of works remaining
4.1	River water quality monitoring – Monitoring of water quality	Kerala State Pollution Control Board	Ongoing; Monthly frequency	On going	monitoring progressing		
4.2	Inspection and effluent quality monitoring of the flats, industrial units, service stations, hospitals, hotels etc  Monitoring of	Kerala State Pollution Control Board		On going	progressing		



	establishments, service stations, flats, industrial units						
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## 7. LONG TERM PLAN

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of July 2022	Progress in the month of August 2022	% works completed	Details of works remaining
5.1	Additional STP requirement DPR Preparation in 6 months (through consultants) To allot land, Government Procedure are ongoing	Thrikkakkara Municipality	3 years	The Secretary informed action not being taken due to land constraints.	No adequate land.		Action to be initiated.
5.2	Acquiring of land and rehabilitate families from the banks of River To allot land, Government Procedure are ongoing	District Collector, Thrikkakkara Municipality, Revenue Dept	5 years	-	-		Action to be initiated.

## DESILTING AND DEVELOPEMENT

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of May 2022	Progress in the month of June 2022	% works completed	Details of works remaining
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5.3	<p>Development package</p> <p>Inspection bund for Chithrapuzha and Kadambayar is included in this package. For this project, preliminary investigation of site which includes survey of land to know its availability for formation of side bund which is to be provided with tiles. The project also includes side protection work of Chithrapuzha and Kadambayar.</p> <p>Provision for handrail at the edge of the bund is given. Overall cost comes to 25 Crore. The work is being proposed urgently and will be submitted to higher authorities for financial sanction.</p>	Irrigation department	3 years	No sanction obtained. No progress.	FS not obtained.		
5.4	<p>Desilting and development</p> <p>It includes clearing and removing water hyacinth of Kadambayar, Chithrapuzha and Edachirathodu near Infopark phase II. This is to be done periodically (every</p>	Irrigation Department	1 year (periodical cleaning -4 months x3)	<p>Financial sanction not obtained.</p> <p>The EE, Irrigation informed that minor works will be implemented through</p>	Minor works such as water hayacinth removal completed. FS not obtained		

	four months), depending on availability of fund.			Operation Vahini Project. De silting and water Hayacinth work started.			
5.5	sheet piling and providing fencing Fencing is provided in Sl.no 5.3	Irrigation Department	1.5years	Financial sanction not obtained.	Financial sanction not obtained.		
5.6	Development of river basin It includes cleaning and removal of water hyacinth from rivers and maintainits natural flow, depending on availability of fund.	Irrigation Department	1.5years	Financial sanction not obtained.	Financial sanction not obtained.		

**9. RECOMMENDATIONS BY KERALA STATE POLLUTION CONTROL BOARD**

**Activities for compliance with Solid Waste Management Rules, 2016; Bio-medical Waste Management Rules, 2016**

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of May 2022	Progress in the month of June 2022	% Works completed	Details of works remaining
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6.1	<p>Door-to-door collection and transportation of MSW</p> <p><b>100% door to door collection</b></p> <p>Proposed Kerala Solid Waste Management Authority</p>	<p>Thrikkakkara Municipality</p> <p>Local bodies of Census Town</p>		100% by 2023			
6.2	<p>Modern Solid Waste Treatment Plant Proposed Kerala Solid Waste Management Authority</p>	<p>Thrikkakkara Municipality (To allot land, Government procedure are ongoing)</p> <p>Local bodies of Census Town</p>				Actions initiated to procure land.	
6.3	<p>Rendering plant for slaughter house/poultry wastes</p> <p>Proposed Kerala Solid Waste Management Authority</p>	<p>Thrikkakkara Municipality (To allot land, Government procedure are ongoing)</p>		<p>The land identified and the land inspected by the sub committee. Final decision will be taken by June after the model code of conduct.</p>	<p>The proposal submitted for council approval.</p>	<p>Actions initiated to procure land.</p>	

6.4	Common bio-medical waste treatment facility Proposed Kerala Solid Waste Management Authority	Health Department		CBWTF started at Ambalamughal, operated by KEIL	Completed	Completed	
6.5	Regional sanitary landfill site identification and land acquisition Establishment and operation of Regional Sanitary Landfills Proposed Kerala State Waste Management Authority.	District Collector  Local bodies					

### 7. OTHER ASPECTS

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of March 2022	Progress in the month of April 2022	% works completed	Details of works remaining
7.1	Flood plain zone management and E- flow maintaining Flood plain zone management & E-flow maintaining cleaning	IrrigationDept		It is included in the estimate of Removal of water hyacinth from Kadambayar and Removal of water hyacinth from	FS not obtained		

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

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

STNCode	Sampling Date	Sampling Time	StnName	TypeWaterBody	
2337	01.07.2022	11:10	Kadambrayar At Brahmapu	River	
2338	01.07.2022	10:50	Kadambrayar At Manackak	River	
1573	01.07.2022	11:25	Chithrapuzha At Irumpanar	River	

Sl. No.	Parameters			
		2337	2338	1573
1	Temperature, °C	28	28	28
2	Dissolved Oxygen, mg/l	1.7	2.3	1.5
3	pH	6.4	6.4	6.3
4	Conductivity, µmhos/cm	172	95	148
5	BOD, mg/l	2.3	1.8	1.5
6	Nitrate-N, mg/l	0.02	0.06	0.08
7	Turbidity, NTU	9.2	8.1	9.8
8	Total Alkalinity, as CaCO <sub>3</sub>	46	22	28
9	Chloride, mg/l	18	11.2	25.5
10	COD, mg/l	16	8.8	12
11	TKN, mg/l	0.06	0.1	0.15
12	Ammoniacal-N, mg/l	0.02	0	0.04
13	Total Hardness, as CaCO <sub>3</sub> mg/l	50	25	30
14	Calcium, as CaCO <sub>3</sub> mg/l	24	14	18
15	Magnesium as CaCO <sub>3</sub> , mg/l	26	11	12
16	Sulphate, mg/l	7.9	2.6	8.8
17	Sodium, mg/l	10.66	6.28	14
18	Total Dissolved Solids, mg/l	96	52	85
19	Total Fixed Solids, mg/l	75	39	64
20	Total Suspended Solids, mg/l	28	17	25

21	Phosphate, mg/l	0	0	3.6
22	Boron, mg/l	0	0	0
23	Potassium, mg/l	3.15	2.16	3.5
24	Fluoride, mg/l	0.05	0.04	0.55
25	Total Coliform, MPN/100 ml	26000	3400	17000
26	Feacal Coliform, MPN/100 ml	13000	2000	3400
27	Feacal Streptococci, MPN/100ml	240	280	310



## National Mission for Clean Ganga

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

### **RIVER PERIYAR, ERNAKULAM**

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

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&amp;D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u>  Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management &amp; Details of Processing Facilities</u>  Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(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 JUNE2022	Progress in the months of JULY 2022	% works completed	Details of works remaining
1.A(b)	Augmentation and Revamping of existing STP at near AdwaithaAshramam and to increase the capacity of STP so as to treat more sewage generated in the municipality	Aluva Municipality	Dec 2019	The detailed estimate submitted by Waterman Aquatic Pvt. Ltd. company has received the DPC and council approval. The estimate has been approved by the PWD mechanical division. The approval from PWD Electrical division yet to be received.	The detailed estimate submitted by Waterman Aquatic Pvt. Ltd. company has been submitted to Suchitwa Mission. Suchitwa Mission has reported that the detailed estimate had been discussed in the previous Technical Committee and committee has suggested to furnish some more details regarding STP. Committee will consider this matter in the next Technical Committee after getting the details		
2.A(b)	Augmentation and Revamping of existing ETP at	Aluva Municipality	2021	Augmentation and Revamping work of	Augmentation and Revamping work		

	AluvaMarket and to increase the capacity of ETP so as to treat more sewage generated in the municipality			existing ETP at Aluva is given to Agency namedCentura Engineering Consultancy. Council approval has been received.	of existing ETP at Aluva is given to Agency namedCentura Engineering Consultancy. Council approval has been received.		
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	Inspection in progress		
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	Since the Civil work is being completed, fund has been requested to KIIFB for the purchase of machineries and other requirements related to modern abattoirs. DPR has	Since the Civil work is being completed, fund has been requested to KIIFB for the purchase of machineries and other		

				been prepared.	requirements related to modern abattoirs. DPR has been prepared.		
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	The project has been approved by DPC on 28.01.2022 of estimated amount of Rs. 8,00,000/-. Technical sanction not received.	The project has been approved by DPC on 28.01.2022 of estimated amount of Rs. 8,00,000/-. Technical sanction not received.		
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 Municipality, Police department	2020	NAD has not installed CCTV. Night surveillance in progress. A total amount of Rs.526790/- levied as	NAD has not installed CCTV. Night surveillance in progress. A		

	Kalamassery			fine.	total amount of Rs.589320/- levied as fine.		
12.A(b)	Installation of common STP for Kalamassery Municipality and ETP at Municipal Market	Kalamassery Municipality	December 2019	Common ETP is working at municipal market.75 cents land identified at North Kalamassery for sewage and septage treatment plant. Procedures for soil testing in progress. DPR procedures in progress	75 cents land identified at North Kalamassery for sewage and septage treatment plant. Procedures for soil testing in progress. 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	Last inspection was done on 12.01.2022. Inspection is proposed to be conducted in July 2022	5 defaulting units have been identified during the inspection conducted on 28.07.2022. Notice have been issued to these units		
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.	Industries department has informed that land is not available in the industrial estate.		

15.A(b)	Identification of the establishments/commercial complexes/flats/houses/hotels etc who is discharging the sewage to the public drain	Kalamassery Municipality	2020	Notice issued to 49 persons. 12 persons cleared violations. Instructed to provide waste treatment facilities for treating the waste water generated in households activities in respective houses itself. Inspection in progress.	5 defaulting units have been identified during the inspection conducted on 28.07.2022. Notice has been issued to these units. One unit has 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. Rs19530 /-levied till date	Camera installed on 10 locations. 2 portable (mobile) cameras has installed for identifying waste dumping spot. Rs 24540 /- levied till date		
17.A(b)	Identification of sources of sewage discharged to drain near Pathalam bridge and action to stop the discharge which reach river Periyar from hotels, labour camps etc. In case the quantity of sewage generated is assessed to be more STP need to be installed	Eloor Municipality, KSPCB (for monitoring)	2020	Inspection in progress	Inspection in progress		
18.E	Installation of cameras at the waste dumping spots	Eloor Municipality	2020	Keltron have installed cameras at the waste dumping spots namely the premises of Aerobic biobin near HIL Company and bin near	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.	ManjummelArattukadvu. Due the software issue the cameras are not working most time. Keltron has agreed to rectify the issues.		
19.A(a)(iv)	Periodical inspection in the Industries, Flats, hotels for monitoring of STP,ETP located in Cochin corporation	Kochi Municipal Corporation	Periodical	Inspection in progress. Fine imposed Rs.20,62,000/- against dumping of waste in public places and water bodies from October 2021- June 2022.	Inspection in progress. Fine imposed Rs.20,86,000/- against dumping of waste in public places and water bodies from October 2021- July 2022.		
20.A(a)	Inventory of sources of pollution through a rapid study/Study for identification of pollution sources at Edappallythodu	Kochi Municipal Corporation	3 months	14 Flats on the side of Edappallythodu were found working without STP. Rs. 25000/- has been levied as fine and notice has been issued to install STP. The flats authorities have replied that they are ready to install STP. Residences by the side of Edappallythodu and TP canal have septic tank facility, but no	Survey completed by HI and JHI of KMC. Location of waste disposal in TP canals and Edappallythodu 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		

				soak pit provided. The overflow water from septic tank is directly discharged to the canals. Five Blocks of Pentaqueen flat were found working without STP. They are ready to install STP.	four zones. They are Central zone, Edappally zone, Pachalam zone and Vytilla zone.		
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. Financial sanction was not yet received. Onjithodu soil test conducted. Streams have been included in Operation Vahini.	4 polluted streams have been identified. The Estimate has been submitted for restoration works. Financial sanction was not yet received. Onjithodu soil test conducted. Streams have been included in Operation Vahini.		Detailed estimate submitted to higher authority for FS. FS not obtained so far
24.C(iii)	Clearing of weeds, grasses at the river bank in order to ensure	Irrigation department	3 years	The cleaning of river tributaries and desilting is	The cleaning of river tributaries and		

	<p>the smooth flow of water</p>			<p>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 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>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</p>		
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					<p>obstructing the smooth flow of drains in the industrial estate. DIC has informed that instruction has been given to Estate Manager and Associations regarding this. All the 28 units have completed the clearing work. All the riverside units have been instructed by DIC to clear off the grasses and weeds within their unit compound at regular intervals.</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	For the establishment of CETP a government order has come sanctioning Rs. 37.5 Crore to DIC	For the establishment of CETP a government order has come sanctioning Rs. 37.5 Crore to DIC		
27.A(b)	Construction of internal roads and proper drainage in Edayar industrial estate	Industries department	Work progressing	Drainage work is in progress	The pending works have been reported to PWD		
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 for fixing the same have been received. Keltron has informed that they will start the installation work soon.	The CCTV cameras and accessories for fixing the same have been received. Due to the prevailing rain camera installation was delayed. Contacted Keltron to see up the installation process.		

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	Currently an Online water quality monitoring station is installed at the downstream side of Pathalam Bund. Tender procedures for installing new station at the upstream side have been completed. The company who quoted lowest rate has visited two proposed sites. Site suitability report yet to be received. Also due to the prevailing heavy rain, installation of the probes is difficult.	Tender procedures for installing new station at the upstream side have been completed. Received Buoy for the online monitoring station. Probe yet to be received		
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 Committee chairman have been entrusted	5 ward members have been appointed for monitoring the defaulters. Also, the respective ward members and Standing		

				for identification of defaulters. Inspection not started	Committee chairman have been entrusted for identification of defaulters. Inspection not started		
34.E	Installation of cameras at the waste dumping spots	Kadungallur Panchayath	2020	E-Tender has been sanctioned by Committee and Selection notice has been sent. The party who has been awarded the Tender has been replied to the notice that the agreement can be made. After fixing the installation spots, agreement procedures will be done. Fixing the camera installation spots have been put up as an agenda for the Committee scheduled on 16.07.2022	Camera installation work not started. Arrangements for Power connection and Net connection at camera installation points to be made.		
35.A(b)	Identification of the establishments/commercial complexes/flats/houses/hotelse	Choornikkara Panchayath	2020	Inspection and monitoring is performed regularly to identify the offenders.	Inspection and monitoring is performed regularly to identify the offenders.		

	tc. who is discharging the sewage to the public drain			Issualof notice to those offenders is also being done regularly.	Issual of notice to those offenders is also being done regularly.		
36.E	Installation of cameras at the waste dumping spots	Choornikkara Panchayath	2020	12 Cameras have been already installed on waste dumping spots. In order to monitor waste dumping to river, a camera needs to be installed at the identified spot. This has been submitted as a project. On receiving DPC approval further actions will be taken.	12 Cameras have been already installed on waste dumping spots. In order to monitor waste dumping to river, a camera needs to be installed at the identified spot. This has been submitted as a project. On receiving DPC approval further actions will be taken.		



### LONG TERM MEASURES

No. (as per Action Plan)	Activity	Implementin g agency	Time line	Progress in the month of June2022	Progress in the month of July2022	% 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	EdappallyThodu, 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 EdappallyThodu is included under the IURWTS project of Kochi Metro Rail Limited. The progress of the works undertaken by KMRL is reported as follows.	EdappallyThodu, 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 EdappallyThodu is included under the IURWTS project of Kochi Metro Rail Limited. The progress of the works undertaken by KMRL is reported as follows.		

				<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>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>		
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		

### 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 May 2022	Progress in the month of June 2022	Progress in the month of July2022	% 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					

**KERALA STATE POLLUTION CONTROL BOARD**  
**ENVIRONMENTAL SURVEILLANCE CENTRE, ELOOR**  
**ANALYSIS REPORT OF RIVER PERIYAR - JULY 2022**

**Sampling point: VETTUKADAVU**

<b>Sl. No</b>	<b>Parameter</b>	<b>Unit</b>	<b>05.07.2022</b>	<b>25.07.2022</b>
<b>1</b>	<b>Temp</b>	<b>°c</b>	28.8	30.3
<b>2</b>	<b>pH</b>		6.5	6.8
<b>3</b>	<b>Conductivity</b>	<b>µS/cm</b>	59.8	76.2
<b>4</b>	<b>Turbidity</b>	<b>NTU</b>	*	*
<b>5</b>	<b>Chlorides</b>	<b>mg/L</b>	16.9	19.9
<b>6</b>	<b>Hardness</b>	<b>"</b>	14.0	15.0
<b>7</b>	<b>D.O.</b>	<b>"</b>	5.6	5.7
<b>8</b>	<b>Calcium</b>	<b>"</b>	4.0	5.6
<b>9</b>	<b>Magnesium</b>	<b>"</b>	1.0	0.2
<b>10</b>	<b>Ammoniacal Nitrogen</b>	<b>"</b>	0.7	0.2
<b>11</b>	<b>Phosphate</b>	<b>"</b>	BDL	BDL
<b>12</b>	<b>Total alkalinity</b>	<b>"</b>	16.0	18.0
<b>13</b>	<b>BOD</b>	<b>"</b>	1.3	1.6
<b>14</b>	<b>Sulphate</b>	<b>"</b>	4.140	1.720
<b>15</b>	<b>Nitrates</b>	<b>"</b>	BDL	BDL
<b>16</b>	<b>TC</b>	<b>cfu/100ml</b>	1020.0	1240.0
<b>17</b>	<b>FC</b>	<b>"</b>	60.0	300.0
<b>18</b>	<b>FS</b>	<b>"</b>	NIL	NIL

\* TURBIDITY METER IS OUT OF ORDER

**KERALA STATE POLLUTION CONTROL BOARD**  
**ENVIRONMENTAL SURVEILLANCE CENTRE, ELOOR**  
**ANALYSIS REPORT OF RIVER PERIYAR - JULY 2022**

**Sampling point: PATHALAM BRIDGE**

<b>Sl. No</b>	<b>Parameter</b>	<b>Unit</b>	<b>05.07.2022</b>	<b>25.07.2022</b>
<b>1</b>	<b>Temp</b>	<b>°c</b>	28.7	30.2
<b>2</b>	<b>pH</b>		6.3	6.6
<b>3</b>	<b>Conductivity</b>	<b>µS/cm</b>	35.1	59.7
<b>4</b>	<b>Turbidity</b>	<b>NTU</b>	*	*
<b>5</b>	<b>Chlorides</b>	<b>mg/L</b>	9.9	18.9
<b>6</b>	<b>Hardness</b>	<b>"</b>	16.0	24.0
<b>7</b>	<b>D.O.</b>	<b>"</b>	4.9	5.4
<b>8</b>	<b>Calcium</b>	<b>"</b>	3.2	5.6
<b>9</b>	<b>Magnesium</b>	<b>"</b>	1.9	2.4
<b>10</b>	<b>Ammoniacal Nitrogen</b>	<b>"</b>	0.4	0.1
<b>11</b>	<b>Phosphate</b>	<b>"</b>	BDL	BDL
<b>12</b>	<b>Total alkalinity</b>	<b>"</b>	20.0	24.0
<b>13</b>	<b>BOD</b>	<b>"</b>	1.1	1.2
<b>14</b>	<b>Sulphate</b>	<b>"</b>	3.121	1.847
<b>15</b>	<b>Nitrates</b>	<b>"</b>	BDL	BDL
<b>16</b>	<b>TC</b>	<b>cfu/100ml</b>	1140.0	1100.0
<b>17</b>	<b>FC</b>	<b>"</b>	160.0	140.0
<b>18</b>	<b>FS</b>	<b>"</b>	NIL	NIL

\* TURBIDITY METER IS OUT OF ORDER

**KERALA STATE POLLUTION CONTROL BOARD**  
**ENVIRONMENTAL SURVEILLANCE CENTRE, ELOOR**  
**ANALYSIS REPORT OF RIVER PERIYAR - JULY 2022**

**Sampling point: PUTHALAM KADAVU**

Sl. No	Parameter	Unit	05.07.2022	25.07.2022
1	Temp	°c	28.8	30.2
2	pH		6.3	6.6
3	Conductivity	µS/cm	56.9	58.4
4	Turbidity	NTU	*	*
5	Chlorides	mg/L	11.9	12.9
6	Hardness	"	20.0	24.0
7	D.O.	"	3.8	5.7
8	Calcium	"	5.2	5.6
9	Magnesium	"	1.7	2.4
10	Ammoniacal Nitrogen	"	0.6	0.2
11	Phosphate	"	BDL	BDL
12	Total alkalinity	"	26.0	30.0
13	BOD	"	1.4	2.1
14	Sulphate	"	3.248	1.847
15	Nitrates	"	BDL	BDL
16	TC	cfu/100ml	740.0	1320.0
17	FC	"	0.0	380.0
18	FS	"	NIL	NIL

\* TURBIDITY METER IS OUT OF ORDER

**KERALA STATE POLLUTION CONTROL BOARD**  
**ENVIRONMENTAL SURVEILLANCE CENTRE, ELOOR**  
**ANALYSIS REPORT OF RIVER PERIYAR - JULY 2022**

**Sampling point: PATHALAM BUND U/S**

<b>Sl. No</b>	<b>Parameter</b>	<b>Unit</b>	<b>05.07.2022</b>	<b>25.07.2022</b>
<b>1</b>	<b>Temp</b>	<b>°c</b>	28.8	30.3
<b>2</b>	<b>pH</b>		6.3	6.8
<b>3</b>	<b>Conductivity</b>	<b>µS/cm</b>	36.4	79.2
<b>4</b>	<b>Turbidity</b>	<b>NTU</b>	*	*
<b>5</b>	<b>Chlorides</b>	<b>mg/L</b>	10.9	22.8
<b>6</b>	<b>Hardness</b>	<b>"</b>	16.0	19.0
<b>7</b>	<b>D.O.</b>	<b>"</b>	4.7	7.1
<b>8</b>	<b>Calcium</b>	<b>"</b>	3.2	4.0
<b>9</b>	<b>Magnesium</b>	<b>"</b>	1.9	2.2
<b>10</b>	<b>Ammoniacal Nitrogen</b>	<b>"</b>	0.5	0.1
<b>11</b>	<b>Phosphate</b>	<b>"</b>	BDL	BDL
<b>12</b>	<b>Total alkalinity</b>	<b>"</b>	24.0	26.0
<b>13</b>	<b>BOD</b>	<b>"</b>	1.5	1.5
<b>14</b>	<b>Sulphate</b>	<b>"</b>	3.121	1.975
<b>15</b>	<b>Nitrates</b>	<b>"</b>	BDL	BDL
<b>16</b>	<b>TC</b>	<b>cfu/100ml</b>	840.0	980.0
<b>17</b>	<b>FC</b>	<b>"</b>	40.0	60.0
<b>18</b>	<b>FS</b>	<b>"</b>	NIL	NIL

\* TURBIDITY METER IS OUT OF ORDER

**KERALA STATE POLLUTION CONTROL BOARD  
ENVIRONMENTAL SURVEILLANCE CENTRE, ELOOR  
ANALYSIS REPORT OF RIVER PERIYAR - JULY 2022**

**Sampling point: PATHALAM BUND D/S**

<b>Sl. No</b>	<b>Parameter</b>	<b>Unit</b>	<b>05.07.2022</b>	<b>25.07.2022</b>
<b>1</b>	<b>Temp</b>	<b>°c</b>	B	B
<b>2</b>	<b>pH</b>		U	U
<b>3</b>	<b>Conductivity</b>	<b>µS/cm</b>	N	N
<b>4</b>	<b>Turbidity</b>	<b>NTU</b>	D	D
<b>5</b>	<b>Chlorides</b>	<b>mg/L</b>		
<b>6</b>	<b>Hardness</b>	<b>"</b>	O	O
<b>7</b>	<b>D.O.</b>	<b>"</b>	P	P
<b>8</b>	<b>Calcium</b>	<b>"</b>	E	E
<b>9</b>	<b>Magnesium</b>	<b>"</b>	N	N
<b>10</b>	<b>Ammoniacal Nitrogen</b>	<b>"</b>		
<b>11</b>	<b>Phosphate</b>	<b>"</b>		
<b>12</b>	<b>Total alkalinity</b>	<b>"</b>		
<b>13</b>	<b>BOD</b>	<b>"</b>		
<b>14</b>	<b>Sulphate</b>	<b>"</b>		
<b>15</b>	<b>Nitrates</b>	<b>"</b>		
<b>16</b>	<b>TC</b>	<b>cfu/100ml</b>		
<b>17</b>	<b>FC</b>	<b>"</b>		
<b>18</b>	<b>FS</b>	<b>"</b>		

\* TURBIDITY METER IS OUT OF ORDER



**KERALA STATE POLLUTION CONTROL BOARD**  
**ENVIRONMENTAL SURVEILLANCE CENTRE, ELOOR**  
**ANALYSIS REPORT OF RIVER PERIYAR - JULY 2022**

