

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 - October 2023

1. Short term plan

Maintenance and de-bottle necking of existing sewerage network

No.	Activity	Implementing agency	Time line	Progress in the month of Aug 2023	Progress in the month of Sept2023	Progress in the month of Oct 2023	% works completed	Details of works remaining
2.1.1	Pumping lines from the terminal pumping stations namely Kuriyathi, Pattoor, Kannammoola and Enchakkal pumping stations are to be connected directly to STP at Muttathara	Kerala Water Authority	May 2019				100%	100% work of Kuriathy completed. Pumping main of Pattoor, Kannammoola and Enchakkal included in long term works
2.1.2	Rehabilitation/upgradation of Thaliyal and Aranoor Sewerage Pump house by rehabilitation of existing well, construction of new well and grit chamber, installation of new pump Sets	Kerala Water Authority	May 2020				100%	a. Completed
				Arannoor 5%			100%	b. Work completed
2.1.3	5 MLD sewage treatment plant at Medical College	Kerala Water Authority	May 2020				100%	Work Completed on 8/8/21.
2.1.4	Installation of adequate pumps in Mudavanmughal and Enchakkal pumping stations.	Kerala Water Authority	March 2020				100%	Pump sets installation at Enchakkal and Mudavanmughal pump house completed.
2.1.5	DG sets in all lift and pumping stations – Mudavanmughal, Aranoor, Thaliyal, Kuriyathi, Pattoor, Kannammoola, Pattom, Murinjapalam and Enchakkal	Kerala Water Authority	May 2020				100%	DG sets installation of seven pumping stations completed. Approval from Electrical inspectorate received. Work completed. Trial run also completed. For Arannoor and Thaliyal. Erection of diesel generator is already included in the item mentioned 2.1.2. For



									Enchakkal already exists.	
2.1.6	Reconnect sewer at Rajaji Nagar, stop outflow of sewage into Amayizhancha- nthodu, control storm water entry into sewer to avoid overflow in Thampanoor area. Sewage generated in Rajaji Nagar shall be diverted to main sewer line. Sewage generated in Thoppil area shall be diverted main sewer line	Kerala Water Authority	Dec 2020				100%		Work completed.	
2.1.7	Discharge of sewage in Parayilkadavu shall be stopped as there is overflow of sewage reaches in houses having sewerage connection and this may lead to discharge of sewage in to River Karamana	Kerala Water Authority	Completed				100 % completed		Rehabilitation work of existing pipe line is included in the work State Plan -2019-20- Rehabilitation of sewer line from Sathya Nagar to Karamana BHS and allied works. Works Completed.	
2.1.8	Divert the sewer line from the School compound of Government Karamana High School	Kerala Water Authority	completed				100% completed		Work mentioned is same as the above work which is completed.	
2.1.9	Rehabilitation by laying new lines increasing size of undersized main and reconstruction by dilapidated manholes for the last 3 years	Kerala Water Authority	May 2020				0%	0%	98.5%	Works completed – 75No. (Rs. 15.41cr) AMRUT-44, State plan-28 MLA ADF/SDF-3 completed (Rs. 3.cr.) AMRUT-1, State plan-0 Expected to be completed by 30.12.2023 for one AMRUT work
	Total works in progress/completed (76No.) Works dropped (2No.)								Dropped – 2 No. (Rs. 1.52cr.) State plan-2	Two works dropped due to not getting offers on repeated tenders and expiry of AS
2.1.10	Extension of sewer network wherever technically feasible in new areas of existing blocks	Kerala Water Authority	May 2020				0.1%	.1%	99.3%	Works completed - 24 No. (Rs. 17.21 cr.) AMRUT-12, State plan-11 MLA ADF/SDF-1
	In progress/Ongoing (24No.)									
										Land acquisition process



	Tendering/ To be arranged (1No.) Land acquisition -1 In progress-3			0.1%			To be arranged Land acquisition in progress-1Nos	for three work completed and land handed over to KWA and AS obtained for arranging the work under State Plan 22-23 and one work arranged and one tendered. LA for one work in initial stage.(Details shown in excel sheet attached) Direction from head office to cancel one work and recast the estimate and submit for new AS. Same has been approved in State Plan 2022-23 and tendered. Agreement Executed and pipe supplied and work in progress .Expected date of completion 31.12.23
2.1.11	Procurement of sewer cleaning machines and equipment maintenance	Kerala Water Authority	Mar 2020	0%	0%	0%	100%	Work completed.



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

2. Long Term Works