**Sampling point: MANJUMMAL BUND**

<b>Sl. No</b>	<b>Parameter</b>	<b>Unit</b>	<b>05.07.2022</b>	<b>25.07.2022</b>
<b>1</b>	<b>Temp</b>	<b>°c</b>	29.3	30.3
<b>2</b>	<b>pH</b>		6.2	6.6
<b>3</b>	<b>Conductivity</b>	<b>µS/cm</b>	67.4	60.0
<b>4</b>	<b>Turbidity</b>	<b>NTU</b>	*	*
<b>5</b>	<b>Chlorides</b>	<b>mg/L</b>	12.9	20.9
<b>6</b>	<b>Hardness</b>	<b>"</b>	25.0	24.0
<b>7</b>	<b>D.O.</b>	<b>"</b>	4.5	5.0
<b>8</b>	<b>Calcium</b>	<b>"</b>	6.0	5.2
<b>9</b>	<b>Magnesium</b>	<b>"</b>	2.4	2.7
<b>10</b>	<b>Ammoniacal Nitrogen</b>	<b>"</b>	0.5	1.2
<b>11</b>	<b>Phosphate</b>	<b>"</b>	BDL	BDL
<b>12</b>	<b>Total alkalinity</b>	<b>"</b>	26.0	26.0
<b>13</b>	<b>BOD</b>	<b>"</b>	1.0	1.2
<b>14</b>	<b>Sulphate</b>	<b>"</b>	3.758	1.847
<b>15</b>	<b>Nitrates</b>	<b>"</b>	BDL	BDL
<b>16</b>	<b>TC</b>	<b>cfu/100ml</b>	820.0	1780.0
<b>17</b>	<b>FC</b>	<b>"</b>	20.0	500.0
<b>18</b>	<b>FS</b>	<b>"</b>	NIL	NIL

\* TURBIDITY METER IS OUT OF ORDER

**KERALA STATE POLLUTION CONTROL BOARD**  
**ENVIRONMENTAL SURVEILLANCE CENTRE, ELOOR**  
**ANALYSIS REPORT OF RIVER PERIYAR - JULY 2022**

**Sampling point: ALUVA - MANAPPURAM**

<b>Sl. No</b>	<b>Parameter</b>	<b>Unit</b>	<b>05.07.2022</b>	<b>25.07.2022</b>
<b>1</b>	<b>Temp</b>	<b>°c</b>	28.9	30.2
<b>2</b>	<b>pH</b>		6.3	6.6
<b>3</b>	<b>Conductivity</b>	<b>µS/cm</b>	34.8	45.9
<b>4</b>	<b>Turbidity</b>	<b>NTU</b>	*	*
<b>5</b>	<b>Chlorides</b>	<b>mg/L</b>	10.9	20.9
<b>6</b>	<b>Hardness</b>	<b>"</b>	14.0	16.0
<b>7</b>	<b>D.O.</b>	<b>"</b>	6.2	5.2
<b>8</b>	<b>Calcium</b>	<b>"</b>	3.6	4.8
<b>9</b>	<b>Magnesium</b>	<b>"</b>	1.2	1.0
<b>10</b>	<b>Ammoniacal Nitrogen</b>	<b>"</b>	0.4	0.1
<b>11</b>	<b>Phosphate</b>	<b>"</b>	BDL	BDL
<b>12</b>	<b>Total alkalinity</b>	<b>"</b>	20.0	28.0
<b>13</b>	<b>BOD</b>	<b>"</b>	1.7	1.4
<b>14</b>	<b>Sulphate</b>	<b>"</b>	2.611	3.121
<b>15</b>	<b>Nitrates</b>	<b>"</b>	BDL	BDL
<b>16</b>	<b>TC</b>	<b>cfu/100ml</b>	1040.0	1920.0
<b>17</b>	<b>FC</b>	<b>"</b>	120.0	480.0
<b>18</b>	<b>FS</b>	<b>"</b>	NIL	NIL

\* TURBIDITY METER IS OUT OF ORDER

**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**

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

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&amp;D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u>  Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management &amp; Details of Processing Facilities</u>  Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(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 May 2022	Progress in the month of June Of 2022	Progress in the month of July 2022	% works completed	Details of works remaining
<b>Thirukuzhy thodu</b>								
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	<p>ടി തോടിന്റെ ഭൂരിഭാഗം നീളവും നിലവിലില്ല എന്നു ശേഷിക്കുന്ന ഏഴരദശം മീറ്ററോളം വരുന്ന ഭാഗം തൊഴിലുറപ്പ് പദ്ധതികൾ ഉൾപ്പെടുത്തി എല്ലാ വർഷവും വൃത്തിയാക്കുന്നു എന്ന് പഞ്ചായത്ത് അധികൃതർ അറിയിച്ചിട്ടുണ്ട്.</p> <p>ആയതിനാൽ ടി</p>	<p>ടി തോടിന്റെ ഭൂരിഭാഗം നീളവും നിലവിലില്ല എന്നു ശേഷിക്കുന്ന ഏഴരദശം മീറ്ററോളം വരുന്ന ഭാഗം തൊഴിലുറപ്പ് പദ്ധതികൾ ഉൾപ്പെടുത്തി എല്ലാ വർഷവും വൃത്തിയാക്കുന്നു എന്ന് പഞ്ചായത്ത് അധികൃതർ അറിയിച്ചിട്ടുണ്ട്.</p> <p>ആയതിനാൽ ടി</p>		100	നി

				<p>പ്രവൃത്തി ആവശ്യമി ല്ല എന്ന ജനപ്രതി നിധികളും , കർഷക രും അഭിപ്രായ പ്പെട്ടു എന്ന വിവരം അസിസ്റ്റ ന്റ് എഞ്ചിനീ യർ, മൈനർ ഇറിഗേഷ ൻ സെക്ഷൻ, ചേർപ്പ് സ്ഥല പരിശോധ നയ്ക്കു ശേഷം റിപ്പോർട്ട് ചെയ്തിട്ടു ള്ളതായി എൻസിക് ്യൂട്ടീവ് എഞ്ചിനീ യർ, മൈനർ ഇറിഗേഷ ൻ</p>	<p>വ ില ില്ല എ ന്ന ും േ ശ ഷ ി ക്ക ു ന്ന  ഏ ശ േ ദ ശ ം 15 മീ റ്റ േ റാ ള ം വ രു ന്ന  ഭാ ഗ ം െ</p>			
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				ഡിവിഷൻ , തൃശ്ശൂർ അറിയിച്ചി ട്ടു്.	ത ാഴ ില ു പ ല തി ക ൾ ല ക ക ല പ്പ ട്ടു ത്ത ി കൃ ഷ്ണ വ ർ ഷ വ ു വ ു ത്ത ി യ ാ ക ു ന്ന ു			
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					എന്ന പഞ്ചായത്ത അധികൃതരുടെ അറിവ് കൂടി			
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<b>Thodu near Kadalassery bridge</b>									
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 10 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് തയ്യാറാക്കി CMDRF ഹെഡിൽ ഉൾപ്പെടുത്തി സാമ്പത്തികാനുമതിയ്ക്കായി സമർപ്പിച്ചിരുന്നുവെങ്കിലും ഫണ്ട് ലഭിച്ചിരുന്നില്ല. 03/03/2022 ലെ മൈനർ ഇറിഗേഷൻ ഡിവിഷൻ, തൃശ്ശൂർ എക്സിക്യൂട്ടീവ് എഞ്ചിനീയറുടെ കാര്യാലയത്തിലെ ഡി7-ശ്രീൻ ട്രിബ്യൂണൽ നമ്പർ കത്ത് പ്രകാരം പ്രവൃത്തിയുടെ എസ്റ്റിമേറ്റ് സാമ്പത്തികാനുമതി ലഭ്യമാകുന്നതിനായി സുപ്രീംസ് എഞ്ചിനീയർ മൈനർ ഇറിഗേഷൻ സെൻട്രൽ സർക്കിൾ					

				എറണാകുളത്തിന് വീടും സമർപ്പിച്ചിട്ടുണ്ട്. സെക്രട്ടറിയ്ക്കും കത്തുകൾ സമർപ്പിച്ചിട്ടുണ്ട്. സമർപ്പിച്ചിട്ടുണ്ട്				
<b>Neerolithodu</b>								
E	Cleaning and desilting	Irrigation Department	4months	<p>ടി പ്രവൃത്തിയ്ക്കായി 10 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് തയ്യാറാക്കി CMDRF ഹെഡിൽ ഉൾപ്പെടുത്തി സാമ്പത്തികാനുമതിയ്ക്കായി സമർപ്പിച്ചിരുന്നുവെങ്കിലും ഫണ്ട് ലഭിച്ചിരുന്നില്ല. 03/03/2022 ലെ മൈനർ ഇറിഗേഷൻ ഡിവിഷൻ, തൃശ്ശൂർ എക്സിക്യൂട്ടീവ് എഞ്ചിനീയറുടെ കാര്യാലയത്തിലെ ഡി7 - ഗ്രീൻ ട്രിബ്യൂണൽ നമ്പർ കത്ത് പ്രകാരം പ്രവൃത്തിയുടെ എസ്റ്റിമേറ്റ് സാമ്പത്തികാനുമതി ലഭ്യമാകുന്നതിനായി സൂപ്രീംസ് എഞ്ചിനീയർ മൈനർ ഇറിഗേഷൻ സെൻട്രൽ സർക്കിൾ എറണാകുളത്തിന് വീടും സമർപ്പിച്ചിട്ടുണ്ട്.</p>				
<b>Painkilkayal thodu</b>								
E	Cleaning and desilting	Irrigation Department and Vallachira Panchayat	4months	<p>ടി പ്രവൃത്തിയ്ക്കായി 10 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് തയ്യാറാക്കി CMDRF ഹെഡിൽ ഉൾപ്പെടുത്തി സാമ്പത്തികാനുമതിയ്ക്കായി സമർപ്പിച്ചിരുന്നുവെങ്കിലും ഫണ്ട് ലഭിച്ചിരുന്നില്ല. 03/03/2022 ലെ മൈനർ ഇറിഗേഷൻ ഡിവിഷൻ, തൃശ്ശൂർ എക്സിക്യൂട്ടീവ് എഞ്ചിനീയറുടെ കാര്യാലയത്തിലെ ഡി7 - ഗ്രീൻ ട്രിബ്യൂണൽ നമ്പർ കത്ത് പ്രകാരം പ്രവൃത്തിയുടെ എസ്റ്റിമേറ്റ് സാമ്പത്തികാനുമതി ലഭ്യമാകുന്നതിനായി സൂപ്രീംസ് എഞ്ചിനീയർ മൈനർ ഇറിഗേഷൻ സെൻട്രൽ സർക്കിൾ എറണാകുളത്തിന് വീടും സമർപ്പിച്ചിട്ടുണ്ട്.</p>				
<b>Kadathodu</b>								
A(b)	Identification of pollution sources and surveillance to restrict the dumping of wastes	Vallachira & Nenmanikkara Panchayats	1 month	Ongoing	Ongoing	Ongoing	10 0	0
E	Cleaning and desilting	Irrigation Department	4months	<p>ടി പ്രവൃത്തിയ്ക്കായി 10 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് തയ്യാറാക്കി CMDRF ഹെഡിൽ ഉൾപ്പെടുത്തി സാമ്പത്തികാനുമതിയ്ക്കായി സമർപ്പിച്ചിരുന്നുവെങ്കിലും ഫണ്ട് ലഭിച്ചിരുന്നില്ല. 03/03/2022 ലെ</p>				

				<p>മൈനർ ഇറിഗേഷൻ ഡിവിഷൻ, തൃശ്ശൂർ എക്സിക്യൂട്ടീവ് എഞ്ചിനീയറുടെ കാര്യാലയത്തിലെ ഡി7 - ഗ്രീൻ ട്രിബ്യൂണൽ നമ്പർ കത്ത് പ്രകാരം പ്രവൃത്തിയുടെ എസ്റ്റിമേറ്റ് സാമ്പത്തികാനുമതി ലഭ്യമാകുന്നതിനായി സുപ്രീംസ് എഞ്ചിനീയർ മൈനർ ഇറിഗേഷൻ സെൻട്രൽ സർക്കിൾ എറണാകുളത്തിന് വീടും സമർപ്പിച്ചിട്ടുണ്ട്.</p>				
<b>Main Stream –along Karuvannur</b>								
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. Square 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 Municipality		Inspection is going on. There is no un authorized outlets leading to the river.	Inspection is going on. There is no un authorized outlets leading to the river.	Inspection is going on. There is no un authorized outlets leading to the river.		
A(b)	Closing of all un authorized outlets in the drain leading to the river	Irinjalakkuda		There is no un authorize	There is no	There is no unauthoriz		



		Municipality		d outlets in the drain leading to the river.	unauthoriz ed outlets in the drain leading to the river	ed 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 area. We used tp conduct surveys, distributed notices to all the houses	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	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.	notices to all the houses near to the riverside.	near to the riverside.		
<b>Monitoring</b>								
A(a)(iv)	River water quality monitoring	KSPCB	Ongoing; monthly frequency	Monitoring is going on May monthly basis	Monitoring is going on June monthly basis	Monitoring is going on July monthly basis		
A(b)	Inspection & effluent quality monitoring of the Flats, industrial units, service stations, hospitals,hotels etc	KSPCB	Ongoing	Going on May monthly basis.	Going on June monthly basis.	Going on July monthly basis.		
<b>Long Term Plan</b>								
A(b)	Sewage treatment facilities to all house holds	Vallachira Grama Panachayat	1 yr	0 (no of soakpits)	Nil	5(no of soakpits)	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	Construction of STP plant at General Hospital, Irinjalakuda – DPR approved by	Construction of STP plant at General Hospital, Irinjalakuda – DPR approved by		

				Mission	Suchitwa Mission	Suchitwa Mission		
C(ii)	Setting up of a modern crematorium at Mandarakkadavu, Arattupuzha	Vallachira Grama Panachayat	2 years	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 producing Bio manure for sale.	Windrow Compost plant having 4 ton capacity. Construction has been already completed. Presently it is functioning well and producing Bio manure for sale.	Windrow Compost plant having 4 ton capacity. Construction has been already completed. Presently it is functioning well and producing Bio manure for sale.		
E	Rejuvenation of Kanathodu	Irrigation Department	1 year	<p>ടി പ്രവൃത്തിയ്ക്കായി 10 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് തയ്യാറാക്കി CMDRF ഹെഡിൽ ഉൾപ്പെടുത്തി സാമ്പത്തികാനുമതിയ്ക്കായി സമർപ്പിച്ചിരുന്നുവെങ്കിലും ഫണ്ട് ലഭിച്ചിരുന്നില്ല. 03/03/2022 ലെ മൈനർ ഇറിഗേഷൻ ഡിവിഷൻ, തൃശ്ശൂർ എക്സിക്യൂട്ടീവ് എഞ്ചിനീയറുടെ കാര്യാലയത്തിലെ ഡി7-ഗ്രീൻ ട്രിബ്യൂണൽ നമ്പർ കത്ത് പ്രകാരം പ്രവൃത്തിയുടെ എസ്റ്റിമേറ്റ് സാമ്പത്തികാനുമതി ലഭ്യമാകുന്നതിനായി</p>				

				സൂപ്രീം കോർട്ടിന്റെ ഏജൻസിയിൽ മൈനർ ഇറിഗേഷൻ സെൻട്രൽ സർക്കിൾ ഏറ്റെടുക്കുന്നതിന് വില്ലേജ് 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 May 2022	Progress in the month of June 2022	Progress in the month of July of 2022	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks	According to the latest GEC report there is no critical / over exploited blocks in Thrissur Dt.	According to the latest GEC report there is no critical / over exploited blocks in Thrissur Dt.	According to the latest GEC report there is no critical / over exploited blocks in Thrissur Dt.		
2	B(ii)	Ground water recharging / rain water harvesting					

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 May 2022	Progress in the month of June 2022	Progress in the month of July 2022	% works completed	Details of works remaining
C	MANALIPUZHA RIVER PROTECTION -Jalaraksha Jeevaraksha - Manalipuzha conservation	Vallachira Grama Panchayath	1 year	Nil	Nil	Nil	1000m	500m
C	Setting up of Nursery for Bamboo seedlings in Kadalassery	MGNREGS	31.03.2020	nil	TS SANCTI ONED, BUT NOT PUBLIC PLACE	TS SANC TIONE D, BUT NOT PUBLI C PLACE	25	75

C	Side protection of Manalippuzha with organic materials available locally	MGNREGS	31.03.2020	Nil	nil	nil	25	75
C	Side Protection of Manalippuzha with Bamboo plants	MGNREGS	31.03.2020	nil	nil	nil	100	0
C	Deepening & Protecting Muttikkal Thodu by Spreading Geo Textiles	MGNREGS	31.03.2020	nil	600 m	600 m	100	0
C	Cluster 2-Kurumaly puzha sub river bed -Project document preparation	Puthukkad Panchayath	1 year	Documentation completed	Documentation completed	Documentation completed	100	Documentation completed
C	Manalippuzha River Protection-Jala Raksha, Jeeva Raksha , Survey and Tree Plantation	Nenmenikkara Grama Panchayat	31.03.2020		3.5 km survey out of 7 k.m have been completed and survey posts have been fixed.	3.5 km survey out of 7 k.m have been completed and survey posts	50 %	3.5 killo meter survey yet to complete

						have been fixed		
C	Manalipuzha River protection	MGNREGS	31.03.2020		3.5 km survey out of 7 k.m have been completed and survey posts have been fixed.	3.5 km survey out of 7 k.m have been completed and survey posts have been fixed .		As survey did not complete
A(b)	Protection and reconstruction and protection of Paliyekkara Kayalathod	MGNREGS	31.03.2020		COMPLETED	COMPLETED	100 %	COMPLETED
A(b)	Reconstruction and protection of Paliyekkara Karama Thodu	MGNREGS	31.03.2020		COMPLETED	COMPLETED	100 %	COMPLETED

KARUVANUR

Date of sampling

07.07.2022

SL. NO	PARAMETER	UNIT	KT	MRK	KND	MDK	THR	KRV
1	PH		8.04	8.09	7.94	7.99	8	8.04
2	EC	µ/cm	70.28	67.68	94.83	110.2	89.34	67.99
3	BOD	mg/L	1.7	1.51	1.3	1.21	1.83	1.31
4	DO	mg/L	6.34	6.21	6.79	5.88	6.21	6.34
5	COD	mg/L	4	4	4	4	4	4
6	FC	CFU/100 ml	200	100	100	100	200	100
7	FSC	CFU/100 ml	30	20	20	10	30	20

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

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&amp;D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u>  Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management &amp; Details of Processing Facilities</u>  Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic</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 May 2022	Progress in the month of June 2022	Progress in the month of July 2022	% works complete d	Details of works remaining
<b>WADAKKENCHERY RIVER -SHORT TERM MEASURES</b>								
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					
E	Installation of CCTV s on the bank of river in town	Wadakkanchery Municipality	31.03.2022				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
<b>Monitoring</b>								
A(a)(iv)	River water quality monitoring	KSPCB	Monthly Monitoring in progress	Analysis report for the month of May submitted	Analysis report for the month of June enclosed herewith	Analysis report for the month of July 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
<b>Long Term Plan</b>								
E	Identification and cleaning of polluted drains reaching wadakkancheri river	Irrigation Dept	30-03-2022					Estimate submitted for fund
A (b)	Common STP	Wadakkanchery Municipality, Kerala Infrastructure Investment Fund Board	March 2022					Site for one STP identified. Applied for NOC from District Collector (Land is Puzha Puramboke and Irrigation Department Canal

								Puramboke). A proposal for decentralized facility is under consideration.
C(iii)	Windrow composting at Kumbalangad yard	Wadakkanchery Municipality	March 2022					
C(ii)	Modern slaughter House	Wadakkanchery Municipality, Kerala Infrastructure Investment Fund Board	March 2022					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 <sup>3</sup> desilt removed					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					
<b>Short term plan (Kecheri river)</b>								
E	Installation of CCTV in different locations along river side	PWD Electronic division		Progress has not been reported	Progress has not been reported	Progress has not been reported		
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 has been issued to concerne



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

**IRRIGATION DEPARTMENT**

No.	Activity	Implementing agency	Time line	Progress in the month of May 2022	Progress in the month of June 2022	Progress in the month of July 2022	% works completed	Details of works remaining
1	Regulating activities in flood plain zone, protection and management of flood plain zone	Irrigation Department	30-03-2022					A letter has been sent from the office of SE ICC to

								Wadakkanchery Municipality instructing them to carry out this activity.
2	Greenery developmentPlantation plan. Plantation on both sides of the river, settling up biodiversity parks on flood plains by removing encroachment	Irrigation Department	30-03-2022					A letter has been sent from the office of SE ICC to Wadakkanchery Municipality instructing them to carry out this activity.
3	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)				

				<p>പൂർത്തിയാക്കി          റിപ്പോർട്ട്          18/05/2022 ന്          ചീഫ്          എഞ്ചിനീയർ,          ജലസേചനവും          ഭരണവും,          തിരുവനന്തപുരത്ത്          ന്          സമർപ്പിച്ചിട്ടുണ്ട്.</p>				
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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 May 2022	Progress in the month of June 2022	Progress in the month of July 2022	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks		According to the latest GEC report there is no critical / over exploited blocks in Thrissur Dt.	According to the latest GEC report there is no critical / over exploited blocks in Thrissur Dt.		

2	B(ii)	Ground water recharging / rain water harvesting				100%	
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.		
4	B(iv)	For regulating use of ground water for irrigation purpose, adopting good irrigation practices					0

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of May 2022	Progress in the month of June2022	Progress in the month of July 2022
C	Punarjani Kecherri river	Choondal Grama Panchayat	completed			

C(ii)	Surveying of river side, eviction and planting trees	Choondal Grama Panchayat				
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			

<b>KECHERI RIVER</b>				
<b>Date of sampling -16.07.2022</b>				
<b>SL. NO</b>	<b>PARAMETER</b>	<b>UNIT</b>	<b>VAD1</b>	<b>VAD2</b>
1	pH	-	7.7	7.62
2	Electrical Conductivity	µs/cm	93.8	91.99
3	BOD	mg/L	2.9	1.12
4	DO	mg/L	6.79	6.86
5	COD	mg/L	12	8
6	F C	CFU/100ml	400	400
7	FSC	CFU/100ml	20	10
VAD1 - WADAKKANCHERY PUZHA (WADAKKANCHERY BRIDGE), KECHERY				
VAD2 - WADAKKANCHERY PUZHA(CHALIPPADAM ROAD), KECHERY				

**ACTION PLAN BY GRAMAPANCHAYATH**

**National Mission for Clean Ganga**

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

**RIVER PUZHAKKAL, THRISSUR**

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



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

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of May 2022	Progress in the month of June 2022	Progress in the month of July 2022	% works completed	Details of works remaining
A(b)	Identification of illegal outlets into the Panchikkal thodu and subsidiary drains	Thrissur Corporation	3 months	0	0			
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	1	2	2	100	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 provided to temple authorities for construction of waste disposal

							facilities accordance with swm2016
E	Desilting of Karakattuchal	Irrigation Department	4 months	ടി പ്രവൃത്തിയ്ക്കായി 10 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് തയ്യാറാക്കി CMDRF ഹെഡ്ക്വാർട്ടേഴ്സിൽ ഉൾപ്പെടുത്തി സാമ്പത്തികാനുമതിയ്ക്കായി സമർപ്പിച്ചിരുന്നു വെങ്കിലും ഫിസ് ലഭിച്ചിരുന്നില്ല. 03/03/	ടി പ്രവൃത്തിയ്ക്കായി 10 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് തയ്യാറാക്കി CMDRF ഹെഡ്ക്വാർട്ടേഴ്സിൽ ഉൾപ്പെടുത്തി സാമ്പത്തികാനുമതിയ്ക്കായി സമർപ്പിച്ചിരുന്നു വെങ്കിലും		

			<p>2022 ലെ മൈനർ ഇറിഗേഷൻ ഡിവിഷൻ, തൃശ്ശൂർ എക്സിക്യൂട്ടീവ് എഞ്ചിനീയറുടെ കാര്യാലയത്തിലെ ഡി7 - ഗ്രീൻ ട്രിബ്യൂണൽ നമ്പർ കത്ത് പ്രകാരം പ്രവൃത്തിയുടെ എസ്റ്റിമേറ്റ് സാമ്പത്തികാനുമതി ലഭ്യമാകുന്നതിനായി സൂപ്രീം ഓഫ് എഞ്ചിനീയർ</p>	<p>ഗ്രൂപ്പ് ലഭിച്ചിരുന്നില്ല. 03/03/2022 ലെ മൈനർ ഇറിഗേഷൻ ഡിവിഷൻ, തൃശ്ശൂർ എക്സിക്യൂട്ടീവ് എഞ്ചിനീയറുടെ കാര്യാലയത്തിലെ ഡി7 - ഗ്രീൻ ട്രിബ്യൂണൽ നമ്പർ കത്ത് പ്രകാരം</p>			
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				<p>മൈനർ സെൻട്രൽ ഇറിഗേഷൻ സർക്കിൾ ഏറണാകുളത്തിന് വികസനമർപ്പിച്ചിട്ടുണ്ട്.</p>	<p>പ്രവൃത്തിയുടെ എസ്റ്റിമേറ്റ് സാമ്പത്തികാനുമതി ലഭ്യമാകുന്നതിനായി സൂപ്രീംസ് എഞ്ചിനീയർ മൈനർ സെൻട്രൽ ഇറിഗേഷൻ സർക്കിളിൽ ഏറണാകുളത്തിന് വികസനമർപ്പിച്ചിട്ടുണ്ട്.</p>			
E	Desilting of Panchikkal thodu	Irrigation	4 month	Proposed to be clean for a	Proposed to be clean	Work completed	100	

		Department	s	length of 5.34 Km during 2022-23	for a length of 5.34 Km during 2022-23			
E	Desilting of Kurinjikkal thuruth	Irrigation Department	4 months					
E	Desilting of Muppuzha	Irrigation Department	4 months	100% work completed	Desilting work 1860 metre completed as per pre-monsoon activity in 2021-22 work proposed for	Work completed		

					2022-23 season		
E	Side protection, desilting and deepening work of vanchikulam thodu at Poothole of length about 40 km (work in progress).	Thrissur Corporation	3 months		400 meter side protection wall completed. 642 meter protection wall proposed and work in progress.	500 meter side protection wall completed. 642 meter protection wall proposed and work in progress.	
E	Annual desilting, cleaning of main drains and canals with in the corporation area (work in progress).	Thrissur	3 month		195 Nos.	195 Nos. Works are	



		Corporation	s		Work s are prop osed for thod u clean ing and now 194 num bers of work com plete d	proposed for thodu cleaning works are completed		
<b>Monitoring</b>								
A(a)(iv)	River water quality monitoring	KSPCB	Ongoing; monthly frequency	Analysis report for the month of May submitted	Analysis report for the month of June submitted	Analysis report for the month of July enclosed herewith		Continuing
A(b)	Inspection & effluent quality monitoring of the Flats, industrial units, service stations, hospitals,hotels etc	KSPCB	Ongoing	Ongoing	Ongoing	Ongoing		Continuin g
<b>Long Term Plan</b>								

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	34.65 KM of drain work and 5.705 KM of covering slabs completed and 50 More work proposed 48 numbers of work started and 46 numbers of	34.65 KM of drain work and 5.705 KM of covering slabs completed and 50 More work proposed 48 numbers of work completed.	34.65 KM of drain work and 5.705 KM of covering slabs completed and More works proposed under annual plan and 48 numbers of work completed .		

				work completed.				
A(b)	Construction of a drain 9000 m with covering slabs to avoid the direct disposal of waste in to the open drain	Thrissur Corporation	24 months	34.6 5 KM of drain work and 5.70 5 KM of cover ing slabs com plete d and 50 More work prop osed 48 num	34.65 KM of drain work and 5.705 KM of coveri ng slabs compl eted and 50 More work propo sed 48 numb ers of work compl eted	. 34.65 KM of drain work and 5.705 KM of covering slabs complete d and More works proposed under annual plan and 48 numbers of work complete d.		

				bers of work start ed and 46 num bers of work com plete d.				
A(b)	Construction of sewage treatment plant of 100 KLD and 360 KLD at Ramavarmapuram and District Hospital, Thrissur in Amrut Project	Thrissur Corporation	24 months				1) <b>100KLD Septage Treatment Plant at Ramavarmapuram, Thrissur</b>	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

						<p>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. Contract or has not executed the agreement even after issuing several notices 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</p>
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as per rules. Now the schedule of rate changed from approved estimate. Hence estimate revision by the consultant is going on.

**2. 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

						<p>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, contractor has not started the work yet. 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.</p>
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						Hence estimate revision by the consultant is going on.			
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 veting submitted for revised TS at Chief Engineers Office TVM	.	Revision estimate as per structural veting submitted for revised TS at Chief Engineers Office		



						e TVM.		
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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 May 2022	Progress in the month of June 2022	Progress in the month of July 2022	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks		According to the latest GEC report there is no critical / over exploited blocks in Thrissur Dt.	According to the latest GEC report there is no critical / over exploited blocks in Thrissur Dt.		
2	B(ii)	Ground water recharging / rain water harvesting		Two artificial recharge scheme proposals submitted for Technical sanction @		100%	

				Kerala institute of Local administration (KILA) Thrissur			
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.		
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 May 2022	Progress in the month of June 2022	Progress in the month of July 2022	% works completed	Details of works remaining
C	Removing weeds in Puzhakkal River	Adat Gramapanchayath	31.03.2020				100 %	0
C(ii)	Removing waste from all wards through kudumbasree	KUDUMBASREE	31.03.2020				100 %	0
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 %	0
C	side protection to water bodies coir geo textile	MGNREGS	31.03.2020				90%	10

**PUZHAKKAL****Date of sampling - 14.07.2022**

<b>SL. NO</b>	<b>PARAMETER</b>	<b>UNIT</b>	<b>SBA</b>	<b>KTH</b>	<b>PTU</b>	<b>MP</b>
1	PH		8.08	8.15	8.01	8.08
2	EC	µs/cm	129.9	158.5	216.7	121.4
3	BOD	mg/L	1.83	1.44	1.32	1.23
4	DO	mg/L	6.99	7.17	6.61	7.11
5	COD	mg/L	8	8	4	4
6	F C	CFU/100ml	300	200	100	300
7	FSC	CFU/100ml	40	20	20	20

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 – JULY2022**

<b>S. No</b>	<b>Activity to be monitored</b>	<b>Timeline</b>	<b>Submission of progress by State/UT- Compliance status</b>
1	Ensure 100% treatment of sewage at least in-situ remediation	March 2021	Kerala Water Authority prepared a DPR for STP and submitted to the Government. The STP is proposed to be installed at Nambram in Pattambi municipality in about 50 cent of land.. The survey for the sewerage pipeline was also completed and it was also included in the DPR.
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured	Not proposed	
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning	March 2021 (Primary STP and Septage Treatment Plant proposed, not STP)	Kerala Water Authority was prepared a DPR for sewerage network and STP and submitted for approval.
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none"> <li>• Specifying accountability of nodal authorities not below the Secretary level</li> <li>• Chief Secretaries may have an accountable person attached in their office for this purpose</li> </ul>	Applicable at State level	Not Applicable
	<ul style="list-style-type: none"> <li>• Monitoring at State level must take place</li> </ul>	Applicable at State level	Not Applicable
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none"> <li>• Secretary, Ministry of Jal Shakti</li> <li>• Member Secretary, CPCB</li> </ul>	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&amp;D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management &amp; Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p>	<p>Primary STP (oil and grease trap with grit chamber)- March 2021</p> <p>Not Proposed</p> <p>Not proposed</p> <p>MSW treatment Plant – March 2021</p> <p>March 2021</p> <p>Implemented by January 2020</p>	<p>Kerala Water Authority is preparing a DPR for sewerage network and STP and submitted for approval.</p> <p>Not Applicable</p> <p>Not Applicable</p> <p>Implemented</p> <p>Water quality monitoring of polluted river stretch and two additional points were completed until July 2022. Results are complying with outdoor bathing standards.</p> <p>Management of dry wastes were achieved through the MCF and RCF facilities, BMW by CBWTF, E-Waste by authorised collection agencies.</p>
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(vii)Ground water regulation	No specific proposal	Not Applicable
(viii) Adopting good irrigation practices	No specific proposal	Not Applicable
(ix) Protection and management of food plain Zones (FPZ)	March 2021	DPR for regulating flood plain zone protection and management, and E-flow maintenance in the Bharathapuzha at Pattambi were prepared by Irrigation Department and submitted to the government several months ago. But funding did not get sanctioned.
(x) Rain water harvesting	No specific proposal	Not Applicable
(xi)Maintaining minimum Environmental flow of river	March 2021	A more comprehensive DPR by Irrigation Department and submitted for approval of State Government
(xii) Plantation on both sides of the river	No specific proposal	Not applicable
(xiii)Setting up biodiversity parks on flood plains by removing encroachment	No specific proposal	Not applicable



## ACTION PLAN FOR RIVER BHARATHAPUZHA, KERALA

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of June2022	Progress in the month of July2022	% works completed	Details of works remaining
1	Establishment and Modernisation of MSW treatment Plant ( Solid Waste Management)	Pattambi Municipality	March 2021	Implemented	Implemented	100% work completed	Nil
2	Material collection Facility (Solid Waste Management)	Pattambi Municipality	Implemented by January 2020	Implemented	Implemented	100% implemented	Nil
3	Resource recovery facility (Solid Waste Management)	Pattambi Municipality	Implemented by January 2020	Implemented	Implemented	100% implemented	Nil
4	Installing house hold and community level solid waste management units	Pattambi Municipality	March 2021	Unit supplied to house holds in 2021-2022.Tendering of 2022-23 in progress.	Tendered	Nil	100%
5	Door to Door Collection and Transportation of MSW	Pattambi Municipality	December 2020	Implemented	Implemented	Implemented	Nil
6	Regulating activities in flood plain zone protection and management of flood plain zone including side bank protection and greenery development	Irrigation department	March 2021	A more comprehensive DPR by Irrigation Department and submitted for approval of State Government. Planning Board approved budget of 500 Crore for NGT related projects.	DPR for regulating flood plain zone protection and management, and E-flow maintenance in the Bharathapuzha at Pattambi were prepared and submitted to the	Implementation not started	Full implementation remaining

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

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

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

Nhangatiri Temple ( U/S of NWMP-2)

<b>Station Name</b>		RIVER BHARATHAPUZHA AT PATTAMBI (NWMP-2)									
<b>Type of Water body</b>		RIVER									
<b>Completed by</b>		DO, PALAKKAD									
<b>Agency</b>		Kerala State Pollution Control Board									
1	Station Code	2	3	3	2						
2	Date and time of sample taken (DD/MM/YY, HH/MM)	7/4/2022									
		1	1	:	3	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 <sub>2</sub> S		Other	
7	Floating Matter	Floating Algae			Floating sludge			Oil & Grease		Water Hyacinth	
8	Visible effluent discharges in proximity	Industrial			Municipal sewage			None ✓			
9	Human activities around the station	Cattle wading			Tourism spot			Fishing	Bathing ✓	Other	
10	Location details	U/s of town or industrial area ✓			D/s of town or industrial area			Pilgrim center/Bathing Ghat/Water intake		None	
11	Flow rate	112.5 m <sup>3</sup> /s									
12	Major polluting source	Industrial effluent			MSW	PW	None ✓		Other		
13	Uses of water in downstream	Irrigation			Drinking water source ✓			Fishing		Domestic	
		Organized water source			Cultivation			Bathing Ghat		Others	

Sl.No	Determinants	Values
1	Temperature, 0C	29
2	Dissolved Oxygen, mg/l	6.53
3	pH	6.71
4	Conductivity, µmhos/cm	76.78
5	BOD, mg/l	1.13
6	Nitrate-N, mg/l	0.598
7	Turbidity, NTU	BDL
8	Phenolphthalein Alkalinity, mg/l	BDL
9	Total Alkalinity, mg/l	15
10	Chloride, mg/l	12
11	COD, mg/l	8
12	TKN, mg/l	0.008
13	Ammoniacal-N, mg/l	BDL
14	Hardness as CaCO <sub>3</sub> , mg/l	19
15	Calcium as CaCO <sub>3</sub> , mg/l	10
16	Magnesium as CaCO <sub>3</sub> , mg/l	9
17	Sulphate, mg/l	2.7
18	Calcium (Ca <sup>2+</sup> ), mg/l	4
19	Magnesium (Mg <sup>2+</sup> ), mg/l	2.187
20	Sodium, mg/l	7
21	Total Dissolved Solids, mg/l	50
22	Total Fixed Solids, mg/l	31
23	Total Suspended Solids, mg/l	BDL
24	Phosphate, mg/l	0.07
25	Boron, mg/l	BDL
26	Potassium, mg/l	2
27	Fluoride, mg/l	0.13
28	Total Coliform, MPN/100 ml	500
29	Fecal Coliform, MPN/100 ml	200
30	Fecal Streptococcus, MPN/100 ml	60
31	% SODIUM	41.38
32	SAR	0.76

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

Veliamkallu regulator ( D/S of NWMP-2)

<b>Station Name</b>		BHARATHAPUZHA AT PATTAMBI									
<b>Type of Water body</b>		RIVER									
<b>Completed by</b>		DO, PALAKKAD									
<b>Agency</b>		Kerala State Pollution Control Board									
1	Station Code	2	3	3	2						
2	Date and time of sample taken (DD/MM/YY, HH/MM)	7/4/2022									
		1	2	:	1	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 <sub>2</sub> S		Other	
7	Floating Matter	Floating Algae			Floating sludge			Oil & Grease		Water Hyacinth	
8	Visible effluent discharges in proximity	Industrial			Municipal sewage			None ✓			
9	Human activities around the station	Cattle wading			Tourism spot			Fishing	Bathing ✓		Other
10	Location details	U/s of town or industrial area			D/s of town or industrial area ✓			Pilgrim center/Bathing Ghat/Water intake		None	
11	Flow rate	532 m <sup>3</sup> /s									
12	Major polluting source	Industrial effluent			MSW	PW	None ✓		Other		
13	Uses of water in downstream	Irrigation			Drinking water source ✓			Fishing	Domestic		
		Organized water source			Cultivation	Bathing Ghat		Others			

Sl.No	Determinants	Values
1	Temperature, 0C	26
2	Dissolved Oxygen, mg/l	7.4
3	pH	6.84
4	Conductivity, µmhos/cm	151
5	BOD, mg/l	1.86
6	Nitrate-N, mg/l	0.269
7	Turbidity, NTU	BDL
8	Phenolphthalein Alkalinity, mg/l	BDL
9	Total Alkalinity, mg/l	47
10	Chloride, mg/l	19
11	COD, mg/l	8
12	TKN, mg/l	0.008
13	Ammoniacal-N, mg/l	BDL
14	Hardness as CaCO <sub>3</sub> , mg/l	57
15	Calcium as CaCO <sub>3</sub> , mg/l	30
16	Magnesium as CaCO <sub>3</sub> , mg/l	27
17	Sulphate, mg/l	3.7
18	Calcium (Ca <sup>2+</sup> ), mg/l	12
19	Magnesium (Mg <sup>2+</sup> ), mg/l	6.56
20	Sodium, mg/l	10
21	Total Dissolved Solids, mg/l	97
22	Total Fixed Solids, mg/l	61
23	Total Suspended Solids, mg/l	BDL
24	Phosphate, mg/l	0.128
25	Boron, mg/l	BDL
26	Potassium, mg/l	2.1
27	Fluoride, mg/l	0.09
28	Total Coliform, MPN/100 ml	700

**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- JULY 2022**

S. No.	Activity to be monitored	Timeline	Submission of progress by State/UT- Compliance status
1	Ensure 100% treatment of sewage at least in-situ remediation	March 2020. Target achieved	Action plan completed. Septic tank systems are adopted for entire sewage treatment
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured	Not proposed	Not Applicable
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning	STP not Proposed	Septic tank systems are adopted for entire sewage treatment
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none"> <li>• Specifying accountability of nodal authorities not below the Secretary level</li> <li>• Chief Secretaries may have an accountable person attached in their office for this purpose</li> </ul>	Applicable at State level	Not Applicable
	<ul style="list-style-type: none"> <li>• Monitoring at State level must take place</li> </ul>	Applicable at State level	Not Applicable
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none"> <li>• Secretary, Ministry of Jal Shakti</li> <li>• Member Secretary, CPCB</li> </ul>	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&amp;D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management &amp; Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p>	<p>Drains contributing pollution to the River were not identified</p> <p>Not Proposed</p> <p>Not proposed</p> <p>Dec 2020</p>	<p>Not Applicable</p> <p>Not Applicable</p> <p>Not Applicable</p> <p>Dry waste- Implemented. Material Collection Facility and 80% of work completed for MSW treatment plant. Wet waste- 100% Managed at source level</p>
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<p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p>	<p>March 2021</p>	<p>Water quality monitoring of polluted river stretch and three additional points were completed until July 2022</p>
<p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p>	<p>Implemented by January 2020</p>	<p>Not applicable</p>
<p>(vii) Ground water regulation</p>	<p>No specific proposal</p>	<p>Not applicable</p>
<p>(viii) Adopting good irrigation practices</p>	<p>No specific proposal</p>	<p>Not applicable</p>
<p>(ix) Protection and management of food plain Zones (FPZ)</p>	<p>March 2021</p>	<p>A more comprehensive DPR prepared and submitted for approval by Irrigation Department - Check dams at Bhoothivazhi, Anakkal and Chemmanur are proposed in the DPR.</p>
<p>(x) Rain water harvesting</p>	<p>No specific proposal</p>	<p>Not applicable</p>

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

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of June2022	Progress in the month of July2022	% works completed	Details of works remaining
C(ii)	Establishment of MSW treatment Plant (Solid Waste Management)	Pudur Grama Panchayath	2019-2020	MSW treatment plant(MCF and RRF) was completed, machineries for RRF were purchased and waiting for KSEB connection for its installation.	MSW treatment plant(MCF and RRF) was completed, machineries for RRF were purchased and waiting for KSEB connection for its installation.	80% implemented	20% - installation of treatment equipment/ facilities are remaining
C(ii)	Material collection Facility (Solid Waste Management)	Pudur Grama Panchayath	2019-2020	Implemented	Implemented	100% Implemented	Nil
C(ii)	Construction of Compound wall Material collection Facility Plant	Pudur Grama Panchayath	2019-2020	Implemented	Implemented	Implemented	Nil
C(ii)	Installing of waste Bin in Colonies	Pudur Grama Panchayath	2019-2020	Minis MCF in the colonies of Pudur Panchayath were started as an alternative of installation of waste	Minis MCF in the colonies of Pudur Panchayath were started as an alternative of installation of	62% implemented	38 % implementation remaining

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

				athapuram were completed			
D	Construction of Check dams at the identified locations	Irrigation department	2020 - 21	Checkdam at Boothivazhy, Anakkal&Chemmannura re proposed in the DPR	Administrative sanction obtained for Bhoothivazhi and Aralikonam Check Dams & looking forward for TS. DPR for the check dams of Anakkal and Chemmannur were suggested to be revised by government. The revised DPR will be submitted on May 2022.	75%	25 %
D	Issues relating to Eflow, maintaining minimum environmental flow of river(by having watershed management provisions)	Irrigation department	2020 - 21	DPR prepared for comprehensive solution	DPR prepared for comprehensive solution	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	Water quality monitoring in Bhavani at Elachivazhi and	Implemented. Will continue up to the full implementation	Implemented.

				were completed until June 2022	three additional points were completed until July 2022	on of the action plan.	
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**POLLUTED RIVER STRETCH MONITORING PROGRAMME**

**DATA SHEET JULY 2022**

Cheerakuzhi (U/S of NWMP-6)

<b>Station Name</b>		RIVER BHAVANI AT ELACHIVAZHI									
<b>Type of Water body</b>		RIVER									
<b>Completed by</b>		DO, PALAKKAD									
<b>Agency</b>		Kerala State Pollution Control Board									
1	Station Code	1	2	0	8						
2	Date and time of sample taken (DD/MM/YY, HH/MM)	7/5/2022									
		1	2	:	5	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 <sub>2</sub> S		Other	
7	Floating Matter	Floating Algae			Floating sludge			Oil & Grease		Water Hyacinth	
8	Visible effluent discharges in proximity	Industrial			Municipal sewage			None ✓			
9	Human activities around the station	Cattle wading ✓			Tourism spot			Fishing	Bathing ✓	Other	
10	Location details	U/s of town or industrial area			D/s of town or industrial area			Pilgrim center/Bathing Ghat/Water intake		None ✓	
11	Flow rate	54 m <sup>3</sup> /s									
12	Major polluting source	Industrial effluent			MSW	PW	None ✓		Other		
13	Uses of water in downstream	Irrigation ✓			Drinking water source ✓			Fishing	Domestic ✓		
		Organized water source			Cultivation		Bathing Ghat		Others		

Sl.No	Determinants	Values
1	Temperature, 0C	22
2	Dissolved Oxygen, mg/l	7.73
3	pH	6.6
4	Conductivity, µmhos/cm	32
5	BOD, mg/l	0.66
6	Nitrate-N, mg/l	0.154
7	Turbidity, NTU	BDL
8	Phenolphthalein Alkalinity, mg/l	BDL
9	Total Alkalinity, mg/l	9
10	Chloride, mg/l	4.8
11	COD, mg/l	4
12	TKN, mg/l	BDL
13	Ammoniacal-N, mg/l	BDL
14	Hardness as CaCO <sub>3</sub> , mg/l	9
15	Calcium as CaCO <sub>3</sub> , mg/l	7
16	Magnesium as CaCO <sub>3</sub> , mg/l	2
17	Sulphate, mg/l	0.001
18	Calcium (Ca <sup>2+</sup> ), mg/l	2.8
19	Magnesium (Mg <sup>2+</sup> ), mg/l	0.486
20	Sodium, mg/l	3
21	Total Dissolved Solids, mg/l	19
22	Total Fixed Solids, mg/l	11
23	Total Suspended Solids, mg/l	BDL
24	Phosphate, mg/l	0.038
25	Boron, mg/l	BDL
26	Potassium, mg/l	0.6
27	Fluoride, mg/l	0.12
28	Total Coliform, MPN/100 ml	400
29	Fecal Coliform, MPN/100 ml	200
30	Fecal Streptococcus, MPN/100 ml	20
31	% SODIUM	40.04
32	SAR	0.43

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

Chalayur Uru (U/S of NWMP-6)

<b>Station Name</b>		RIVER BHAVANI AT ELACHIVAZHI									
<b>Type of Water body</b>		RIVER									
<b>Completed by</b>		DO, PALAKKAD									
<b>Agency</b>		Kerala State Pollution Control Board									
1	Station Code	1	2	0	8						
2	Date and time of sample taken (DD/MM/YY, HH/MM)	7/5/2022									
		0	2	:	1	5					
3	Weather	Cloudy			Clear ✓			Windy		Raining	
4	Approximate depth of main stream	< 50 cm			50 – 100 cm ✓			>100 cm		Flood	
5	Color & Intensity	Clear ✓			Turbid			Green		Brown	
		1 = Light ✓			2 = Moderate			3 = High			
6	Odour	None ✓			Fishy			H <sub>2</sub> S		Other	
7	Floating Matter	Floating Algae			Floating sludge			Oil & Grease		Water Hyacinth	
8	Visible effluent discharges in proximity	Industrial			Municipal sewage			None ✓			
9	Human activities around the station	Cattle wading ✓			Tourism spot			Fishing	Bathing ✓		Other
10	Location details	U/s of town or industrial area			D/s of town or industrial area			Pilgrim center/Bathing Ghat/Water intake		None ✓	
11	Flow rate	70.2 m <sup>3</sup> /s									
12	Major polluting source	Industrial effluent			MSW	PW	None ✓		Other		
13	Uses of water in downstream	Irrigation ✓			Drinking water source ✓			Fishing	Domestic ✓		
		Organized water source			Cultivation		Bathing Ghat		Others		

Sl.No	Determinants	Values
1	Temperature, 0C	21
2	Dissolved Oxygen, mg/l	7.26
3	pH	6.96
4	Conductivity, µmhos/cm	44
5	BOD, mg/l	1.2
6	Nitrate-N, mg/l	0.178
7	Turbidity, NTU	BDL
8	Phenolphthalein Alkalinity, mg/l	BDL
9	Total Alkalinity, mg/l	12
10	Chloride, mg/l	6.5
11	COD, mg/l	5
12	TKN, mg/l	BDL
13	Ammoniacal-N, mg/l	BDL
14	Hardness as CaCO <sub>3</sub> , mg/l	12
15	Calcium as CaCO <sub>3</sub> , mg/l	8
16	Magnesium as CaCO <sub>3</sub> , mg/l	4
17	Sulphate, mg/l	0.215
18	Calcium (Ca <sup>2+</sup> ), mg/l	3.2
19	Magnesium (Mg <sup>2+</sup> ), mg/l	0.972
20	Sodium, mg/l	4.2
21	Total Dissolved Solids, mg/l	25
22	Total Fixed Solids, mg/l	15
23	Total Suspended Solids, mg/l	BDL
24	Phosphate, mg/l	0.077
25	Boron, mg/l	BDL
26	Potassium, mg/l	0.7
27	Fluoride, mg/l	0.11
28	Total Coliform, MPN/100 ml	900



## National Mission for Clean Ganga

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

**RIVER KADALUNDI, MALAPPURAM**

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

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&amp;D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management &amp; Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p>		<p>Last updated report submitted was on July 18 2022</p> <p>(I) Identified 3 drains on 10/12/2018 at the hajiyyar pally stretch.</p> <p>(ii) Malappuram municipality – 30 KLD. Not completed revamping &amp; 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 . The matter was discussed in the DLMC meeting on 16/6/22, and EE suggested giving work order to a single contractor on DBOT basis as per latest govt. order dated 28/4/22 which gave permission to LSGD s for the same.</p> <p>(iii) NIL</p> <p>(iv) Activities progressing with decentralised source level treatment method and 2506 devices are distributed.</p> <p>(v) Attached Analysis Report for the month of July 2022. More activities are progressing under the “ Thelineer Ozhukum Navakeralam “scheme</p>
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<p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p> <p>(vii) Ground water regulation</p> <p>(viii) Adopting good irrigation practices,</p> <p>(ix) Protection and management of food plain Zones (FPZ),</p> <p>(x) Rain water harvesting,</p> <p>(xi) Maintaining minimum Environmental flow of river</p> <p>(xii) Plantation on both sides of the river</p> <p>(xiii) Setting up biodiversity parks on flood plains by removing encroachment</p>		<p>(vi) Actions being initiated to prevent illegal waste dumping. Bio-Medical Waste collecting through IMAGE .Municipality has one MRF and 3 MCF's. Dry Waste Collecting through HKS and stored in these facilities from where recyclable materials are handed over to authorised recyclers and rejects, to KEIL through Clean Kerala Company.</p> <p>(vii) NA</p> <p>(viii) Complying</p> <p>(ix) NA</p> <p>(x) Complying</p> <p>(xi) Complying</p> <p>(xii) NA</p> <p>(xiii) NA</p>
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1.6	The discharge of waste water from the surrounding houses to the Valiyathodu - Blocking of discharge of liquid waste	Malappuram Municipality	completed	completed	completed	completed	completed	completed
1.7	Identification of illegal outlets into storm water drains and fine imposed on such units.	Malappuram Municipality	ongoing	completed	completed	completed	completed	completed
1.8	Biodegradable waste  Bio gas plants- 186  Bio bins – 908  Bucket compost – 1445  Tumburmuzhi Aerobic bins - 4  Submitted proposal for 8000 ring compost systems	Malappuram Municipality	In progress	In progress	In progress	In progress	completed	Completed
1.9	Non biodegradable waste  MCF &  Plastic shredding and Bailing  Echo Kiosk	Malappuram Municipality	Completed   March 2020	Completed   In progress	Completed   In progress	Completed   40 mini MCF project submitted to DPC	Completed   In progress	Completed   Waiting for approval

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

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

	Thirurangadi, Kooriyad, Manikut, Hajiyarpally, Anakkayam, Oravambrum - State Water monitoring programme (SWMP)		monsoon, monsoon, post - monsoon					
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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%				
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### 3.GROUND WATER DEPARTMENT

No.	Activity	Implementing agency	Time line	Progress in the month of May 2022	Progress in the month of June 2022	Progress in the month of July 2022	% works completed	Details of works remaining
3.1.	Ground Water resources and regulation of ground water extraction by	Ground water Department		No action included in the approved action plan to be performed by Ground Water	No action included in the approved action plan to be performed by Ground Water	No action included in the approved action plan to be performed		



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

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

(Earlier status : The total irrigation draft in the area ranges from 979.683 - 1857.49 ha.m.)								
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**rNational Mission for Clean Ganga**

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

**RIVER TIRUR, MALAPPURAM**

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

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(i) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(ii) <u>Status of STPs, I&amp;D and sewerage networks</u> Details of Existing Infra structure, Gap Analysis, Proposed along with completion timeline</p>	<p>Last updated report submitted was on July 18 , 2022</p> <p>(i) Identified 17 drains out of which 9 were additionally identified on 11.07.2019</p> <p>(ii) <u>Tirur Fish Market STP</u>– 45 KLD- Not working condition. As per Board directions to replace blower and renovate aeration tank, and to construct RVH for fish market, estimate of Rs.1, 88000/- prepared to place before the council. During DLTC meeting they have reported that the renovation work is over. Accordingly conducted site inspection by Board on 30.03.2022 to evaluate progress, No progress found. Informed that they have no proper technical personnel to give a technical sanction of the renovation work. Since about 3 years repeated directions are being issued for time bound renovation of fish market STP. The matter was discussed in the DLMC meeting conducted on 16/6/22. It was suggested by EE to give work order to a single contractor on DBOT basis as per latest govt. order dated 28/4/22 which gave permission to LSGD s for the same.</p> <p>(ii) <u>Tirur municipal Bus Stand STP</u>-50 KLD –<b>Present status</b> – Truss work of shelter completed and electrical installation works going on.95% of total work completed. Expected to be completed shortly.</p>
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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 &amp; Details of Processing Facilities</u>  Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p> <p>(vii) Ground water regulation</p> <p>(viii) Adopting good irrigation practices,</p> <p>(ix) Protection and management of food plain Zones (FPZ),</p>	<p>iii)NIL</p> <p>(iv)De centralised treatment facilities, Disposal using sanitary landfills, composting operations, MRF, MCF etc. Slaughter house- completed civil work. Electrical installation works started.</p> <p>(v)Attached as Annexure II-Analysis report during the month of July 2022)</p> <p>(vi)Actions are being initiated to prevent illegal waste dumping. BMW are being disposed scientifically through IMAGE. Municipality have MRF, MCF facilities</p> <p>(vii)NA</p> <p>(viii) Complying</p> <p>(ix) NA</p>
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	<ul style="list-style-type: none"><li>(x) Rain water harvesting,</li><li>(xi) Maintaining minimum Environmental flow of river</li><li>(xii) Plantation on both sides of the river</li><li>(xiii) Setting up biodiversity parks on flood plains by removing encroachment</li></ul>		<ul style="list-style-type: none"><li>(x) Complying</li><li>(xi) Complying</li><li>(xii) NA</li><li>(xiii) Reported that encroachment survey is completed and now the process of laying survey stones is in progress.</li></ul>
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# ACTION PLAN FOR RIVER TIRUR, KERALA

<b>1. IRRIGATION DEPARTMENT</b>								
<b>1.</b>								
No.	Activity	Implementing agency	Time line	Progress during month of May 2021	Progress during month of June 2022	Progress during month of July 2022	% 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	No progress	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)	
1.1. 2	Cleaning and development of old Ponnani Thodu at Thazhepalam	Irrigation Department	6 Months			Nil		



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	No progress	Civil work 0% and mechanical works 10%	Due to rain, the work can start in September.	No progress	
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## 2.TIRUR MUNICIPALITY

No.	Activity	Implementing agency	Time line	Progress during month of May 2021	Progress during month of June 2022	Progress during month of July 2022	% works completed	Details of works remaining
2.1	Provide septic tank for nearest houses	Tirur Municipality	Dec 2019	completed	completed	completed	100	NIL
2.2	Establishment of Solid waste Treatment Plant Thumboor Muzhi Model Aerobic Bin	Tirur Municipality	March 2020	completed	completed	completed	100	NIL
2.3	Establishment of Non Degradable waste treatment Plant, Resource Recovery facility, Plastic Shredding Unit Segregation shed	Tirur Municipality	March 2020	completed	completed	Completed	100	NIL
2.4	Slaughter House	Tirur Municipality	December 2020	Machineries installation going on	Revised estimate of biogasplant and ETP submitted for	In progress	90%	In progress

					theapproval			
2.5	Fencing on Bridgeside  ThalakkadathurBridge	Tirur Municipality	December 2020	completed	completed	completed	100	NIL
2.6	Installation of CCTV Camera near the river Bank Thalakadathur 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	Estimate by electrical engineer approved by the council.Given for estimate of Mechanical engineer	No progress	DPC approved  The project amount of 20lakhs.		In progress
2.9	Setting up of STP at Private Bus stand	Tirur Municipality	June 2020	Electrical work is going on	Electrical work completed.Mechanical work is going on	Mechanical work is going on.	95	In progress

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
<b>3.KERALA STATE POLLUTION CONTROL BOARD</b>								
No.	Activity	Implementing agency	Time line	Progress in the month of May 2021	Progress in the month of June 2022	Progress in the month of July2022	% works completed	Details of works remaining
3.1	River water quality Monitoring- Thalakadathur National Water Quality	KSPCB	Ongoing; Monthly frequency				Ongoing monthly frequency	

	Programme(NWMP)					
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 month, Orange- 3 months, Green- 6 months			Ongoing

**4. ACTION PLAN BY VARIOUS GRAMA PANCHAYATHS- THALAKKAD, VET TOM, MANGALAM,  
CHERIYAMUNDAM**

No.	Activity	Implementing agency	Time line	Progress in the month of May 2021	Progress in the month of June 2022	Progress in the month of July 2022	% works completed	Details of works remaining
4.1	Protection of Tirur Ponnani River	Thalakkad Grama Panchayath handover fund to District Panchayath	31.03.2020	Completed	Completed	Completed	100	NIL
4.2	Installation of CC TV camera on YetterikadavuKunjulikkadavuMangattiri Bridge, Aikkanchiri Bridge, Paravanna Bridge	Vettom - KS SECURITY SYSTEM	Spill over due to lack of fund	completed	completed	completed	100	NIL
4.3	Installation of CC TV camera	Mangalam Grama Panchayath Win Plus Agency,	Completed	completed	completed	completed	100	NIL

		Kondotty						
4.4	Haritha KeralamThirur-Ponnanipuzha protection	Mangalam Grama Panchayath Nirmithi Kendra, Kozhikode	31.03.2020	- Dispute on making road in private property..Discussions going on to solve the issue.	Inprogress	Inprogress	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	completed	completed	completed	100	NIL

### 5.GROUND WATER DEPARTMENT

No.	Activity	Implementing agency	Time line	Progress in the month of May 2022	Progress in the month of June 2022	Progress in the month of July 2022	% works completed	Details of works remaining
5.1.	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks  (Earlier status: As per Groundwater resources of Kerala, 2017 estimate a total number of 2 blocks (Tirur and Kuttippuram) comes under the Tirur river basin. These two blocks are semi-critical blocks and the stage of groundwater extraction ranges from 77.75 % to 77.92%)	Ground water Department  Therefore, to regulate ground water resources in this area, no permission is granted for packaged drinking water industries or any other water induced industries	NA	No permits issued	No permits issued	No permits issued  NO ACTION INCLUDE UNDER THIS PLAN BY GROUND WATER DEPARTMENT	NA	NA

5.2	Ground water recharging / rain water harvesting  (Earlier status: The average pre monsoon groundwater level ranges from 6.14mbgl - 8.49 mbgl.)	NA	NA		NO ACTION INCLUDED UNDER THIS PLAN BY GROUND WATER DEPARTMENT	NO ACTION INCLUDED UNDER THIS PLAN BY GROUND WATER DEPARTMENT	NA	NA
5.3	Periodic ground waste quality assessment and remedial actions in case of contaminated ground water tube wells/bore wells or hand pumps	Ground water Department  No observation well along the river stretches)			NA		NA	NA
5.4	For regulating use of ground water for irrigation purpose, adopting good irrigation practices (Earlier status: The total irrigation draft in the area ranges from 49.14 - 870.97 ha.m.)	Ground water Department  No Data Available. No Updation after GEC 2017. (Report not published)			NO ACTION INCLUDED UNDER THIS PLAN BY GROUND WATER DEPARTMENT	NO ACTION INCLUDED UNDER THIS PLAN BY GROUND WATER DEPARTMENT	NA	NA

## 6.REVENUE DEPARTMENT

No	Activity	Implementing agency	Timeline	Progress May 2022	Progress June 2022	Progress July2022	% works completed	Details of works remaining
6.1	Survey of boundaries of river side	Revenue department		In progress.  Thalakkad grama panchayath has remitted fund recently and survey under progress	In progress	In progress	Completed . The survey stone is being laid.	Encroachment survey completed.

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

SI NO	Name of point	PARAMETERS				
		P <sup>H</sup>	DO(mg/l)	BOD(mg/l)	COD(mg/l)	FC (cfu/100ml)
1	Drain near Tirur Railway station	7.6	3.5	1.6	6	144
2	Thazhepalam drain	7.7	5.2	1.6	5.2	104
3	Naduvilangadi drain (old ponnani thodu)	7.3	3.8	1.2	3.6	116
4	Annassery drain	7.7	3.6	1.1	4.6	36
5	Canal at CV Land	Not accessible				
6	Canal at Mangalam thuruth	7.8	6.4	1.1	4.4	36
7	Canal at Pullooni	7.7	3.6	1.8	7	140
8	Drain near Mangattiri bridge	7.2	3.4	1.6	6.4	38
9	Drain near Ettirikkadavu bridge	7.3	3.3	1.7	5	56
10	Epothingal	7.1	4.2	1.8	7.2	52
11	Asarikkadav	7.5	4.1	0.9	3.6	52
12	Kandanath kadav	7.3	4.8	0.8	3.2	200
13	Pancharamoola	7.8	2.7	1.8	5.4	112
14	Kakadav	7.8	4.4	1.5	6	88
15	Kanathkadav	7.5	4.8	0.8	3.6	200
16	Drain near tirur railway station	7.6	3.5	1.2	4.8	120
17	Payyanangadi(kadayithodu)	7.4	4.0	1.8	7.2	80



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

Sl .No	Name of point	PARAMETERS				
		p <sup>H</sup>	DO (mg/l)	BOD(mg/l)	COD(mg/l)	FC (cfu/100ml)
1	Valiyangadi drain	7.3	7	0.6	2.4	108
2	Valiyangadi bypass drain	<b>Not accessible</b>				
3	Valiyathod drain	7.6	7	0.8	3.2	100
4	Hajiyarpally	7.3	7.0	1.2	4.8	116

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

**NATIONAL MISSION FOR CLEAN GANGA**

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

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

**For the month of JULY 2022 – Kallai polluted river stretch**

Sl No	Activity to be monitored	Timeline	Submission of progress by state/UT- compliance status
1	Ensure 100% treatment of sewage at least in-situ remediation		
2	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STP must be ensured.	30.09.2022	Construction of 2 MLD and 1 MLD STP plant of Calicut medical college started
3	Timeline for completing all steps of action plans including completion of setting up STPs and their commissioning	Work under progress	Proposal for 13 MLD STP (6 MLD STP plant proposed at Kothi, 7 MLD STP plant proposed at Avikkal) – Tendering in progress
4	Chief secretaries may set up appropriate monitoring mechanisms at the state level <ul style="list-style-type: none"><li>• Specifying accountability of nodal authorities not below the secretary level</li><li>• Chief secretaries may have an accountable person attached in their office for this purpose</li></ul>		NIL
	<ul style="list-style-type: none"><li>• Monitoring at the state level must take place</li></ul>	Fortnightly commencing 21.12.2019	NIL

5	<p>Progress report may be furnished by the state/UTs to</p> <ul style="list-style-type: none"> <li>• Secretary,ministry ofjal shakti</li> <li>• Membersecretary,CPCB</li> </ul>	<p>Monthly (preferably before 20<sup>th</sup> Ofevery month)</p>	<p>NIL</p>
5.1	<p>Progress report may be comprised of details alongwith completion timelineon:</p> <p>(i) Identification of polluting source including drains contributing to river pollution and action asper NGT order on insitutreatment.</p> <p>(ii) <u>status of STPs, I&amp;D and sewage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p>	<p>Action continuing</p> <p>31.03.2021</p> <p>31.07.2019</p> <p>work in progress</p>	<p>Drains identified. Pollution load calculated. Action plan prepared. Joint squad of PCB and Corporation inspection in action. Issued notice to 92 units during the period 2019. 30 units installed treatment facilities. During Jan-Mar 2020 joint squad of PCB and corporation inspected 82 units. Issued notice to 56 units. In 16 units installation of treatment units Effluent treatment facilities are under progress.Issued notice to 36 units and a fine of Rs.18500/- was imposed for the month of September 2020..Monthly progress report submitted by Kozhikode corporation attached as <b>Annexure 1</b></p> <p>Dredging of Kallayi river from Kaduppini to Kothi -DPR submitted to SE,INC,KKD on 16.10.2019for Rs 773.05 lakhs(7.30 crores for desilting of river and 43.05 lakhs for fencing of 5 bridges) under action plan of Kallayi river and fencing of sides of the river. Work entrusted to KWIL –Dredging ,Desilting and removal of weedsfro EK canal -11.2Km <b>Submitted by Irrigation department</b></p> <p>(i)Construction of 2 MLD, 1 MLD STP plant of Calicut medical college started.-10% work completed</p>

		work in progress	<p>(ii) Proposal for 13 MLD STP (6 MLD STP plant proposed at Kothi, 7 MLD STP plant proposed at Avikkal) – Tendering in progress.</p> <p>(iii) STP of 13 MLD proposed at Kotooli. About 12% of sewer lines were laid by KWA – Honble NGT stayed the project (OA no. 215/2016).</p> <p>(iv) Individual septic tank and soak pit system provided for house hold, units like bakery, cool bars small restaurants with less seating capacity. Individual STPs for high rise building, hotels, Restaurants, Commercial buildings.</p>
(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.	No specific proposal	No CETP proposed	
(iv) <u>status of solid waste management &amp; details of processing facilities</u> Details of existing infrastructure, Gap analysis, proposed along with completion timeline	Functioning	<p><b><u>Kozhikode corporation</u></b></p> <p>(i) Existing centralized waste disposal facility of 100 MT/DAY at Njeliyanparamba (windrow composting)</p> <p>(ii) Proposal of 450 TPD waste to energy plant at Njeliyanparamba implementation in progress. Capping work started.</p> <p>(iii) Chicken waste rendering plant of 40 TPD functioning in Thamarassery – 170 chicken stalls of Kozhikode corporation are disposing off the waste through this rendering plant. Rendering plant construction for chicken stall waste – Perumanna .Peruvayal</p>	
	Work in progress		
	Functioning		
	Work in progress		

		Functioning. Andwork progressing	(iv) 3 MRF facilities existing ( AtNjeliyamparamba(Super MRF) 3TPD- with plastic shredding unit, west hill industrial estate -2TPD -- with plastic shredding unit,Near Jayanthi nagar colony) - 70%completed
		Functioning	(v) 24 units of aerobic compost facilities existing ( Tagore hall, S K Pottakkad hall, Jubilee hall,Mofusil bus stand,T.B. Clinic,Circleoffice).
		Functioning	(vi) 350 ring compost and 150Biogas plants installed in households -kkd Corporation 26 biogas plant complete –peruvayal 190 ring compost complete –mavoor
		Functioning	(vii) Community level biogas plant- 3nos(Mental Hospital 1TPD, ITI Malikadav -1TPD, Juvine home-1TPD)
		Functioning	(viii) 3 Biogas plants in market (Central market 2TPD, Vegetable market 2TPD, New busstand,2TPD)
		Functioning	(ix)Treatment facility for waste in Central Market – Tendering in Progress
		30/03/2021	
		31/12/2022	(x) Establishment of slaughter house-
	31.03.2021		<b><u>Mavoor Panchayath</u></b> MCF 1 nos,ringcompost,compost pit- Completed and functioning
			<b><u>Perumanna Panchayat</u></b> Compost pit and MCF with baling machine (1 nos) -Work in progress
	31.03.2021		<b><u>Peruvayal Panchayat</u></b> Compost pit,mini MCF 2 nos,bio gas plant- Work in progress MCF-1 nostemporarly functioning
			<b><u>Olavanna Panchayat</u></b> MCF-1 completed Mini MCF -3 Work in progress MRF -1 In block

<p>(v) latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(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 irrigationpractices</p> <p>(ix) protection and management of flood plain zones(FPZ),</p> <p>(x) Rain water harvesting</p>	<p>31/03/2021</p>	<p>Analysis report of Kallayi river stretch for the month of September 2020 Attached as <b>Annexure 2</b></p> <p>Same as Item no. 5.1(v) Fine of 32 Lakhs imposed for illegal dumping of solid wastes into rivers and public places. Installation of CCTV. Biomedical waste from Hospital,labs,clinics collected through image, plastic waste disposal through recyclers. Individual solid waste processing facilities like bio gas plant, bio bins in high rise building, hotels, restaurantsetc.Fencing proposed by irrigation department.</p> <p>NIL</p> <p>NIL</p> <p>Flood prone mapping- Proposed by irrigation department</p> <p><b><u>Mavoor Panchayat</u></b> Well recharging-Estimate under preparation</p>
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		31/03/2021	<b><u>Peruvayal Panchayat</u></b> Well recharging-Work in progress
		31/03/2021	<b><u>Olavanna Panchayat</u></b> Well recharging-Work in progress
(xi) Maintaining minimum environmental flow of river			Initiated
		31/03/2021	<b><u>Perumanna Panchayat</u></b> Cleaning of Mampuzhariver-Work in Progress
		31/03/2021	<b><u>Perumanna Panchayat</u></b> Cleaning of Mampuzhariver-Ongoing
		Completed	<b><u>Olavanna Panchayat</u></b> Cleaning of Mampuzha river-Completed
(xii) Plantation on both sides of the river		Completed	<b><u>Mavoor Panchayat</u></b> 3500units completed
(xiii) Setting up biodiversity parks on flood plains by removing encroachment			Bio park in Kozhikode district- Proposed by irrigation department

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

## ACTION PLAN FOR RIVER KALLAYI, KERALA

<b>Kozhikode Corporation</b>									
N o.	Activity	Implementin g agency	Time line	Progress in the month of APRIL 2022	Progress in the month of MAY 2022	Progress in the month of JUNE 2022	Progress in the month of JULY 2022	% works complete d	Details of works remaining
1	Identification of illegal outlets into storm water drain and issue Notice to such units	Kozhikode Corporation	30.12.2020	11 Notices	7 Notices	6 notices issued	4 notices issued	Ongoing work	
2	Waste to energy project proposed at Njeliyamparamba	KSIDC	30.06.2021	On going	On going	On going	On going		
3	Establishment of Aerobic compost units 24 units established in 6 sites	Kozhikode Corporation	Completed and functioning	Work Completed	Work Completed	Work CompletedF unctioning	Completed and functioning	complete d100%	



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

						<p>court of Kerala by the protesters. An interim order was release in favour of Kozhikode corporation dated 08.04.2022, Base on this 6 MLD STP work was restarted on 27.04.2021. Again due to public protest , the work has been temporarily stopped on 28.04.2022</p>	<p>police protection. For, 6 MLD STP at Kothi, Hon: High court of Kerala has started hearing the case on 02.06.2022 . Awaiting for the final decision to start the work at site.</p>	<p>d..</p>	
8	Cleaning of Canoli canal	Kozhikode Corporation	20.07.2019	ongoing	completed	completed	completed	0%	Completed

9	Purchasing of Solar Boat for Canoli canal cleaning	Kozhikode Corporation	31.03.2020	Project dropped	Project dropped	Project dropped	Project dropped		
10	Installation of CCTV Camera for the Identification and monitoring of illegal activities	Kozhikode Corporation	31.03.2020	Project Dropped	Project dropped	Project dropped	Project dropped	Project Dropped	
11	Establishment of Mobile Septage Units	Kozhikode Corporation	31.03.2020	Project Dropped	Project Dropped	Project Dropped	Project dropped		
12	Action taken against dumping of wastes into river and public places	Kozhikode Corporation	Continuing	16 Issue notices	10 Issue notices	14 Issue notices	7 notices issued	Ongoing work	
13	Cleaning of B.K canal	Kozhikode Corporation	31.03.2020	Work completed	completed	completed	completed	100%	N.A
14	Establishment of treatment plant at Medical college (3 MLD plant) Tender over 14.1 -2 MLD plant proposed	Kozhikode Corporation	31.03.2020	Work restarted and 300 M pip laying completed	600m pipe laying completed and construction of the collection	1070 m pipe laying completed and construction of the collection	1200 m pipe laying completed and construction of the collection	28%	2100 ms pipe laying and Constructi o

	14.2- 1 MLD plant proposed				tank at 2 MLD site has been completed.	tank at 2 MLD site has been completed	tank at 2 MLD site has been completed		n of 1 MLD STP is pending
15	Construction of drains at Y.M.RC Ayyankar colony	Kozhikode Corporation	31.03.2020	Work has been stopped	Work has been stopped. Contractor asked higher rate for the items which exceeds more than 25% than the tendered quantity. Details have been submitted to Kozhikode Council for approval.	Work has been stopped. Contractor asked higher rate for the items which exceeds more than 25% than the tendered quantity. Details have been submitted to Kozhikode Council for approval.	Work has been stopped. Contractor asked higher rate for the items which exceeds more than 25% than the tendered quantity. Details have been submitted to	60 %	1000m canal side wall construction on are pending

						Same has been approved and forwarded to AMRUT SLTC for final approval.	Kozhikode Council for approval. Same has been approved and forwarded to AMRUT SLTC for final approval. Next SLTC meeting is scheduled on 20/06/2022		
16	Implementation of STP at Kottooli (13.5 MLD)	Kozhikode Corporation		Now stay order has been lifted. Additional fund is required					
17	Treatment facility for waste water in Central market	Kozhikode Corporation	EOI Process Ongoing	EOI Process Ongoing	EOI Process Ongoing				

18	Establishment of comfort stations	Kozhikode Corporation			5 comfort station work completed			60%	
19	Provide facility for MRF,RRF, Super MRF 3 units existing  19.1 Njeliyanparamb  19.2 Industrial estate 19.3 Mayor bhavanjayanthinagar colony	Suchitwa Mission	Project in progress	Neliyanparamba work completed. Others on going	Project in progress	Project in progress		30%	70%
20	Identification of illegal outlets from house to storm water drain and issue Notice to such Houses	Kozhikode Corporation	On going process	On going process	On going process	4 notices	12 notices		
21	Establishment of Plastic shredding unit	Kozhikode Corporation	On going process	On going process	Project started			100%	
22	Establishment of slaughtering unit	Kozhikode Corporation	Submitted to Impact Kerala for KIFB Aid –Got Initial Approval. Final Document Preparation going on						
23	Cleaning of drains in	Kozhikode	On going	On going	On going	On going	Comple		

## Perumanna Grama Panchayath

No	Activity	Implementing agency	Time line	Progress in the month of APRIL 2022	Progress in the month of MAY 2022	Progress in the month of JUNE 2022	Progress in the month of JULY 2022	% works completed	Details of works remaining
1	Outlets into storm water drain and issue notice	Perumanna G P, kozhikode	Continues process	6 notice issued	7 notice issued	7 notice issued	7 notice issued	Inspection conducted regularly	
2	Establishment of six aerobic compost units in panchayat	Perumanna G P Kozhikode through MGNREGS	Dec-21	Work started 1	Completed	Work started 1		100% work completed	5 units will be started if public place is available
3	Collection and segregation of solid waste in the river	Perumanna G P	Continues process in every year					74 % work completed	
4	Setting up of residential treatment plant for chicken stall waste	Perumanna G P	Continues process	Resolution passed by Panchayat board to execute an agreement with Fresh cut, thamarassery, kkd	Resolution passed by Panchayat board to execute an agreement with Fresh cut, thamarassery, kkd	Resolution passed by Panchayat board to execute an agreement with Fresh cut, thamarassery, kkd	Resolution passed by Panchayat board to execute an agreement with Fresh cut, thamarassery, kkd	91%	

5	Setting up of 360 soak pit plant in all houses near the river area and panchayat	Perumanna G P MGNREGS	Dec-21	119 nos completed	119 nos completed	119 nos completed	119 nos completed	Remaining work has been suspended as lack of personal days for current year	
6	implimentation of 360 compost unit near river side and panchayat	Perumanna G P MGNREGS	Dec-21	110 nos completed	126 nos completed	126 nos completed	126 nos completed	Remaining work has been suspended as lack of personal days for current year	
7	Implementation of water flow project (aluvangalthazhamper umbattaelamanapadam, valiyapadam. mampuzhthodenaveekarana project no 260/2021 project cost 16.67 lakhs) . it is a joint venture project by grama, block and jilla panchayat	Perumanna G P, Kozhikode block panchayat, Kozhikode jilla panchayat	Dec-21					Technical sanction obtained .tender procedure completed .including in 2021-22 plan as spillover project.	Tender has been done



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

## Peruvayal Grama Panchayath

No	Activity	Implementing agency	Time line	Progress in the month of APRIL 2022	Progress in the month of MAY 2022	Progress in the month of JUNE 2022	Progress in the month of JULY 2022	% works completed	Details of works remaining
1	Outlet in storm water drain and issued notice	Peruvayal G P	Continuous process	9 notice issued	5 notice issued	5 notice issued	5 notice issued	On going	

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

8	Collection and segregation of solid waste in the river	Peruvayal G P	Continuous process	3 times collected	3 times collected	3 times collected	3times collected		Continuous process
9	Establishment of Bio gas plant	Peruvayal G P	2020-21	26 numbers completed	26 numbers completed	26 numbers completed	26 number completed	70%	Work will be completed by the end of february 2021
10	Well recharge	Peruvayal G P through MGNREGS	2020-21	63 numbers completed	63 numbers completed	78 number completed	78 number completed	82%	Work will be completed by the end of february 2021

## MavoorGp

No	Activity	Implementing agency	Time line	Progress in the month of APRIL 2022	Progress in the month ofMAY 2022	Progress in the month of JUNE2022	Progress in the month of JULY 2022	% Work completed	Details of work remaining
1	MCF	MavoorGp	31.03.2019	Completed and functioning	Completed and functioning	Completed and functioning	Completed and functioning	100%	Nil
2	Fish market construction	MavoorGp	31.03.2019	Completed and functioning	Completed and functioning	Completed and functioning	Completed and functioning	100%	Nil
3	Ring compost	MavoorGp	31.03.2019	Completed and functioning	Completed and functioning	Completed and functioning	Completed and functioning	100%	NIL(190 units)

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

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

No	ACTIVITY	IMPLIMENTING AGENCY	TIMELINE	PROGRESS IN THE MONTH OF APRIL 2022	PROGRESS IN THE MONTH OF MAY 2022	PROGRESSING THE MONTH OF JUNE 2022	PROGRESSING THE MONTH OF July 2022	% WORKS COMPLETED	DETAILS OF REMAINING WORK
1	Collection of plastic waste from the river	Olavannagrama panchayat	Continous process	2 times collected	2 times collected	2 times collected	4 times collected	76%	Process continuing
2	Collection of segregation of solid waste in the river	Olavannagrama panchayat	Continous process	2 times collected	2 times collected	2 times collected	5 times collected	100%	Process continuing
3	Establishment of Mini MCF in all wards	Olavannagrama panchayat through MGNREGS	4/2020 To 3/2021	2 Mini MCF Completed	2 Mini MCF Completed	2 Mini MCF Completed	2 Mini MCF Completed		Remaining will started immediately
4	Cleaning of Mambuzha river	Olavannagrama panchayat	Continous process					77%	Process continuing

5	Well recharge	Olavannagrama panchayat through MGNREGS	4/2022 To 3/2023	8 No's completed	8 No's completed	8 No's completed	8 No's completed		Work will be completed by the end of March 2023
6	Setting up of compost pit in houses	Olavannagrama panchayat through MGNREGS	4/2022 To 3/2023	48 No's completed	48 No's completed	48 No's completed	48 No's completed	15%	Work will be completed by the end of March 2024
7	Action taken against dumping of waste into river	Olavannagrama panchayat	Continous process					80%	Continuing
8	Collection of non biodegradable waste	Haritharmasena	Throughout the year						Continuing

## Irrigation Department

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of MAY 2022	Progress in the month of JUNE 2022	Progress in the month of JULY2022	% works completed	Details of works remaining
1	Desilting of Kallayi river from Kaduppini to Kothi	Irrigation department	31.03.21	DPR submitted to SE,INC,KKD on 16.10.2019 for Rs 773.05 lakhs (7.30 crores)				

	in Kozhikode Corporation			for desilting of river and 43.05 lakhs for fencing of bridges) under action plan of kallai river		
2	Provide fencing on the sides of the Bridge	Irrigation department	31.03.21			
3	Dredging, Desilting & removal of weeds from E K Canal (11.2 km)	Irrigation department	31.07.19	Work entrusted to kerala waterways & infrastructure Ltd (KWIL)		
4	Bio Park in Kozhikode District	Irrigation department		Land for the proposed bio park is to be demarcated by the revenue authorities after necessary boundary survey and subsequent bio cover work are to be done by the social forestry department		
5	Flood Prone Mapping in Kozhikode District	Irrigation department		Acton to be taken by the hydrology wing of irrigation department as this needs data collection, scientific analysis and modeling		

## Kerala State Pollution Control Board

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of MAY 2022	Progress in the month of JUNE 2022	Progress in the month of JULY 2022	% works completed	Details of works remaining
1	River water quality monitoring- Kallayi river National Water Quality Monitoring Programme(NWMP)	KSPCB	Ongoing; monthly frequency					
2	River water quality monitoring– Kallayi rivers State Water Monitoring Programme, KSPCB fund (SWMP)	KSPCB	Ongoing.  Seasonal monitoring– pre-monsoon, monsoon, post-monsoon					
3	Inspection and effluent quality monitoring of the flats, industrial units, service stations, hospitals, hotels etc . in Malappuram Municipal area	KSPCB	Ongoing  Interval: Red– 1 month.  Orange – 3 months.  Green – 6 months.					



## SuchitwaMission

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of MAY 2022	Progress in the month of JUNE2022	Progress in the month of JULY2022	% works completed	Details of works remaining
1	Board displaying messages against dumping to be placed in river banks	Suchitwa Mission	15.07.19	Estimate prepared				

## Action Plan by Ground Water Department

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of MAY 2022	Progress in the month of JUNE 2022	Progress in the month of JULY 2022	% works completed	Details of works remaining
B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks  (Earlier status: As per Groundwater resources of Kerala, 2017 estimate ,Kozhikkode Block comes under the Kallai river basin and the block is safe with stage of groundwater extraction 68.49%)	Ground Water Department		Nil 1	Nil	Nil		
B(ii)	Ground water recharging / rain water harvesting  (Earlier status : The average pre-monsoon groundwater level is 7.23mbgl. Groundwater Department has implemented 3 no of dug well recharge schemes at Kozhikkode block)	Ground Water Department		Nil 1	Nil	Nil		
B(iii)	Periodic ground waste quality assessment and remedial actions in case of contaminated ground water tube wells/bore wells or hand	Ground Water Department		Nil 1	Nil	Nil		

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

## Action plan by irrigation Department

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of MAY 2022	Progress in the month of JUNE 2022	Progress in the month of JULY 2022	% works completed	Details of works remaining
E	Dredging and desilting	Irrigation Dept	3 years					
E	E-flow (by micro water shed management)	Irrigation Dept	3 years					
E	Flood plain zone (protection and management)	Irrigation Dept	3 years					
E	Greenery development (plant in trees on the banks)	Irrigation Dept	3 years					

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

**NATIONAL MISSION FOR CLEAN GANGA**

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

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

**For the month of JULY 2022–Kuttiady polluted river stretch**

Sl No	Activity to be monitored	Timeline	Submission of progress by state/UT-compliance status
1	Ensure 100% treatment of sewage at least in-situ remediation	12/2022  03/21  31.05.2024  03/2022	<b><u>Kuttyadi Grama Panchayath</u></b> Massive awareness program and survey conducted. Community toilet and household latrine schemes implements MRF and MCF. Work in good condition. Project for household compost bin in is completed and carried out drainage work. <b><u>Chakkittapara Panchayath</u></b> Massive awareness program conducted. Community toilet and household latrine schemes implements MRF and MCF. Work in good condition. Project for household compost bin in progress and carried out drainage reparse work <b><u>Payyoli municipality</u></b> 1. Action plan prepared under SBM 2.0 2. Action plan prepared under Amrut Scheme <b><u>Thurayur Grama Panchayath</u></b> Ward wise awareness programme conducted. community toilet 'Take a Break' started and house hold latrine schemes

			implemented.MCF started. Project for house hold bucket compost completed.
2	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured	12/2022  03/21  31.05.2024	<b><u>Kuttyadi Grama Panchayath</u></b> Committed to implement major scheme next year <b><u>Chakkittapara Panchayath</u></b> Committed to implement major scheme next year <b><u>Payyoli municipality</u></b> 1. Action plan prepared under SBM 2.0 2. Action plan prepared under Amrut Scheme <b><u>Thurayr Grama Panchayath</u></b> Major scheme will be implemented only by the availability of funds
3	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning	01/2023  03/21  31.12.2024	<b><u>Kuttyadi Grama Panchayath</u></b> Attached separate report <b><u>Chakkittapara Panchayath</u></b> River origin areas are in Chakkittapara, No industrial unites, ODF Project implemented <b><u>Payyoli municipality</u></b> 1. Action plan prepared under SBM 2.0 2. Action plan prepared under Amrut Scheme <b><u>Thurayur Grama Panchayath</u></b> No industrial unit in thurayur grama panjayath ODF project implemented
4	Chief secretaries may set up appropriate monitoring mechanism at state level • Specifying accountability of		Not applicable

	<p>nodal authorities not below the secretary level</p> <ul style="list-style-type: none"> <li>• Chief secretaries may have an accountable person attached in their office for this purpose</li> <li>• Monitoring at state level must take place</li> </ul>		
5	<p>Progress report may be furnished by the state/UTs to</p> <ul style="list-style-type: none"> <li>• Secretary, ministry of Jalshakti</li> <li>• Member Secretary, CPC B</li> </ul>	<p>Monthly (preferably before 20<sup>th</sup> of every month)</p>	<p>Nil</p>
5.1	<p>Progress report may be comprised of details along with completion timeline on:</p> <p>(i) identification of polluting source including drains contributing to river pollution and action as per NGT order on in situ treatment</p>	<p>Primary STP (Oil and Grease trap with grit chamber) Will be implemented by 31/3/2021</p>	<p>Drains identified. Pollution load calculated. Action plan prepared. Notices issued by concerned Panchayath Secretaries to individual units. Action under progress by individual units.</p> <p>Monthly progress report of Kuttiady, Maruthomkara, Cheruvannur, Changaroth, Perambra, Kavilumpara, Velom Panchayaths, Chakittapara, Payyoli, Thurayoor, Irrigation department, Water Authority, Shuchitwa mission for the month of October 2020</p>

	12/2022	is attached as <b>Annexure 3.</b> <b><u>Kuttyadi Grama Panchayath</u></b> Survey will be conducted
(ii) <u>status of STPs, I&amp;D and sewage networks</u>  Details of existing infrastructure,proposed along with completion timeline	3/2021	<b><u>Chakkittapara Panchayath</u></b> River originate from Chakkittapara Grama Panchayat . Polluting sources are not identified.
	03/2022	<b><u>Thurayur Grama Panchayath</u></b> Polluted area in river are not identified.
	3/21	Mostly rural area. No common STP proposed. Individual septic tank and soak pit system provided for house hold, units like bakery, cool bars small restaurants with less seating capacity. Individual STPs for high rise building, hotels, Restaurants, Commercial buildings.
	31.05.2024	<b><u>Chakkittapara Panchayath</u></b> : Nil
(iii) <u>status of CETPs</u> Details of existing CETP and ETP infrastructure ,Gap analysis, proposed along with complying status	3/21	<b><u>Payyoli municipality</u></b> Action plan prepared underSBM 2.0  <b><u>Thurayur Grama Panchayath</u></b> Nil
	31.12.2024	<b><u>Payyoli municipality</u></b> ✓ No CETPs proposed ✓ Action plan prepared under SBM 2.0
	03/2022	<b><u>Thurayur Grama Panchayath</u></b> No industry in the locality <b><u>Kuttyadi Grama Panchayath</u></b> No industry in the locality <b><u>Chakkittapara Panchayath</u></b> No industry in the locality



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

03/2021

31/10/2024

**Chakkittapara**  
**Panchayath**

House Hold plastic waste collected as per the guidelines of SuchithwaMission .

**Payyoli**  
**Municipality**

One temporary MCF exist & 18 mini MCF under construction.Construction of permanent MCF going on. To be complete by September 2022

**Thurayur Grama**  
**Panchayath**

House hold plastic waste collected as the guideline of Suchitwa mission

**Kuttyadi Grama**  
**Panchayath**

Report attached

Water quality monitoring result for the month of October 2020 is attached as **Annexure-4**

**Chakkittapara**  
**Panchayath**

No details available

Same as Item no. 5.1(v) Biomedical waste from Hospital,labs ,clinics collected through image, plastic waste disposal through recyclers.Individual solid waste processing facilities like bio gas plant, bio bins in high

(v) latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river

(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>rise building, hotels etc.Fencing proposed by irrigation department.</p> <p><b><u>Chakkittapara Panchayath</u></b> No waste dumping</p> <p><b><u>Thurayur Grama Panchayath</u></b> No waste dumping</p> <p><b><u>Kuttyadi Grama Panchayath</u></b> No waste dumping</p>
	03/2021	
(vii) ground water regulation	31/10/2023	<p><b><u>Chakkittapara Panchayath</u></b> Ground water regulation and action taken</p> <p><b><u>Thurayur Grama Panchayath</u></b> Ground water regulation and action taken</p> <p><b><u>Kuttyadi Grama Panchayath</u></b> Action taken</p>
(viii)adopting good irrigationpractices	31/10/2024	<p><b><u>Thurayur Grama Panchayath</u></b> As per the direction of Government, action will be taken</p> <p><b><u>Chakkittapara Panchayath</u></b> As per the direction of Government, action will be taken</p> <p><b><u>Kuttyadi Grama Panchayath</u></b> As per the direction of Government, action will be taken</p>

<p>(ix) protection and management of flood plain zones(FPZ),</p>	<p>31/10/2024</p>	<p>NIL</p>
<p>(x) Rain waterharvesting</p>	<p>Work in progress</p>	<p><b><u>Velom panchayath</u></b> 22527 rain water pit , well recharge – 1500 houses</p>
	<p>31/10/2024</p>	<p><b><u>Kavilumpara panchayath</u></b>well recharge – 160 houses</p>
		<p><b><u>Maruhtonkara panchayath</u></b>Well recharge- Action plan and TS approved</p>
		<p><b><u>Cheruvanoor panchayath</u></b>Well Recharge – Project in progress</p>
	<p>03/2021</p>	<p><b><u>Thurayur Grama Panchayath</u></b> Project for well water and well recharge is in progress as per the action plan of MGNREGS</p>
		<p><b><u>Chakkittapara Panchayath</u></b> Project for well water pit and well recharge adopted</p>
		<p><b><u>Kuttyadi Grama Panchayath</u></b> Project for rain water pit and well recharge adopted</p>
		<p><b><u>Kavilumpara panchayath</u></b> Adopted steps to remove sands and rock dumped durig rain flood</p>
		<p><b><u>Kavilumpara panchayath</u></b> Adopted steps to remove sands and rock dumped durig rain flood</p>
<p>(xi) Maintaining minimum environmental flowof river</p>	<p>31/10/2024</p>	<p><b><u>Kavilumpara panchayath</u></b> Adopted steps to remove sands and rock dumped durig rain flood</p>

		03/2021	<p><b><u>Maruthonkarapanchayah</u></b> 74 works ongoing under MGNREGS(RWH, soil Conservation).</p> <p><b><u>Kavilumpara panchayath</u></b> 5 works ongoing under MGNREGS for protection of river sides</p> <p><b><u>Chakkittapara Panchayath</u></b> River Originating area, Noticed environment flow</p> <p><b><u>Payyoli Municipality</u></b>Rejuvenation/cleaning of Naivaranithodu by removing slit and other solid wastes-Work in Progress</p> <p><b><u>Thurayur Grama Panchayath</u></b> River originating area , Noticed environmental</p> <p><b><u>Kuttyadi Grama Panchayath</u></b> Rain water storage pits provided to house.</p>
(xii) Plantation on bothsides of theriver		03/2021	<p><b><u>Chakkittapara Panchayath</u></b> Bamboo planting will be done in MGNREGS</p> <p><b><u>Thurayur Grama Panchayath</u></b> Bamboo planting will be done only by the direction of governing council</p> <p><b><u>Kuttyadi Grama Panchayath</u></b> Bamboo and Ramacham planted on</p>

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

## ACTION PLAN FOR RIVER KUTTIYADI, KERALA

### KuttyadiGrama Panchayath

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month ofAPRIL 2022	Progress in the month of MAY 2022	Progress in the month of JUNE 2022	Progress in the month of JULY2022	% works completed	Details of works remaining
D	Geo textiles at river bed	MGNREGS	31.03.201 8	75%	90%	100%	100%	100%	Completed
E	Haritha sahayastapana agreement	Kuttyadi Grama Panchayath	31.03.202 0	Completed	Complete d	Complete d	Completed	100%	Agreement signed with south side Resource Managemen t
C(ii)	Removal of Non bio degradable waste	Kuttyadi Grama Panchayath	31.03.202 0	Completed	Complete d	Complete d	100%	100%	Completed
C(ii)	Clean green kuttyadi	Kuttyadi Grama Panchayath	31.03.202 0	99%	99%	100%	100%	100%	Plastic collection from home  Completed
A(b)	Community toilet	Suchitwa mission	31.03.202 0	100%				100%	Completed

C(ii)	MRF	Block panchayath	31.03.2020	Nil	Nil	Nil	Nil	Nil	Completed
C(ii)	MCF	Kuttyadi Grama Panchayath	31.03.2019	100%				100%	Completed
A(b)	Sanitary latrine	Kuttyadi Grama Panchayath	31.03.2019	Nil	50%	50%	50%	95%	5%
B(ii)	Well recharging	MGNREG	31.03.2019	Nil	Nil	Nil	Nil	Nil	Nil
E	Camera surveillance	Kuttyadi Grama Panchayath	completed					100%	completed
E	Rejuvenation of Kuttyadi river	MGNREGS	31.03.2020	Nil	50%	50%	50%	75%	25%
C(ii)	Disposal of non degradable bio waste	Kuttyadi Grama Panchayath	31.03.2020	98%	99%	99%	99%	99%	Collection for MCF
E	Clean Village	Kuttyadi Grama Panchayath	31.03.2020	95%	98%	99%	99%	99%	1%
C(ii)	MRF	Block Panchayat	31.03.2020	Na	Na	Na	Na	100%	completed
C(ii)	MCF	Kuttyadi Grama Panchayath	31.03.2020	100%	100%	100%	100%	100%	completed
C(ii)	Retrofitting	Kuttyadi Grama Panchayath	31.03.2020	96%	98%	100%	100%	100%	Nil



## Velam Grama Panchayath

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of APRIL 2022	Progress in the month of MAY 2022	Progress in the month of JUNE 2022	Progress in the month of JULY 2022	% works completed	Details of works remaining
C(ii)	Govardhian Biogas plant	Velam GP	31.03.2020					40	Well, Road
C(ii)	MCF	Suchitwa mission	31.03.2020					90	Well, Water
C(ii)	Biogas plant 50 No.s	Suchitwa mission	31.03.2020						
B(ii)	Well recharge 1500 houses	MGNREGS	31.03.2020						Nil
	Installation of Biogas plant for individual beneficiaries	Socio Economic unit Foundation	31.12.2019					6	0
C(ii)	Installation of Ring compost	Socio Economic unit Foundation	31.12.2019					11	0
C(ii)	Making compostpit	MGNREGS	31.0.2020	4	5				20

## Maruthomkara Grama Panchayath

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of APRIL 2022	Progress in the month of MAY 2022	Progress in the month of JUNE 2022	Progress in the month of JULY 2022	% works completed	Details of works remaining
C(ii)	MRF	Block panchayath	2019-2020	Completed	Completed	Completed	Completed	100%	Completed
C(ii)	Biogas plant	Maruthomkara GP	2019-2020	Completed	completed	Completed	Completed	100%	Completed
B(ii)	Well recharge	Maruthomkara GP	2019-2020	Completed	completed	Completed	Completed	100%	160 Completed
A(b)	Sanitary complex	Maruthomkara GP	2019-2020	Completed	completed	Completed	Completed	100%	Concrete Completed
E	Haritha sahayathapana agreement	Maruthomkara GP	2019-2020	Completed	completed	Completed	Completed	100%	Completed
	Biobin for home	Maruthomkara GP	2021-2022		Completed	Completed	Completed	100%	
	Nidival River Cleaning	Maruthomkara GP	2021-2022		Completed	Completed	Completed	100%	
C(ii)	Biogas plant	Maruthomkara GP	31.03.2020						
A(b)	Sanitary Complex	Maruthomkara GP	31.03.2020						

## Perambra Grama Panchayat

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of APRIL 2022	Progress in the month of MAY 2022	Progress in the month of JUNE 2022	Progress in the month of JULY 2022	% works completed	Details of works remaining
E	Haritha sahayasthapan a agreement	Perambra grama panchayath	31.03.2020	HSS identified	HSS identified	HSS identified	HSS identified		
C(ii)	Solid waste removal	Perambra grama panchayath	31.03.2020	90%	completed	completed	completed	completed	Fortnight collection of non biodegradable waste from houses is being continued
C(ii)	Zero waste Perambra	Perambra grama panchayath	31.03.2020	Completed	Completed	Completed	Completed	100%	
A(b)	Publictoilet	Perambra grama panchayat	31.07.2019	Commissioned	Commissioned	Commissioned	Commissioned	100%	
C(ii)	MCF	Perambra grama panchayat	31.10.2019	Commissioned	Commissioned	Commissioned	Commissioned	95%	Electrification tender

# Kavilumpara Grama Panchayath

No. (as per Action Plan).	Activity	Implementing agency	Time line	Progress in the month of APRIL 2022	Progress in the month of MAY 2022	Progress in the month of JUNE 2022	Progress in the month of JULY 2022	% works completed	Details of works remaining
E	Haritha sahayasthapana agreement	Kavilumpara GP	30.03.2023	Completed	Completed	Completed	NA	100% Completed	NA
C(ii)	Collection of non-biodegradable waste	Kavilumpara GP	30.03.2023	1.5 ton	Collected	Collected	Collected	100 % Completed	
C(ii)	MCF	Kavilumpara GP	30.03.2023	Completed	Completed	Completed	Completed	100% Completed	NA
B(ii)	Well recharge	MGNREGS	30.03.2023	Work Started	Application Nil	Application Nil	Application Nil	NIL	Work Started
D	River cleaning	Kavilumpara GP	30.03.2023	Completed	NA	NA	NA	100%	

## Chakkittapara Grama Panchayath

No.(as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of APRIL 2022	Progress in the month of MAY 2022	Progress in the month of JUNE 2022	Progress in the month Of JULY2022	% works completed	Details of works remaining
D	Removal of pebbles dumped if any	MGNREGS	31.03.2020	Nil	Nil	Nil	Nil		Nil
E	Harithasahayastapana agreement	ChakkittaparaGramaPanchayath	31.03.2020	Completed	Completed	Completed	Completed	100%	Nil
C(ii)	Removal of Non bio degradable waste	ChakkittaparaGramaPanchayath	31.03.2020	Completed	Completed	Completed	Completed	100%	Nil
A(b)	Community toilet	Suchitwa mission	31.03.2020					100%	Nil
C(ii)	MCF	ChakkittaparaGrama Panchayath	31.03.2020					100%	Nil
A(b)	Sanitary latrine	ChakkittaparaGrama Panchayath	31.03.2020	86.5%	86.6%	86.6%	86.6%	86.6%	
B(ii)	Well recharging	MGNREG	31.03.2020	38.4%	38.4%	38.4%	38.4%	38.4%	
E	Rejuvenation of	MGNREGS	31.03.2020	Nil	Nil	Nil	Nil	Nil	Nil

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

## CheruvannurGramapanchayth

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of APRIL 2022	Progress in the month of MAY 2022	Progress in the month of JUNE 2022	Progress in the month of JULY 2022	% works completed	Details of works remaining
E	Haritha SahayaSthapan a agreement	Cheruvannur GP	31.03.2020	Functioning properly	Functioning properly	Completed	Completed	100%	Nil
C(ii)	Collection of plastic waste	Cheruvannur GP	31.03.2019	Functioning properly	Functioning properly	Completed	Completed	100 %	Nil
A(b)	Repairing of households toilets	Cheruvannur GP	31.03.2020	Na	NA	Completed	Completed	100%	Nil

A(b)	Construction of Community toilet at Nirappam Stadium	Cheruvannur GP	31.03.2020	WORK PROGRESS	WORK PROGRESS	WORK PROGRESS	Completed	100%	Nil
B(ii)	Well recharging	Grama panchayath & MGNREGS	31.03.2019	COMPLETE D	COMPLETE D	COMPLETE D	COMPLETE D	100%	Nil
A(b)	Latrine Construction	Grama panchayath & MGNREGS	31.03.2019	NA	NA	Completed	Completed	100%	Nil
new	Take a break toilet cum relaxation centre	Cheruvannur GP	31.03.2022	TS Accorded	Work Completed	Part bill paid.Finishin g work ongoing	Part bill paid.Finishin g work ongoing	95%	Nil
new	Thumburmoozhi Aerobic bin compost	Cheruvannur GP	31.03.2021	TS Accorded				0	Constructio n on work

## Koorachund Grama Panchayat

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of APRIL 2022	Progress in the month of MAY 2022	Progress in the month of JUNE 2022	Progress in the month of JULY 2022	% works completed	Details of works remaining
	Setting up of MCF	Koorachund GP	31/06/2022	Roof completed	completed	Ongoing	Ongoing	95%	Ongoing
	Collection of non degradable waste	Koorachund GP harithakarma sena	Throughout the year	Collected	collected	collected	collected	100%	Ongoing
	Transportation of waste material	Green worms	Throughout the year	Ongoing	ongoing	ongoing	ongoing	90%	Ongoing
896	Renewal/construction of public toilet Take a Break	Koorachund GP MGNREGS	31/09/2022	Roof completed	ongoing	ongoing	ongoing	90%	Ongoing
859	Brook cleaning	Koorachund GP MGNREGS	31/05/2022	Ongoing	ongoing	ongoing	ongoing	80%	Ongoing
1211	Setting up of mini MCF	Koorachund GP MGNREGS	31/09/2022	Ongoing	ongoing	ongoing	ongoing	65%	Ongoing
199	Well recharge	Koorachund GP MGNREGS	Throughout the year	Progress in the month of January 2021				65%	Ongoing
	Cleaning of AthiyodithoduTheleineerozhukumNavakeralam	Koorachund GP MGNREGS	31/05/2022			Ongoing	Ongoing	50%	Ongoing



## Thiruvallur Grama Panchayat

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of APRIL2022	Progress in the month of MAY 2022	Progress in the month of JUNE 2022	Progress in the month Of JULY 2022	% works completed	Details of works remaining
1	drainage cleaning	Thiruvallur GP	2020-21	Completed	Completed	Completed	Completed	100%	Nil
2	harithasahayasthabana agreement	Thiruvallur GP	2020-21	Completed	Completed	Completed	Completed	100%	Nil
3	Removal of non bio degradable waste	Thiruvallur GP	2020-21	Completed	Completed	Completed	Completed	100%	Nil
4	Community toilet	suchitwamission	2020-21	nil	nil	Nil	Nil		Project will be prepared after election
5	MCF	Thiruvallur GP	2020-21	started	Not started	Started	Started		Due to social assault work temporarily stopped.MCF functioning in a rental building

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

# Thurayur Grama Panchayat

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of APRIL 2022	Progress in the month of MAY 2022	Progress in the month of JUNE2022	Progress in the month of JULY 2022	% works completed	Details of works remaining
	Removal of pebbles dumped if any	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	Haritha sahayasthabana agreement	Thurayur GP	31.03.2020	Completed	Completed	Completed	Completed	100%	Nil
	Removal of non bio degradable waste	Thurayur GP	31.03.2020	Completed	Completed	Completed	Completed		Nil
	Community toilet	SUCHITWA MISSION	31.03.2020	Nil	Nil	Completed	Completed	100%	DPC approved after technical sanction and tender is under process
	MCF	Thurayur GP	31.03.2020			Completed	Completed	100%	basement completed
(b)	Sanitary latrine	Thurayur GP	31.03.2020	Nil	Nil	Nil	Nil	Nil	
li )	Well recharge	MGNREGS	31.03.2020	Nil	Nil	Nil	Nil	Nil	
	Rejuvation of kuttiadi river	MGNREGS	31.03.2020	Nil	Nil	Nil	Nil	Nil	
	Disposal of non degradable bio waste	Thurayur GP	31.03.2020	60%	70%	70%	Completed	Completed	Collection directly from houses
	Clean village	Thurayur GP	31.03.2020	Nil	Nil	Nil	Completed	Completed	
li )	MCF	Thurayur GP	31.03.2021					partial	Basement completed

## Maniyur Grama Panchayat

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of APRIL 2022	Progress in the month of MAY 2022	Progress in the month of JUNE 2022	Progress in the month of JULY 2022	% works completed	Details of works remaining
15	innovation of canals	MGNREGS	2020-21	15 Canals innovation completed	15 canals innovation completed	15 canals innovation completed	15 canals innovation completed	100%	Nil
68	innovation of streams	MGNREGS	2020-21	17 streams innovation completed	17 streams innovation completed	17 streams innovation completed	17 streams innovation completed	25%	51
2	innovation of streams	Maniyur GP	2020-21	2 streams innovation completed	2 streams innovation completed	2 streams innovation completed	2 streams innovation completed	100%	Nil
21	building up of mini MCF	MGNREGS	2020-21	Work of 6 mini MCF completed	Work of 7 mini MCF completed	Work of 9 mini MCF completed	Work of 9 mini MCF completed	43%	12
21 wards	collection of non bio degradable waste	HarithakarmasenaManiyur GP	2022-23	waste in five wards was removed in December month 2020	waste in five wards was removed in December month 2020	waste in 19 <sup>th</sup> wards was removed in February month 2020	Plastic waste in five wards was removed in April month 2022	23%	Plastic waste in 16 wards
	Well recharge	MGNREGS	2020-21					86%	1

220	Construction of soak pit	MGNREGS	2021-2022				10 Soakpits construction completed	4.5%	NIL
36	Innovation of Streams	MGNREGS	2021-2022				36 Streams Innovation completed	100%	NIL
22	Construction Mini MCF	MGNREGS	2020-21 2021-22				Works of 22 mini MCF completed	100%	NIL

## CHANGAROTH GRAMAPANCHAYATH

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of APRIL 2022	Progress in the month of MAY 2022	Progress in the month of JUNE 2022	Progress in the month of JULY 2022	% works completed	Details of works remaining
C(ii)	Setting up of MCF	Changaroth GP	Sep-19	Completed	Completed	Completed	Started procedure acquire land from irrigation department	Completed	Completed
C(ii)	Collection of non-biodegradable waste	Haritha karma sena	throughout the year	-	175kg	300kg	275kg	-	-

C(ii)	Bio gas plants for house hold	Changaroth GP	Nov-19	Completed	Completed	Completed	100%	100%	Completed
C(ii)	Ring compost unit	Changaroth GP	Dec-19	Completed	Completed	Completed	Completed	100%	Completed
C(ii)	Plastic shredding unit	Changaroth GP	Mar-20	Dropped	Dropped	Dropped	Dropped	Dropped-	Dropped
A(b)	House hold sanitary units	Changaroth GP	Jan-20	Ongoing	99%	99%	99%v	-	ongoing
C(ii)	Transportation of waste material to refinement unit	Changaroth GP	Sep-19	Completed	Completed	Completed	Completed	Completed	ongoing
C(iii)	Bamboo Cultivation river banks	MGNREGS	31.03.2020	No progress	No progress	No progress	No progress	canceled	Unavailability of bamboo plants

## PAYYOLI MUNICIPALITY

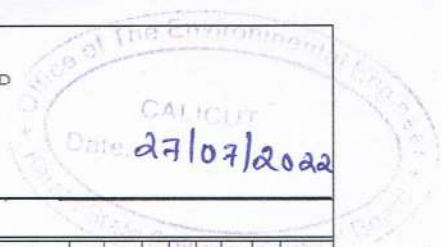
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of APRIL 2022	Progress in the month of MAY 2022	Progress in the month of JUNE 2022	Progress in the month of JULY 2022	% works completed	Details of works remaining
	Included in the watershed area based development master plan.A municipal level committee formed for monitoring	Payyolimunicipality,Irrigation department	31.12.2021	Preparing the estimate	Preparing the estimate	Preparing the estimate	Preparing the estimate	NA	Work in progress

	Establishment of 2000units of ring compost	Payyoli municipality	31.03.2021	NA	NA	NA	NA	NA	Work in progress
	Establishment of 500 units of bio gas plant	Payyoli municipality	31.03.2021	NA	NA	NA	NA	NA	Work in progress
	Establishment of 5000units of bio bin	Payyoli municipality	31.03.2021	NA	NA	NA	NA	NA	Work in progress
	A contract agreement has been signed between municipality and fresh cut organic pvt ltd, arentering plant functioning at Ambayathode, Thamarassery for the scientific treatment of chicken stall waste generated	Fresh cut organic pvt ltd	04.09.2020	100% chicken waste collected	100% chicken waste collected	100% chicken waste collected	100% chicken waste collected	100%	Completed
	Implementation of green protocol	Payyoli municipality	30.06.2020	Completed	Completed	Completed	Completed	100%	Completed
	Rejuvation/cleaning of Naivaranithodu by removing slit and other solid wastes	Payyoli municipality	31.3.2021						Work in progress
	Collection of plastic/non bio degradable household waste	Harithakarmasena	Ongoing	Collection started in 13wards	Collection started in 13wards	Collection started in 13wards	Collection started in 13wards	25%	NA
	Action taken against littering in public places	Payyoli municipality	Continuing	20notice issued.Fined -Rs.30190/-	20notice issued.Fined - Rs.30190/-	20notice issued.Fined - Rs.30190/-	20notice issued.Fined - Rs.30190/-		NA

## Irrigation Department

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





**ANALYSIS REPORT OF RIVER WATER**

<b>Report No.</b>	<b>K R O R 4 3 9 5 / 1 to 5</b>										<b>Date:</b>	<b>2 7 0 7 2 0 2 2</b>					
Date of Sample Collection	0 2 0 7 2 0 2 2										Date of receipt of the sample	0 2 0 7 2 0 2 2					
											Time	Hours: 1 7 : 0 0					
Sampled by:	RL ,KKD										Sample ID	KL1, KL2, KL3, KL5,& KL6					
Sampling Method	APHA1060B,a										Sample Lab Code	KROS4395/1-5					
Sample container	PC 2.5 L										Ref.letter No.	PCB/KKD/DO/ Polluted River Stretch/2018 Vol. IV, Dated 04.07.2022					
Source:	KALLAI RIVER WATER										Received from:	EE,DO,KKD					
Sp.cific sampling location:	GIVEN BELOW										Period of analysis:	02.07.2022-26.07.2022					
											No. of samples	5					
											Analysed by:	BRS/CVR/CNR					
Sample preservation:	Ice box										Method:Standard Methods for the examination of Water and Wastewater, APHA AWWA WEF (22 <sup>nd</sup> Ed.)						

Sl no	Parameters	unit	Method No.	SAMPLE ID				
				KL 1	KL 2	KL 3	KL 5	KL 6
1	pH	-	APHA 4500-H+,B	6.78	7.01	6.96	7.15	7.93
2	CONDUCTIVITY	µmhos/cm	APHA 2510B	243.3	522.5	578.6	19690	45650
3	BOD	mg/L	IS3025 (Part 44)	0.86	1.13	1	1.93	1.53
4	DISSOLVED OXYGEN	mg/L	APHA 4500-O,C	4.9	2	2.3	4.6	7.06
5	TOTAL COLIFORM,	CFU/100ml	APHA 9222B	4800	90000	80000	90000	1200
6	FECAL COLIFORM	CFU/100ml	APHA 9222D	4000	70000	60000	70000	800
7	FECAL STREPTOCOCCUS	CFU/100ml	APHA 9230 C	300	100	1200	1700	400
8	TEMPERATURE	°C	APHA 2550B	27	27	27	26	28

Test method variation: None

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

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

*DEI/GER*

*OA 673 /PRS*

*SA  
27/7/22*

*2376  
27/7/2022*

*Rakhi*  
 27.07.2022  
 Scientist in charge



KERALA STATE POLLUTION CONTROL BOARD

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

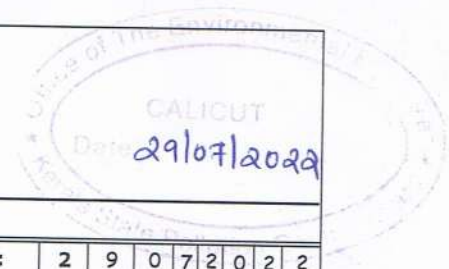
കേരളപ്പൊതു റിജ്യണൽ ലബോറട്ടറി

REGIONAL LABORATORY, KOZHIKODE

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

Telephone: 2300745, 46, 47

www.keralapcb.org



ANALYSIS REPORT OF RIVER WATER

<b>Report No.</b>	<b>K R O S 4 4 1 7 / 1 to 8</b>	<b>Date:</b>	<b>2 9 0 7 2 0 2 2</b>
Date of Sample Collection	2 3 0 7 2 0 2 2	Date of receipt of the sample	2 3 0 7 2 0 2 2
Sampled by:	RL ,KKD	Time	Hours: 1 7 : 0 0
Sampling Method	APHA1060B,a	Sample ID	DS1,DS2,DS3,DS4,DS5,DS6.D S7 & DS8
Sample container	PC 2.5 L	Sample Lab Code	KROS 4417/1-8
Source:	KUTTYADI RIVER WATER	Ref.letter No.	PCB/KKD/DO /Polluted River stretch/2018 Vol IV, Dated 26.07.2022
Specific sampling location:	GIVEN BELOW	Received from:	EE,DO,KKD
Sample preservation:	Ice box	Period of analysis:	23.07.2022-29.07.2022
		No. of samples	8
		Analysed by:	BRS/CVR/CNR
		Method:Standard Methods for the examination of Water and Wastewater, APHA AWWA WEF (22 <sup>nd</sup> Ed.)	

Sl no	Parameters	unit	Method No.	SAMPLE ID							
				DS1	DS2	DS3	DS4	DS5	DS6	DS7	DS8
1	pH	-	APHA 4500-H+,B	6.79	6.61	6.67	6.98	6.94	6.71	6.38	6.22
2	CONDUCTIVITY	µmhos /cm	APHA 2510B	33.98	28.72	36.4	28.26	25.06	37.98	44.59	31.25
3	BOD	mg/L	IS3025 (Part 44)	0.6	0.1	0.3	BDL	BDL	0.3	0.4	0.2
4	DISSOLVED OXYGEN	mg/L	APHA 4500-O,C	8.4	8.4	7.7	8.9	8.3	7.7	7.06	8.2
5	TOTAL COLIFORM,	CFU/100ml	APHA 9222B	4000	2400	3200	1000	300	2500	4500	9000
6	FECAL COLIFORM	CFU/100ml	APHA 9222D	3000	2300	3100	950	200	2300	4300	8500
7	FECAL STREPTOCOCCUS	CFU/100ml	APHA 9230 C	200	NIL	100	NIL	NIL	NIL	NIL	400
8	TEMPERATURE	°C	APHA 2550B	28	27	26	27	26	28	27	27

Test method variation: None

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

*Devi*  
 29.07.2022  
 Scientist in charge

PRS JB  
 OA 6735  
 ACI  
 HEA  
 1/8/22

**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 KAVVAYI, KANNUR**

<b>S. No.</b>	<b>Activity to be monitored</b>	<b>Timeline</b>	<b>Submission of progress by State/UT- Compliance status</b>
1	Ensure 100% treatment of sewage at least in-situ remediation		All houses and establishments have their own disposal facility
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured		No STP proposal
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning	31.03.2022	Some of the works in action plan is completed already and some are ongoing as informed by local bodies
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none"><li>• Specifying accountability of nodal authorities not below the Secretary level</li><li>• Chief Secretaries may have an accountable person attached in their office for this purpose</li></ul>		
	<ul style="list-style-type: none"><li>• Monitoring at State level must take place</li></ul>		
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none"><li>• Secretary, Ministry of Jal Shakti</li></ul>		

	<ul style="list-style-type: none"><li>• Member Secretary,CPCB</li></ul>		
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6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&amp;D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u>  Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management &amp; Details of</u></p>	<p><b><u>RAMANTHALI</u></b>  There are 5 natural drains meeting the river, all cleaned.</p> <p>RRF at block level</p> <p>Lab analysis reported by KSPCB is attached</p>
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	<p><u>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>(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</p>		<p>Implementing in all households as per KPBR rules</p>
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	removing encroachment		
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## ACTION PLAN FOR RIVER KAVVAI, KERALA

<b>Action Plan of LocalBody</b>								
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2020	Progress in the month of August 2021	Progress in the month of JULY 2022	% works completed	Details of works remaining
A (b)	Sanitation Facility Septage treatment facility shall be provided by Local Bodies in various places.	Payyannurmunicipality		NIL	NIL	NIL	NIL	Sewage Treatment Plant –DPR Prepared. Waiting for the approval of Suchitwa mission
C(ii)	Biodegradable waste disposal  Bio bins ( 2061) Pit Compost (10992) Bio gas Plant (687)	PayyannurMunicipality	2022	0	0	0	100%	Project implementation in progress
A(b)	Non-biodegradable Waste Disposal MCF and RRF	PayyannurMunicipality	2022					MCF and RRF in action



E	Awareness Youth, Asha workers and other stake holders and HarithasahayaSamithi	PayyannurMunicipality	Ongoing project					Ongoing
E	Installation of CCTV cameras at major points	Kankol	2019	Got 1 CCTV By sponsorship and installation in progress	Not reported	CCTV Not installed		
C(ii)	Biodegradable waste disposal  Bio bins, Pit Compost, Bio gas Plant(2460 Nos)	Kankol	Ongoing	completed	completed			
A(b)	Non-biodegradable Waste Disposal MCF	Kankol	Ongoing project	completed	completed			
E	Awareness Youth, Asha workers and other stake holders	Kankol	Once in a month	completed	completed			
A (b)	Sanitation Facility in markets	Ramanthali GP	2020	Available	Available	Available	100%	

A(b)	Non-Biodegradable waste disposal MCF	Ramanthali GP	2020	No	No	Yes	100%	On 09/2020 onwards waste collecting and transferred to MCF
A (b)	Drain Cleaning and side protection	Ramanthali GP	2022	Done	Done	Done	100%	There are 5 natural drains meeting the river, all cleaned
E	Renovation of Ponds & Construction of Platform to openwell (Implementation of Map of Kavvayi Wetland system of Northern Kerala)	Thrikkaripur - CWRDM	2019					
<b>Action Plan by Irrigation Department</b>								
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of May 2022	Progress in the month of June 2022	Progress in the month of July 2022	% works completed	Details of works remaining
E	Desilting and rejuvenation of NarangaThodu in	Irrigation Department	2020		DPR submitted for FS approval (Amount 5.40 Lakhs)			

	Payyannur Municipality				
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1. Proper awareness among the inhabitants in the area is to be given for protecting the water bodies. Basic training for the people at the grass root level is to be provided for river management. All efforts for maintaining the quality of water bodies may be done by the Panchayat/Municipal authorities only with people's participation.
2. The nearby gramapanchayath and municipalities are mainly responsible for not providing municipal waste collection and treatment facilities in the locality. So they must be instructed to provide the required facility for scientific disposal of municipal solid waste as per the MSW rules 2016. The citizens as well as the municipal/gramapanchayath authorities need to be aware of the importance of scientific disposal of waste generated. Their attitude towards handling waste has to be changed. Reducing waste, recovering recyclable materials, return of nutrients to the eco system as well as generation of energy from waste are to be practiced. There has to be a valid scheme for collection, segregation, transportation, processing and safe disposal of waste by the authorities. For this affordable and viable waste to energy conversion technologies apart from conventional composting is to be implemented by the municipalities seeking technical expertise.
3. Propagation of vegetative cover in water shed will reduce soil erosion and enhance percolation of rain water into the sub surface. In downstream stretches where the river is saline, propagation of mangroves are essential.
4. Strict monitoring from the part of implementing as well as monitoring agencies is required for effective functioning of waste treatment facilities in waste generating units.
5. The practice of waste dumping into the river is to be prevented legally and strict action against this practice is to be adopted at panchayath and municipality level.

6. Re-survey of the river boundaries throughout the entire stretch is to be done urgently so as to prevent encroachment of the river.
7. The municipalities as well as the panchayaths are to be directed to provide proper waste management facilities of their own. All towns and cities must have Sewage Treatment Plants (STPs) that clean up the sewage. Facility for collection, segregation, transport, processing and scientific disposal of waste generated are to be provided by the local authorities in strict adherence to the Municipal Solid Waste Management Rules, 2016. For this, affordable and viable waste to energy conservation technologies apart from conventional composting is to be implemented seeking technical expertise.
8. Strict monitoring from the part of implementing as well as monitoring agencies is required for effective functioning of waste treatment facilities in waste generating units. The riverine stretches are to be monitored periodically at identified locations for water quality assessment.
9. Modern agricultural practices and technologies introduce the use of inorganic fertilizers with Nitrogen, Phosphorous, Potash and inorganic pesticides in farm lands and play important role in the river pollution. These may concentrate into the water body through run off causing algal blooms by which whole stretch of water become choked. Fertilizers and chemicals application in agricultural lands are to be strictly under technical expertise.
10. Rain water recharging measures must be adopted.
11. Eco tourism and water tourism projects are to be designed giving due importance for protecting the environment. The activities are to be organized in such ways which do not induce any types of pollution to the water body. Strict monitoring from the concerned authorities are recommended in functioning of the tourism projects.
12. Implement Green Protocol effectively in local self-governments. Prohibit littering of plastics in the area. Plastic

wastes shall be handled as per the provisions of Plastic Waste (Management and Handling) Rules,2018.

13. The existing waste water treatment facilities of Taliparamba Municipality shall be augmented in such a way so as to operate round theyear.

14. Actions shall be taken by the local bodies to clean the storm water drains. Rejuvenation of small streams, creeks leading into the river is to bedone.

15. Round the clock patrolling shall be provided so as to prevent waste dumping on public places.

## 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 KUPPAM, KANNUR**

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		Almost all residence and commercial establishments have their own insitu sewage 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		A common STP is at Taliparamba
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning	31.03.2021	
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none"><li>• Specifying accountability of nodal authorities not below the Secretary level</li><li>• Chief Secretaries may have an accountable person attached in their office for this purpose</li></ul>		
	<ul style="list-style-type: none"><li>• Monitoring at State level must take place</li></ul>		
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none"><li>• Secretary, Ministry of Jal Shakti</li><li>• Member Secretary, CPCB</li></ul>	Monthly before 20 <sup>th</sup> of every month	



<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 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</p>	<p>Pipe compost-600  Biogas plant-25  Compost pit -100  Thumboor muzhi-1</p> <p>Lab report is attached</p> <p><b><u>MADAYI</u></b>  ONGOING  <b><u>Udayagiri</u></b>  Door to door collection of biodegradable waste is collected by local body and measures for disposing biodegradable waste is practising. All existing HCF are disposing their bmw through CBMWTF</p> <p><b><u>Pattuvam</u></b>  Door to door collection of biodegradable waste is collected by local body and measures for disposing biodegradable waste is practising. All existing HCF are disposing their bmw through CBMWTF</p>
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	removing encroachment		
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## ACTION PLAN FOR RIVER KUPPAM, KERALA

Ref para no:48 as per NGT order 673/2018 dated:20.09.2018	Activity	Implementing Agency	Time of Completion	Progress in the month of December 2020	Progress in the month of August 2021	Progress in the month of JULY 2022	% works completed	Details of works remaining
<b>Udayagiri GP</b>								
A (b)	Sanitation Facility	Udaya giri GP	03/2020			Completed		
C (ii)	Biodegradable waste disposal	Udaya giri GP	Ongoing project					
C (ii)	Non bio degradable Waste Disposal	Clean kerala Company	Ongoing project					
E	Awareness	Youth, Asha workers and other stake holders	Ongoing project					
<b>Chapparappadavu GP</b>								
A (b)	Sanitation Facility	Chapparappadavu GP	06/2019		Not reported	Not reported		
C (ii)	Biodegradable waste disposal	Ward Sanitation Committee of Local Body	12/2019					
C (ii)	Non bio degradable Waste Disposal	Local body (Haritha Karma Sena)	03/2020					

E	Awareness	Youth, Asha workers and other stakeholders	03/2020 (Will extend if necessary)					
		<b>Pariyaram Panchayat</b>						
A (b)	Sanitation Facility	Pariyaram Panchayat	03/2020	298 ring compost installation going to start	Not reported	Not reported		
C (ii)	Biodegradable waste disposal		03/2022	ongoing				
C (ii)	Non bio degradable Waste Disposal	Pariyaram Panchayat	On going project					
E	Awareness	Youth, Asha workers and other stakeholders	Whenever necessary					
A (b)	Identification of illegal outlets in to drains and stoppage of the same	Pariyaram Panchayat	09/2019					
		<b>Madayi GP</b>						
A (b)	Sanitation Facility	Local Body	2022					
		Ward Sanitation	Bio bins, pit compost -2022		100 Ring compost	Order placed		

C (ii)	Biodegradable waste disposal	Committee of Local body			unit supplied	for another 96 units		
			Thumpoormuzhi = 2020			Tender approved and gave supply order		
C (ii)	Non bio degradable Waste Disposal	Haritha Karma sena	Ongoing project			ONGOI NG		
E	Awareness	Youth, Asha workers and other stakeholders	Ongoing project			ONGOI NG		
A (b)	Identification of illegal outlets in to drains and stoppage of the same	Local Body	2022					
<b>Thalipparamba Municipality</b>								
A (b)	Sanitation Facility	Municipality				Not reported		
C (ii)	Biodegradable waste disposal							
C (ii)	Non bio degradable Waste Disposal	Haritha Karma sena						
E	Awareness	Youth, Asha workers and other stakeholders	Once in a month					

		holders						
<b>Pattuvam GP</b>								
E	Awareness	Youth, Asha workers and other stake holders	Whenever necessary					
C (ii)	Removal of plastic wastes from the river bank							

#### Action Plan by Irrigation Department

Sl no	Activity	Implementing Agency	Time for completion	Progress in the month of May 2022	Progress in the month of June 2022	Progress in the month of July 2022	% works completed	Details of works remaining
1	Providing fencing on Kuppam bridge (NH) across Kuppam river at Thalipparamba in Thalipparamba Municipality	Irrigation department	2021					
2	Rejuvenation of Kuppam River - Flood plain Zone management : Construction of Marginal Earthen Bund at peringeel In Ezhome Grama Panchayath (PRICE ID : 2019/10484/IA)	Irrigation Department	2021					

3	Greenery development- Plantation plan. Plantation on both sides of the river, setting up biodiversity parks on flood plains by removing encroachment	Irrigation Department	3 years	In order to identify the land for plantation on both sides of the river, the boundary of government land should be fixed by the Revenue Department. Eviction of encroachment should be done. For the same, District collector Kannur has already been addressed from this office and subsequent bio cover works and planting trees have to be done by social forestry department	
4	Rejuvenation of Kuppam River - Maintaining E-Flow : Desilting of Kuppam river in Various Stretches in Chapparapadavu Grama Panchayath (PRICE ID : 2019/10517/IA)	Irrigation Department	3 years	<p>Initially the DPR was submitted for 30 lakhs. But as per the letter No.752755/C1/16/WRD Thiruvananthapuram dtd 30/09/2020 of the Additional Chief Secretary to Government, the estimate was recasted for an amount of 10.40 lakhs as per DSR 2016 by assessing the quantity of silt by scientific method. Since DSR 2018 was introduced, DPR was resubmitted for an amount of Rs. 12.80 lakhs for FS . The work includes desilting from Kooverikkadavu and Kattamballikkadavu.</p> <p>The “Room for River” campaign was launched to remove silt from all 44 rivers in Kerala in 2022. The work, Rejuvenation of Kuppam River - Maintaining E-Flow is coming under Rejuvenation of Kuppam river under Room for River programme. The Executive Engineer , Inland Navigation Division, Kannur was in charge of the Kuppam River.</p> <p>The work of silt removal from Kooverikkadavu is completed and was executed by the Assistant Engineer, Inland Navigation Section, Kannur. Since sand deposit was identified at Kattampallikkadavu, it was not removed under “Room for River” campaign . It should be done after sand audit and the procedure should be followed and it cannot be executed as a work by tender method. So this work may be treated as completed.</p>	

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### Combined ActionPlan

	<b>Proposed action</b>	<b>Agency</b>	<b>Timeline</b>	Progress in the month of December 2020	Progress in the month of January 2021	Progress in the month of February 2021	% works completed	Details of works remaining
1	Providetoilets to residences with treatment and disposal system for sewage and sullage	Local Body						
2	Construction of new community toilets with treatment system	All local bodies SuchitwaMission, Revenue department	Proposed Construction Of new community Toilet at satellite points on the bank ofriver					
3	Entry of rain water and rain water recharging to all channels and drain	All local bodies , Kerala Water Authority	Drains are inspected before rain and all channels and stream are cleaned once in a year					
4	Sanitary facility in hotels (around 7) one hospital,Establishments situated in the ward for the segregation, treatment and disposal of solid wastes as per SolidWastesManagementRules,2016	Pollution Control Board ,Health department	Check they have board consent and sanitation facility is provided					
5	Adequate number of kitchen bins shall beprovided	Municipalities and local bodies	One project year					
6	Providing proper waste handling facility. For wastewater and solid wastes	Local body	One project year					



7	Rendering plant for poultry wastes	Local body	As per their project and fund availability					
8	Slaughter house waste disposal facility	Local body	One common slaughter house for 3 to 4 local body					
9	Strict monitoring of disposal of waste(sewage, sullage, degradable waste, non-biodegradable waste) surveyed area and also in the catchment of theriver i)Verify Whether consent to operate of the Board exists	Pollution Control Board	Six months					
10	Sanitation survey is to be conducted for 100m on either sides of the other parts of polluted stretch if any located nearby	Pollution Control Board	Six months					
11	Awareness for residence association:	Suchitwamission/L SGD/Corporation	Once in a month					

### **Action Plan by Ground Water Department**

Sl.No	Ref para no:48 as per NGT order 673/2018 dated:20.09.2018	Activity	Progress in the month of December 2020	Progress in the month of January 2021	Progress in the month of February 2021	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks					

2	B(ii)	Ground water recharging / rain water harvesting					
3	B(iii)	Periodic ground water quality assessment and remedial actions in case of contaminated ground water tube wells/bore wells or hand pumps					
4	B(iv)	For regulating use of ground water for irrigation purpose, adopting good irrigation practices					



## National Mission for Clean Ganga

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

### **RIVER PERUVAMBA, KANNUR**

<b>S. No.</b>	<b>Activity to be monitored</b>	<b>Timeline</b>	<b>Submission of progress by State/UT- Compliance status</b>
1	Ensure 100% treatment of sewage at least in-situ remediation		All houses and establishments have their own disposal facility
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured		No STP Proposal
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning	31.03.2022	Some of the works in action plan is completed already and some are ongoing as informed by local bodies.
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none"><li>• Specifying accountability of nodal authorities not below the Secretary level</li><li>• Chief Secretaries may have an accountable person attached in their office for this purpose</li></ul>		
	<ul style="list-style-type: none"><li>• Monitoring at State level must take place</li></ul>		
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none"><li>• Secretary, Ministry of Jal Shakti</li></ul>		

	<ul style="list-style-type: none"><li>• Member Secretary,CPCB</li></ul>		
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<p>6.1 Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&amp;D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u>  Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management &amp; Details of Processing Facilities</u>  Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in</p>	<p><b><u>RAMANTHALLI</u></b></p> <p>There are 5 natural drains meeting the river, of which 3 drains cleaned.</p> <ol style="list-style-type: none"> <li>1. Parappa Thodu (Ward 6)- 1 Km.</li> <li>2. Chennakki Thodu (Ward 8) – 1.3 Km.</li> <li>3. Kallayi Thodu (Ward 3&amp;4) – 1 Km.</li> </ol> <p>Two are partly cleaned and the cleaning work is in progress.</p> <ol style="list-style-type: none"> <li>1. Manthan Thodu (Ward 6) -1 Km</li> <li>2. Ambachikundu Thodu (Ward 15) – 500 M  (The work is slowly ongoing due to the higher level of water in stream, 40% Completed)</li> </ol>
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	<p>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>(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 PERUVAMBA, KERALA

<b>Action Plan of LocalBody</b>								
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2020	Progress in the month of August 2021	Progress in the month of JULY 2022	% works completed	Details of works remaining
A(b)	Sanitation Facility  STP proposed at market place	PayyannurMunicipal ity	2021	nil	nil	nil	nil	Sewage Treatment Plant –DPR Prepared. Waiting for the approval of Suchitwa mission
C(ii)	Biodegradable waste disposal  Bio bins ( 2061) Pit Compost (10992) Bio gas Plant (687)	PayyannurMunicipa lity	2020	0	0	0	80%	Project implementat ion in progress
C(ii)	Non biodegradable Waste Disposal MCF and RRF	PayyannurMunicipa lity	Ongoing				1	MCF & RRF in function
E	Awareness  Youth, Asha workers	PayyannurMunicipa lity	Ongoingproj ect	90%	100%	100%	ongoi ng	Completed



	and other stake holders and HarithasahayaSamithi							
A(b)	Sanitation Facility Scientific Septic Tank and Soak pit	Kunhimangalam Panchayath	2019		Not reported	-		
C(ii)	Biodegradable waste disposal Bio bins, Pit Compost, Bio gas Plant	Kunhimangalam Panchayath	Every year project					
C(ii)	Non biodegradable Waste Disposal MCF	Kunhimangalam Panchayath	Ongoing project					
E	Awareness Youth, Asha workers and other stake holders	Kunhimangalam Panchayath	Once in a month					
E	Side wall protection of drains	Kunhimangalam Panchayath	12/2019					
E	Installation of CCTV cameras at major points	Kankol Alappadamba GP	2019					
C(ii)	Biodegradable waste disposal Bio bins, Pit Compost, Bio gas	Kankol Alappadamba GP	Ongoing					

	Plant (2460 Nos)							
C(ii)	Non Biodegradable waste disposal MCF	Kankol Alappadamba GP	Ongoing					
E	Awareness Youth, Asha workers and other stake holders	Kankol Alappadamba GP	Once in a month					
A(b)	Sanitation Facility No markets and houses on the bank	Ramanthali GP		Available	Available	Available	80%	
C(ii)	Non Biodegradable waste disposal  MCF and sending to RRF	Ramanthali GP	2020	no	Yes	yes	100%	
E	Drain Cleaning and Side protection	Ramanthali GP	2022	Done	Done	Done	100%	
E	Awareness Youth, Asha workers and other stake holders	Ramanthali GP	2022	Done	Done	Done	100%	
C(ii)	Bio degradable waste disposal Ring Compost – 1000 Nos Compost Pit – 2000 Nos Biogas Plant – 100	Ramanthali GP	2022	Ring Compost-100 Compost Pit –	Ring Compost-100 Compost Pit –	Ring Compost-290 Compost Pit –	100%	

	Nos			15 Biogas Plant- 10	0 Biogas Plant – 0	0 Biogas Plant – 0		
<b>Action Plan by Irrigation Department</b>								
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of May 2022	Progress in the month of June 2022	Progress in the month of July 2022	% works completed	Details of works remaining
E	Providing fencing on Perumbabridge (NH) across Perumbariver at Payyannur in Payyannur Municipality	Irrigation department	2021	Initially the DPR submitted for 22lakhs. But as per the letter No.752755/C1/16/WRD Thiruvananthapuram dtd 30/09/2020 of the Additional Chief Secretary to Government, the estimate was recasted with items in DSR instead of observed data items. So the estimate prepared as per DSR 2016 and DPR submitted for FS for an amount of 20.5 Lakhs. Now the new estimate prepared as per DSR 2018 and DPR submitted for FS Rs.26.20 lakh				
E	Desilting and reconstruction of salt water exclusion cross bar across perumbathodu in Payyannur Municipality  MI Class II Plan fund	Irrigation Department	2021	The flow in the perumbathodu is contaminated with the waste from payyanur market and its surroundings .If the existing SWECB was reconstructed and its shutters were closed , the polluted water will stagnated at the upstream side and serious environmental problems will be created. Hence at present reconstruction of SWECB is not environmentally feasible. If treatment facility is provided by local government and only fresh water releases to thodu the SWECB can be reconstructed. Hence now only desilting the thodu is included in this estimate and submitted for FS.  Hence DPR submitted for FS Rs.4.10 lakh only				

E	Desilting and repair of salt water exclusion cross bar across Koykottuvayal thodu inKunhimangalam Panchayath  State Disaster Response Fund	Irrigation Department	2020	Work completed under SDRF scheme by MI Division Kannur.
E	Regulating activities in flood plain zone, protection and management of flood plain zone Protection and management of flood plain zone for a period of 3 years with a fund of 0.50 crores	Irrigation Department		As per the observation forwarded from the government on submitted DPR vide No.757555/C1/16/WRD, dated 30.09.2020, This work shall not be considered until adequate study is conducted.
E	Greenery development-Plantation plan. Plantation on both sides of the river, setting up biodiversity parks on flood plains by removing encroachment  Planting trees on the	Irrigation Department	3 years	To ascertain the encroachment if any and Purambokk along the polluted river stretch for the proposed work, land to be demarcated by the Revenue authorities after necessary boundary survey. For the same, District collector Kannur has already been addressed from this office and subsequent bio cover works and planting trees have to be done by social forestry department.

	bank of the river will be completed within 3 years from the commencement of works with a fund of 0.40 crores							
E	Issues relating to E-flow, maintaining minimum environmental flow of river (by having watershed management provisions)  By Micro watershed management for a period of 2 years with a fund of 0.25 Crore from the available fund	Irrigation Department	2 years	Initially the DPR submitted for 25 lakhs. But as per the letter No.752755/C1/16/WRD Thiruvananthapuram dtd 30/09/2020 of the Additional Chief Secretary to Government and as per the present site condition of the proposed stretch, the estimate was recasted and renamed accordingly. The quantity of silt is assessed by scientific method. So the estimate prepared as per DSR 16 DPR submitted for FS for an amount of 10.70 lakhs. Now the new estimate prepared as per DSR 18 and DPR submitted for FS for 13.60 lakhs.				
<b>Combined Action by KSPCB</b>								
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2020	Progress in the month of January 2021	Progress in the month of February 2021	% works completed	Details of works remaining
1	Sanitation Providing of toilets to residences With treatment and	Local body						

	disposal system for sewage and sullage							
2	Community Toilet  Proposed construction of new community Toilet at satellite points on the bank of river	All local bodies, Suchitwa Mission, Revenue department						
3	Rain water recharge Entry of rain water and rain water recharging to all thodu and drain	All local bodies, Kerala Water Authority,						
4	Solid waste management  Check they have Board's consent and sanitation facility is provided.	Pollution Control Board, Health authority						
5	Household waste Adequate number of  Kitchen bins shall be provided	Municipalities and local bodies						
6	Market  Providing proper							

	waste handling facility for wastewater And solid wastes		Six months 30					
7	Rendering plant Rendering plant for poultry wastes	Local body	Six months					
8	Slaughter house Slaughter house waste disposal facility	Local body						
9	Establishment like service station and workshops  Strict monitoring of disposal of waste (sewage, sullage, degradable waste, non-biodegradable waste) surveyed area and also in the catchment of the river i) Verify whether consent to operate of the Board exists	Pollution Control Board	Six months					
10	Sanitation survey should be done	Pollution Control Board	Six months					

	Sanitation survey is to be conducted for 100m on either sides of the other parts of polluted stretch if any located nearby							
11	Awareness Awareness for residence association	Suchitwa Mission/ LSGD/Corporation	Once in a month					

### 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 2020	Progress in the month of January 2021	Progress in the month of February 2021	% 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 (Earlier Status : As per Groundwater resources of Kerala, 2017 estimate a total number of 2 blocks (Neeleswaram and Payyannur) comes under the Peruvamba river basin. All the blocks in the river stretch are safe with stage of					



		groundwater extraction ranges from 34.85% to 69.52%)					
2	B(ii)	Ground water recharging / rain water harvesting (Earlier Status :The average pre -monsoon groundwater level ranges from7.97mbgl - 8.81 mbgl. Department has implemented 5 no of bore well recharge structures and 3 dug well recharge at Cheemeni open prison in Neeleswaram block)					
3	B(iii)	Periodic ground waste quality assessment and remedial actions in case of contaminated ground water tube wells/bore wells or hand pumps (Earlier Status :Groundwater Department has 1 observation dug well and 1 piezometer for routine studies in the river stretch.)					
4	B(iv)	For regulating use of ground water for irrigation purpose, adopting good irrigation practices  (Earlier status :The total irrigation draft in the area ranges from 695.64 - 1326.85 ha.m.)					

**Other than these following are some more suggestions from the part of pollution controlBoard.**

1. Proper awareness among the inhabitants in the area is to be given for protecting the water bodies. Basic training for the people at the grass root level is to be provided for river management. All efforts for maintaining the quality of water bodies may be done by the Panchayat/Municipal authorities only with people's participation.
2. The nearby gramapanchayath and municipalities are mainly responsible for not providing municipal waste collection and treatment facilities in the locality. So they must be instructed to provide the required facility for scientific disposal of municipal solid waste as per the MSW rules 2016. The citizens as well as the municipal/gramapanchayath authorities need to be aware of the importance of scientific

disposal of waste generated. Their attitude towards handling waste has to be changed. Reducing waste, recovering recyclable materials, return of nutrients to the eco system as well as generation of energy from waste are to be practised. There has to be a valid scheme for collection, segregation, transportation, processing and safe disposal of waste by the authorities. For this affordable and viable waste to energy conversion technologies apart from conventional composting is to be implemented by the municipalities seeking technical expertise.

3. Propagation of vegetative cover in water shed will reduce soil erosion and enhance percolation of rain water into the sub surface. In downstream stretches where the river is saline, propagation of mangroves are essential.
4. Strict monitoring from the part of implementing as well as monitoring agencies is required for effective functioning of waste treatment facilities in waste generating units.
5. The practice of waste dumping into the river is to be prevented legally and strict action against this practice is to be adopted at panchayath and municipality level.
6. Re-survey of the river boundaries throughout the entire stretch is to be done urgently so as to prevent encroachment of the river.
7. The municipalities as well as the panchayaths are to be directed to provide proper waste management facilities of their own. All towns and cities must have Sewage Treatment Plants (STPs) that clean up the sewage. Facility for collection, segregation, transport, processing and scientific disposal of waste generated are to be provided by the local authorities in strict adherence to the Municipal Solid Waste Management Rules, 2016. For this, affordable and viable waste to energy conservation technologies apart from conventional composting is to be implemented seeking technical expertise.
8. Strict monitoring from the part of implementing as well as monitoring agencies is required for effective functioning of waste treatment facilities in waste generating units. The riverine stretches are to be monitored periodically at identified locations for water quality assessment.
9. Modern agricultural practices and technologies introduce the use of inorganic fertilizers with Nitrogen, Phosphorous, Potash and inorganic pesticides in farm lands and play important role in the river pollution. These may concentrate into the water body through runoff causing algal blooms by which whole stretch of water become choked. Fertilizers and chemicals application in agricultural lands are to be strictly under technical expertise.
10. Rain water recharging measures must be adopted.
11. Eco tourism and water tourism projects are to be designed giving due importance for protecting the environment. The activities are to

be organized in such ways which do not induce any types of pollution to the water body. Strict monitoring from the concerned authorities are recommended in functioning of the tourism projects.

12. Implement Green Protocol effectively in local self governments. Prohibit littering of plastics in the area. Plastic wastes shall be handled as per the provisions of Plastic Waste (Management and Handling) Rules, 2018.
13. The existing waste water treatment facilities of Taliparamba Municipality shall be augmented in such a way so as to operate round the year.
14. Actions shall be taken by the local bodies to clean the storm water drains. Rejuvenation of small streams, creeks leading into the river is to be done.
15. Round the clock patrolling shall be provided so as to prevent waste dumping on public places.
16. CCTV can be installed at suitable points in order to identify the persons/ establishments dumping waste in to river. All the local bodies must establish slaughter houses with modern facilities and unauthorized slaughter houses shall be strictly enforced.
17. Strict action shall be taken against non-violating person/ agency by the authorities when noticed. Plantation of trees and plants on the bank will be highly effective in controlling the waste disposal.

## 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 RAMAPURAM, KANNUR**

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		<b><u>MADAYI</u></b> 16 soak pit,6 numbers of compost pits were completed.Supply order given for 10 MCF, out of this 5 numbers were supplied
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured	31.03.20 22	NIL
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning	31.03.20 22	NIL
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none"><li>• Specifying accountability of nodal authorities not below the Secretary level</li><li>• Chief Secretaries may have an accountable person attached in their office for this purpose</li></ul>		
	<ul style="list-style-type: none"><li>• Monitoring at State level must take place</li></ul>		
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none"><li>• Secretary,Ministry of Jal Shakti</li><li>• Member Secretary,CPCB</li></ul>		



waste generated from hotels, Ashrams, etc.

(vii) Ground water regulation

(viii) Adopting good irrigation practices

(ix) Protection and management of food plain Zones (FPZ)

(x) Rain water harvesting

(xi) Maintaining minimum Environmental flow of river

(xii) Plantation on both sides of the river

(xiii) Setting up biodiversity parks on flood plains by removing encroachment

## ACTION PLAN FOR RIVER RAMAPURAM, KERALA

Ref para no:48 as per NGT order 673/2018 dated:20.09.2018	Activity	Implementing Agency	Time of Completion	Progress in the month of December 2020	Progress in the month of August 2021	Progress in the month of July 2022	% works completed	Details of works remaining
A (b)	Sanitation Facility	Pariyaram GP	03/2020	100%	Not reported	Not reported		
C (ii)	Biodegradable waste disposal	Pariyaram GP	03/2022					
C (ii)	Non bio degradable Waste Disposal	Pariyaram GP	Ongoing project			Waste disposed through clean Kerala Company		
E	Awareness	Youth, Asha workers and other stakeholders	Whenever necessary		ongoing	Ongoing		
A (b)	Identification of illegal outlets in to drains and stoppage of the same	Madayi GP	09/2019	completed	completed	completed		
A (b)	Sanitation Facility	Madayi GP	2022		100 Ring compost unit supplied	Order placed for		

						another 96 units		
C (ii)	Biodegradable waste disposal	Ward Sanitation Committee of Local Body	2022		100 Ring compost unit supplied	Order placed for another 96 units		
E	Awareness	Youth, Asha workers and other stake holders	On going		Completed			

### Action plan of Local body

1. **Public Toilet:** Construct public toilets using available funds on the bank of river near Tourist places, Fishing spots etc.
2. **Mini MCF:** Construct material collection facility in miniature form at suitable intervals on the bank of the river in order to prevent dumping of wastes in to water.
3. **Toilet at houses:** Construct toilets with scientific septic tank and Soak pit
4. **Retro Fitting:** Maintenance work of existing toilets of residences near the bank of river using performance incentive grant.
5. **Bio degradable waste Disposal:** Distribution of Bio gas Plant, Composting facility to residences near river for bio degradable waste disposal.
6. **Common Waste disposal facility:** For the disposal of bio degradable waste disposal at market places, provide community level bio gas plants, Thumboormozhi etc. Using suitable funds
7. **Common Sewage treatment facility:** Provide common sewage treatment facility for waste water generating from market places and disposing in to public drains.
8. **Septage treatment facility :** Construct septage treatment facility

In addition to above, CCTV can be installed at suitable points in order to identify the persons/ establishments dumping waste in



to river. All the local bodies must establish slaughter houses with modern facilities and unauthorized slaughter houses shall be strictly enforced.

Strict action shall be taken against non-violating person/ agency by the authorities when noticed. Plantation of trees and plants on the bank will be highly effective in controlling the wastedisposal.

## Action Plan by Irrigation Department

Ref para no:48 as per NGT order 673/18 dated: 20. 9.18	Activity	Implementing Agency	Time for completion	Progress in the month of May 2022	Progress in the month June 2022	Progress in the month July 2022	% works completed	Details of works remaining
C (ii)	Providing fencing on Ramapuram bridge across Ramapuram river at Madayi GP	Irrigation department	2021	Initially the DPR submitted for 12 lakhs. But as per the letter No.752755/C1/16/WRD Thiruvananthapuram dated 30/09/2020 of the Additional Chief Secretary to Government and the present site condition, the estimate was recasted with items in DSR instead of observed data items. So the estimate prepared and DPR submitted for an amount of 14.5 lakhs as per DSR 2016. Now the new estimate prepared as per DSR 2018 and DPR submitted for FS for an amount of Rs.18.60 lakh.				
E	Desilting and repair of salt water exclusion cross bar at Ramapuram in cheruthazham GP	Irrigation Department	2020	An estimate for desiltation work on the u/s of Vayalpra SWECB has already been submitted. Now the desiltation work has been completed including the work under the scheme removal of excess sedimentation due to flood (Room for river). It was observed recently, while taking the bed levels of Ramapuram river for desilting work, that the bed levels of Ramapuram SWECB and Vayalpra RCB that is 1.65 km d/s are exactly same. Hence there will be overlapping of storage area if Ramapuram SWECB is restored. Hence the work is not technically feasible and has to be dropped.				
E	Rejuvenation of Ramapuram River - Flood plain zone management: Protection of flood plain zone near Ramapuram bridge in Cheruthazham Panchayath. (PRICE ID : 2019/10481/IA)	Irrigation Department		As per the observation forwarded from the government on submitted DPR vide No.757555/C1/16/WRD Dated 30.09.2020, This work shall not be considered until adequate study is conducted. To envisage the same purpose, LSGD has constructed a bund road with side protection in the same reach where irrigation department proposed a flood bank in Ramapuram action plan. Hence this may be removed from the action plan.				

E	Greenery development- Plantation plan. Plantation on both sides of the river, setting up biodiversity parks on flood plains by removing encroachment	Irrigation Department	2 years	To ascertain the encroachment if any and Purambokk along the polluted river stretch for the proposed work, land to be demarcated by the Revenue authorities after necessary boundary survey. For the same, District collector Kannur has already been addressed from this office and subsequent bio cover works and planting trees have to be done by social forestry department.
E	Issues relating to E-flow, maintaining minimum environmental flow of river(by having watershed management provisions)	Irrigation Department	2 years	DPR was submitted for the work previously and it was directed to find the desilting quantity based on level calculations. Hence the estimate have been submitted for FS after incorporating required corrections. DPR submitted for F.S (Rs.45.50 lakh)

### Combined ActionPlan

	<b>Proposed action</b>	<b>Agency</b>	<b>Timeline</b>	Progress in the month of December 2020	Progress in the month of January 2021	Progress in the month of February 2021	% works completed	Details of works remainin g
A (b)	Providetoilets to residences with treatment and disposal system for sewage and sullage	Local Body	As there are residences with single pit toilet					
A (b)	Construction of new community toilets with treatment system	All local bodies SuchitwaMission, Revenue department	Proposed Construction Of new community Toilet at satellite points on the bank ofriver					
B (ii)	Entry of rain water and rain water recharging to all channels and drain	All local bodies , Kerala Water Authority,	Drains are inspected before rain and all channels and stream are cleaned once in a year					
C (ii)	Sanitary waste in hostels, establishments should be segregated, treated and disposed as per Solid Wastes Management Rules,2016 intheir respective wards.Aerocomposting and Material Collection Facility should be given in all wards near the river bank.	Pollution Control Board ,Health departmen t	Check they have board consent and sanitation facility is provided					
C (ii)	Adequate number of kitchen bins shall beprovided	Municipalities and local bodies	Six months					

C (ii)	Providing proper waste handling facility. For wastewater and solid wastes		Six months				
C (ii)	Rendering plant for poultry wastes	Local body	Six months				
C (ii)	Slaughter house waste disposal facility	Local body					
A (iv)	Strict monitoring of disposal of waste(sewage, sullage, degradable waste, non-biodegradable waste) surveyed area and also in the catchment of theriver i)Verify Whether consent to operate of the Board exists	Pollution Control Board	Six months				
A (b)	Sanitation survey is to be conducted for 100m on either sides of the other parts of polluted stretch if any located nearby	Pollution Control Board	Six months				
E	Awareness for residence association:	Suchitwamission/L SGD/Corporation	Once in a month				

**Action Plan by Ground Water Department**

Sl.No	Ref para no:48 as per NGT order 673/2018 dated:20.09.2018	Activity	Progress in the month of December 2020	Progress in the month of January 2021	Progress in the month of February 2021	% 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					

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## Water Quality Requirement for Different Uses

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For any water body to function adequately in satisfying the desired use, it must have corresponding degree of purity. Drinking water should be of highest purity. As the magnitude of demand for water is fast approaching the available supply, the concept of management of the quality of water is becoming as important as its quantity.

Each water use has specific quality need. Therefore, to set the standard for the desired quality of a water body, it is essential to identify the uses of water in that water body. In India, the Central Pollution Control Board (CPCB) has developed a concept of *designated best use*. According to this, out of the several uses of water of a particular body, the use which demands highest quality is termed its *designated best use*. Five *designated best uses* have been identified. This classification helps the water quality managers and planners to set water quality targets and design suitable restoration programs for various water bodies.

### Designated Best Uses of Water

Designated Best Use	Class	Criteria
Drinking Water Source without conventional treatment but after disinfection	A	<ol style="list-style-type: none"> <li>1. Total Coliforms Organism MPN/100ml shall be 50 or less</li> <li>2. pH between 6.5 and 8.5</li> <li>3. Dissolved Oxygen 6mg/l or more</li> <li>4. Biochemical Oxygen Demand 5 days 20 °C, 2mg/l or less</li> </ol>
Outdoor bathing (Organised)	B	<ol style="list-style-type: none"> <li>1. Total Coliforms Organism MPN/100ml shall be 500 or less</li> <li>2. pH between 6.5 and 8.5</li> <li>3. Dissolved Oxygen 5mg/l or more</li> <li>4. Biochemical Oxygen Demand 5 days 20 °C, 3mg/l or less</li> </ol>
Drinking water source after conventional treatment and disinfection	C	<ol style="list-style-type: none"> <li>1. Total Coliforms Organism MPN/100ml shall be 5000 or less</li> <li>2. pH between 6 and 9</li> <li>3. Dissolved Oxygen 4mg/l or more</li> <li>4. Biochemical Oxygen Demand 5 days 20 °C, 3mg/l or less</li> </ol>
Propagation of Wild life and Fisheries	D	<ol style="list-style-type: none"> <li>1. pH between 6.5 and 8.5</li> <li>2. Dissolved Oxygen 4mg/l or more</li> <li>3. Free Ammonia (as N)</li> <li>4. Biochemical Oxygen Demand 5 days 20 °C, 2mg/l or less</li> </ol>
Irrigation, Industrial Cooling, Controlled Waste disposal	E	<ol style="list-style-type: none"> <li>1. pH between 6.0 and 8.5</li> <li>2. Electrical Conductivity at 25 °C micro mhos/cm, maximum 2250</li> <li>3. Sodium absorption Ratio Max. 26</li> <li>4. Boron Max. 2mg/l</li> </ol>
	Below-E	Not meeting any of the A, B, C, D & E criteria

Source: CPCB

A colour coding frequently used to depict the quality of water on maps

Blue water	This water can be directly used for drinking, industrial use, etc.
Green water	Water contained in soil and plants is termed as green water
White water	Atmospheric moisture is white water
Brown or grey water	Various grades of wastewater are shown by brown or grey colour

In India, CPCB has identified water quality requirements in terms of a few chemical characteristics, known as primary water quality criteria. Further, Bureau of Indian Standards has also recommended water quality parameters for different uses in the standard IS 2296:1992.

### Water Quality Standards in India (Source IS 2296:1992)

Characteristics	Designated best use				
	A	B	C	D	E
Dissolved Oxygen (DO)mg/l, min	6	5	4	4	-
Biochemical Oxygen demand (BOD)mg/l,	2	3	3	-	-

max					
Total coliform organisms MPN/100ml, max	50	500	5,000	-	-
pH value	6.5-8.5	6.5-8.5	6.0-9.0	6.5-8.5	6.0-8.5
Colour, Hazen units, max.	10	300	300	-	-
Odour	Un-objectionable			-	-
Taste	Tasteless	-	-	-	-
Total dissolved solids, mg/l, max.	500	-	1,500	-	2,100
Total hardness (as CaCO <sub>3</sub> ), mg/l, max.	200	-	-	-	-
Calcium hardness (as CaCO <sub>3</sub> ), mg/l, max.	200	-	-	-	-
Magnesium hardness (as CaCO <sub>3</sub> ), mg/l, max.	200	-	-	-	-
Copper (as Cu), mg/l, max.	1.5	-	1.5	-	-
Iron (as Fe), mg/l, max.	0.3	-	0.5	-	-
Manganese (as Mn), mg/l, max.	0.5	-	-	-	-
Chlorides (as Cl), mg/l, max.	250	-	600	-	600
Sulphates (as SO <sub>4</sub> ), mg/l, max.	400	-	400	-	1,000
Nitrates (as NO <sub>3</sub> ), mg/l, max.	20	-	50	-	-
Fluorides (as F), mg/l, max.	1.5	1.5	1.5	-	-
Phenolic compounds (as C <sub>2</sub> H <sub>5</sub> OH), mg/l, max.	0.002	0.005	0.005	-	-
Mercury (as Hg), mg/l, max.	0.001	-	-	-	-
Cadmium (as Cd), mg/l, max.	0.01	-	0.01	-	-
Selenium (as Se), mg/l, max.	0.01	-	0.05	-	-
Arsenic (as As), mg/l, max.	0.05	0.2	0.2	-	-
Cyanide (as CN), mg/l, max.	0.05	0.05	0.05	-	-
Lead (as Pb), mg/l, max.	0.1	-	0.1	-	-
Zinc (as Zn), mg/l, max.	15	-	15	-	-
Chromium (as Cr <sup>6+</sup> ), mg/l, max.	0.05	-	0.05	-	-
Anionic detergents (as MBAS), mg/l, max.	0.2	1	1	-	-
Barium (as Ba), mg/l, max.	1	-	-	-	-
Free Ammonia (as N), mg/l, max	-	-	-	1.2	-
Electrical conductivity, micromhos/cm, max	-	-	-	-	2,250
Sodium absorption ratio, max	-	-	-	-	26
Boron, mg/l, max	-	-	-	-	2

Guidelines are available to evaluate quality of water for irrigation. For irrigation, water can be classified in five classes depending upon its chemical properties.

**Guidelines for Evaluation of Irrigation Water Quality**

Water class	Sodium (Na) %	Electrical conductivity (µS/cm)	SAR	RSC meq/l
Excellent	< 20	< 250	< 10	< 1.25
Good	20 - 40	250 - 750	10 - 18	1.25 - 2.0
Medium	40 - 60	750 - 2,250	18 - 26	2.0 - 2.5
Bad	60 - 80	2,250 - 4,000	> 26	2.5 - 3.0
Very bad	> 80	> 4,000	> 26	> 3.0

**Drinking Water Specifications (IS 10,500:1991)**

Characteristics	Desirable limit	Permissible limit
Essential Characteristics		
Colour, Hazen Units, Max	5	25
Odour	Unobjectionable	-



<b>Taste</b>	<b>Agreeable</b>	<b>-</b>
<b>Turbidity, NTU, Max</b>	<b>5</b>	<b>10</b>
<b>PH value</b>	<b>6.5 to 8.5</b>	<b>-</b>
<b>Total Hardness (as CaCO<sub>3</sub>), mg/l, Max</b>	<b>300</b>	<b>600</b>
<b>Iron (as Fe), mg/l, Max</b>	<b>0.3</b>	<b>1.0</b>
<b>Chlorides (as Cl), mg/l, Max</b>	<b>250</b>	<b>1,000</b>
<b>Residual free chlorine, mg/l, Max</b>	<b>0.2</b>	<b>-</b>
<b>Desirable Characteristics</b>		
<b>Dissolved solids, mg/l, Max</b>	<b>500</b>	<b>2,000</b>
<b>Calcium as (Ca), mg/l, Max</b>	<b>75</b>	<b>200</b>
<b>Magnesium (as Mg), mg/l, Max</b>	<b>30</b>	<b>75</b>
<b>Copper (as Cu), mg/l, Max</b>	<b>0.05</b>	<b>1.5</b>
<b>Manganese (as Mn), mg/l, Max</b>	<b>0.1</b>	<b>0.3</b>
<b>Sulphate (as SO<sub>4</sub>), mg/l, Max</b>	<b>200</b>	<b>400</b>
<b>Nitrate (as NO<sub>3</sub>), mg/l, Max</b>	<b>45</b>	<b>100</b>
<b>Flouride (as F<sub>0</sub>), mg/l, Max</b>	<b>1.0</b>	<b>1.5</b>
<b>Phenolic compounds (as C<sub>6</sub>H<sub>5</sub>OH), mg/l, Max</b>	<b>0.001</b>	<b>0.002</b>
<b>Mercury (as Hg), mg/l, Max</b>	<b>0.001</b>	<b>-</b>
<b>Cadmium (as Cd), mg/l, Max</b>	<b>0.01</b>	<b>-</b>
<b>Selenium (as Se), mg/l, Max</b>	<b>0.01</b>	<b>-</b>
<b>Arsenic (as As), mg/l, Max</b>	<b>0.05</b>	<b>-</b>
<b>Cyanide (as CN), mg/l, Max</b>	<b>0.05</b>	<b>-</b>
<b>Lead (as Pb), mg/l, Max</b>	<b>0.05</b>	<b>-</b>
<b>Anionic detergents (as MBAS), mg/l, Max</b>	<b>0.02</b>	<b>1.0</b>
<b>Chromium (as Cr<sup>6+</sup>), mg/l, Max</b>	<b>0.05</b>	<b>-</b>
<b>PAH, mg/l, Max</b>	<b>-</b>	<b>-</b>
<b>Mineral oil, mg/l, Max</b>	<b>0.01</b>	<b>0.03</b>
<b>Pesticides, mg/l, MAX</b>	<b>Absent</b>	<b>0.001</b>
<b>Alkalinity, mg/l, Max</b>	<b>200</b>	<b>600</b>
<b>Aluminum (as Al), mg/l, Max</b>	<b>0.03</b>	<b>0.2</b>
<b>Boron, mg/l, Max</b>	<b>1</b>	<b>5</b>

POLLUTED RIVER STRETCH WATER QUALITY MONITORING PROGRAMME JULY 2022

Station Name		KAVVAYI RIVER			
Type of Water body		RIVER			
Completed by		JSA2			
Agency		KERALA STATE POLLUTION CONTROL BOARD			
Date and time of sample taken		21-07-2022	21-07-2022	21-07-2022	11-07-2022
SL.No	Determinants	Kankol	Karikuzhithodu	Thattarakadavu Bridge	Kuttyol palam
1	Temperature, 0C	28	28	30	28.5
2	Dissolved Oxygen, mg/l	6.3	6	6.2	6.13
3	pH	5.56	6.36	6.26	6
4	Conductivity, µmhos/cm	40.3	51.6	135.8	52.7
5	BOD, mg/l	2.2	2	2.9	1.86
6	Turbidity, NTU	0.9	0.9	1.1	0.6
7	Total Alkalinity, mg/l	6	8	18	9
8	Chloride, mg/l	12	9	21	8
9	Ammoniacal-N, mg/l	4	BDL	BDL	0.086
10	Hardness as CaCO <sub>3</sub> , mg/l	5	11	19	15
11	Calcium as CaCO <sub>3</sub> , mg/l	3	5	7	7
12	Magnesium as CaCO <sub>3</sub> , mg/l	2	6	.12	8
13	Sulphate, mg/l	BDL	BDL	BDL	1.11
14	Phosphate, mg/l	BDL	BDL	BDL	0.0218
15	Fluoride, mg/l	BDL	BDL	BDL	0.02
16	Total Coliform, MPN/100 ml	80	80	280	70
17	Fecal Coliform, MPN/100 ml	60	40	60	30

**POLLUTED RIVER STRETCH WATER QUALITY MONITORING PROGRAMME JULY 2022**

Station Name		KAPUGAL				
Type of Water body		RAMAPURAM RIVER				
Completed by		JSA2				
Agency		KERALA STATE POLLUTION CONTROL BOARD				
Date and time of sample taken (DD/MM/YY)		01-08-2022	01-08-2022	11-07-2022	01-08-2022	
Sl.N	Determinants	KACHERIKADVU	MATAHAMA GALAM	CHANDAPUR A	KANDAKALI	
1	Temperature, 0C	27	26	28.5	30	
2	Dissolved Oxygen, mg/l	6.86	6.6	6.6	5.4	
3	pH	6.3	6.72	6.4	6.14	
4	Conductivity, µmhos/cm	34.6	32.8	47.6	284	
5	BOD, mg/l	0.98	2.2	0.87	1.8	
6	Turbidity, NTU	1.6	1.2	0.4	1.8	
7	Total Alkalinity, mg/l	6	7	9	12	
8	Chloride, mg/l	8	8	8	28	
9	Ammoniacal-N, mg/l	0.421	0.63	0.082	0.0321	
10	Hardness as CaCO <sub>3</sub> , mg/l	5	6	9	27	
11	Calcium as CaCO <sub>3</sub> , mg/l	3	4	8	18	
12	Magnesium as CaCO <sub>3</sub> , mg/l	2	2	1	9	
13	Sulphate, mg/l	BDL	BDL	4.4	2.61	
14	Phosphate, mg/l	BDL	BDL	0.269	BDL	
15	Fluoride, mg/l	BDL	BDL	0.2	BDL	
16	Total Coliform, MPN/100 ml	80	100	120	200	
17	Fecal Coliform, MPN/100 ml	60	40	80	120	

*[Handwritten Signature]*

**POLLUTED RIVER STRETCH WATER QUALITY MONITORING PROGRAMME JULY 2022**

RAMAPURAM RIVER

RIVER

JSA2

KERALA STATE POLLUTION CONTROL BOARD KANNUR

01-08-2022

VAYALAPRA

11-07-2022

RAMAPURAM

23-07-2022

ATHIYADAM

23-07-2022

KAPUGAL

**Determinants**

1 Temperature, 0C

2 Dissolved Oxygen, mg/l

3 pH

4 Conductivity,  $\mu$ hos/cm

5 BOD, mg/l

6 Turbidity, NTU

7 Total Alkalinity, mg/l

8 Chloride, mg/l

9 Ammoniacal-N, mg/l

10 Hardness as CaCO<sub>3</sub>, mg/l

11 Calcium as CaCO<sub>3</sub>, mg/l

12 Magnesium as CaCO<sub>3</sub>, mg/l

13 Sulphate, mg/l

14 Phosphate, mg/l

15 Fluoride, mg/l

16 Total Coliform, MPN/100 ml

17 Fecal Coliform, MPN/100 ml

27

5.6

5.56

81.1

1

1.2

11

10

0.003

13

10

3

BDL

BDL

BDL

80

60

27

3.9

6.34

58.3

2.9

2.2

8

8

0.832

11

8

3

BDL

BDL

BDL

200

120

28.5

6.53

6.2

87.4

1.23

1

8

17

BDL

16

8

8

BDL

BDL

0.2

200

100

30

4.6

7.62

536

2.9

2.3

16

28

0.64

20

14

6

12.263

0.632

0.62

300

220

**POLLUTED RIVER STRETCH WATER QUALITY MONITORING PROGRAMME JULY 2022**

Station Name	KUPPAM RIVER
Type of Water body	RIVER
Completed by	JSA2

		KERALA STATE POLLUTION CONTROL BOARD KANNUR						
Date and time of sample taken (DD/MM/YY)		23-07-2022	23-07-2022	11-07-2022	23-07-2022	23-07-2022	23-07-2022	23-07-2022
Sl.No	Determinants	VELLICHAN KEEL	MANGALAS SERRY	KUPPAM BRIDGE	VARIANKOT TAM	VELLAVU		KUTTIYERIKADAVU
1	Temperature, 0C	30	30	28	28	28		27
2	Dissolved Oxygen, mg/l	5.8	4.9	7	2.8	4.6		6.6
3	pH	6.79	6.66	6.5	6.15	5.99		6.25
4	Conductivity, µmhos/cm	386	135	86.6	142.5	102.2		97
5	BOD, mg/l	1.8	2.2	2.3	3.6	1.8		2.6
6	Turbidity, NTU	0.8	0.8	0.4	1.5	0.9		0.6
7	Total Alkalinity, mg/l	36	38	8	24	26		12
8	Chloride, mg/l	48	42	18	30	30		16
9	Ammoniacal-N, mg/l	0.83	0.632	BDL	0.0328	0.621		0.0312
10	Hardness as CaCO <sub>3</sub> , mg/l	43	23	17	25	35		18
11	Calcium as CaCO <sub>3</sub> , mg/l	33	14	9	16	21		16
12	Magnesium as CaCO <sub>3</sub> , mg/l	10	9	8	9	14		2
13	Sulphate, mg/l	12.62	10.21	1.84	3.31	8.36		BDL
14	Phosphate, mg/l	BDL	BDL	0.0085	BDL	BDL		BDL
15	Fluoride, mg/l	BDL	BDL	0.5	BDL	BDL		BDL
16	Total Coliform, MPN/100 ml	400	420	400	600	450		200
17	Fecal Coliform, MPN/100 ml	200	180	200	320	160		80

## 1.Kavvayi

Sl.no	Drain	BOD on July 2022	Remarks
1	Kotti thodu	2.8	Waste disposal from side by shops
2	School ground thodu	No water	
3	Kalikadapuram thodu	0.84	
4	Koorikadavu	0.36	Drain covered with mud ,plastic wastes
5	Ulliyathu kadavu	3.1	Plastic waste seen .
6	Kallatu kadavu	0.62	
7	Muttathu kadavu	3.3	Plastic waste seen.
8	Vadipram thodu	3.2	Construction work going on

## 2.Peruvamba

	Drain	BOD on July 2022	Remarks
1	Naranga thodu	2.9	Plastic waste was noticed
2	Perumba thodu	2.8	
3	Valliohmthodu	3.1	Water with Plastic waste.
4	Panapuzha thodu	0.68	
5	Poomkottu Chal	0.72	Plastic waste seen side wise road.
6	Manjangottu Thode	0.66	
7	Kannelamthodu	0.38	
8	Appithodu	0.42	

9	Mavullapoyil thodu	0.68	Plastic waste,
10	Kollali thodu	0.62	
11	Kannada thodu	1.26	
12	Koyakkotu thodu Thokadu	1.32	
13	Cherottuvayal thodu	0.84	
14	Kayyil arakulam thodu Kunjimagalam puzha	2.48	
15	Tattanvayal thodu	0.62	

### 3. Ramapuram thodu

Sl.no	Drain	BOD on July 2022	Remark
1	Kapugal thodu	1.1	
2	Chembali kundu	2.6	Plastic waste and floating bottles are noticed.
3	Kulapram kundan thodu Kavilavalapu thodu	3.2	
4	Aduthila thodu	0.6	
5	Ottayi thodu	3.1	
6	Moolakadavu	2.4	

#### 4.Kuppam

Sl.no	Drain	BOD on July 2022	Remarks
1	Karuvanchal	0.36	Waste was dumped.
2	Karthikapuram	0.92	Plastic waste was noticed
3	Near Udayagiri Bridge	0.62	
4	Mukkada Thodu	0.34	
5	Moonamkunnu Thodu	0.86	
6	Kuttaparamba-Neduvodu Thodu	0.62	
7	D/S of Alakode Hospital	0.38	
8	Pathayachira	1.26	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	3.28	
11	Kavinmunabu	1.84	
12	Manja Thodu	3.6	
13	Sulthan Thodu	3.48	
14	Cheru thodu	3.26	



## 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**

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

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&amp;D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u>  Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management &amp; Details of Processing Facilities</u>  Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(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 JULY 2022**  
**RIVER MOGRAL, KASARGOD**

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

C(ii)	Haritha Karmasena Activity/ Collecting Non Bio degradable materials including Plastics from households	Mogral Puthur Grama Panchayath	On-going	Started	Started	Started	75%	
C(iii)	Bamboo Capital 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 Rs 250000/- Expenditure RS 75000/-	25%	NIL
C(ii)	Material recovery facility centre	Madhur grama Panchayath	2019	Completed	Completed	Completed	100%	Completed

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

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&amp;D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u>  Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management &amp; Details of Processing Facilities</u>  Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p>		
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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 JULY 2022**  
**RIVER UPPALA, KASARGOD**

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of May 2022	Progress in the month of June 2022	Progress in the month of July 2022	% works completed	Details of works remaining
C(ii)	Material collection facility. Operation	Mangalpady Grama Panchayath	2019	NIL	Not submitted the report	Not submitted the report	100%	Completed. Kubanoor Plant is working
C	Waste management including purchase of vehicle to collect waste.	Mangalpady Grama Panchayath/ Green Space Private company	2019- 2020	NIL	Not submitted the report	Not submitted the report	-	Approval for purchase of vehicle not sanctioned from Government.
E	Installation of camera	Mangalpady Grama Panchayath	March 2020	NIL	Not submitted the report	Not submitted the report		
C	Electrification of material collection facility	Manjeshwaram Grama Panchayat	2019-2020	Electrified	Electrified	Electrified	100%	Completed
C	Transportation of collected waste	Manjeshwaram Grama Panchayat	March 2020	8675kg plastic waste transported	6100kg plastic waste transported	368.4 kg plastic waste transported		Work yet to be completed.
E	Installation of camera	Manjeshwaram Grama Panchayat	March 2020	New Project formulated to Install 25 CC Cameras	New Project formulated to Install 25 CC Cameras	New Project formulated to Install 25 CC Cameras. Project forwarded to PWD electronics for Technical sanction.		Tendered

C	Tying of net on both sides of the bridge	Irrigation Department	2019-2020	DPR submitted to Chief Engineer (Price ID: 2019/10825/1A) for approval. Present status reported to Superintending Engineer, Minor Irrigation Circle, Kozhikode on 20.07.2021	DPR submitted to Chief Engineer (Price ID: 2019/10825/1A) for approval. Present status reported to Superintending Engineer, Minor Irrigation Circle, Kozhikode on 20.07.2021	DPR submitted to Chief Engineer (Price ID: 2019/10825/1A) for approval. Present status reported to Superintending Engineer, Minor Irrigation Circle, Kozhikode on 20.07.2021	--	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		22.07.2022	
Nature and flow of the river		Medium flow, water level increased	
Sl.No	Parameters	Unit	Mogral Bridge
1	Temperature	°C	27
2	pH	-	6.37
3	Conductivity	µmhos/cm	434
4	Turbidity	NTU	0.1
5	BOD	mg/l	0.8
6	Dissolved Oxygen	mg/l	6.1
7	Total Coliforms	cfu/100ml	470
8	Feecal Coliforms	cfu/100ml	176
9	Feecal Streptococcus	cfu/100ml	50
10	Chlorides	mg/l	121
11	Total Alkalinity	mg/l	32
12	Total Hardness	mg/l	55
13	Calcium Hardness	mg/l	42
14	Magnesium Hardness	mg/l	13
15	Calcium	mg/l	16.8
16	Magnesium	mg/l	3.2
17	Total Dissolved Solids	mg/l	258
18	Sodium	mg/l	65.88
19	Potassium	mg/l	5.63

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		22.07.2022	
Nature and flow of the river		Water level increased, Medium flow	
Sl.No	Parameters	Unit	Puzhakkara
1	Temperature	°C	27
2	pH	-	6.67
3	Conductivity	µmhos/cm	78.8
4	Turbidity	NTU	0.1
5	BOD	mg/l	1.3
6	Dissolved Oxygen	mg/l	7.5
7	Total Coliforms	cfu/100ml	380
8	Feecal Coliforms	cfu/100ml	96
9	Feecal Streptococcus	cfu/100ml	20
10	Chlorides	mg/l	15
11	Total Alkalinity	mg/l	20
12	Total Hardness	mg/l	20
13	Calcium Hardness	mg/l	18
14	Magnesium Hardness	mg/l	2
15	Calcium	mg/l	7.2
16	Magnesium	mg/l	0.486
17	Total Dissolved Solids	mg/l	46
18	Sodium	mg/l	8.68
19	Potassium	mg/l	0.601

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		22.07.2022	
Nature and flow of the river		Moderate flow, water level increased	
Sl.No	Parameters	Unit	Uppala Bridge
1	Temperature	° C	27
2	pH	-	6.78
3	Conductivity	µmhos/cm	180.8
4	Turbidity	NTU	0.2
5	BOD	mg/l	1.5
6	Dissolved Oxygen	mg/l	7.8
7	Total Coliforms	cfu/100ml	490
8	Feecal Coliforms	cfu/100ml	100
9	Feecal Streptococcus	cfu/100ml	30
10	Chlorides	mg/l	43
11	Total Alkalinity	mg/l	30
12	Total Hardness	mg/l	33
13	Calcium Hardness	mg/l	23
14	Magnesium Hardness	mg/l	10
15	Calcium	mg/l	9.2
16	Magnesium	mg/l	2.187
17	Total Dissolved Solids	mg/l	105
18	Sodium	mg/l	23.46
19	Potassium	mg/l	1.9

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		22.07.2022	
Nature and flow of the river		Water level increased, moderate flow	
Sl.No	Parameters	Unit	Uppala River Near Bhagavathi Temple
1	Temperature	° C	27
2	pH	-	6.39
3	Conductivity	µmhos/cm	112.4
4	Turbidity	NTU	0.2
5	BOD	mg/l	1.2
6	Dissolved Oxygen	mg/l	7.1
7	Total Coliforms	cfu/100ml	350
8	Feecal Coliforms	cfu/100ml	36
9	Feecal Streptococcus	cfu/100ml	ND
10	Chlorides	mg/l	22
11	Total Alkalinity	mg/l	30
12	Total Hardness	mg/l	34
13	Calcium Hardness	mg/l	23
14	Magnesium Hardness	mg/l	11
15	Calcium	mg/l	9.2
16	Magnesium	mg/l	2.673
17	Total Dissolved Solids	mg/l	68
18	Sodium	mg/l	12
19	Potassium	mg/l	0.56

Sd/-  
Assistant Scientist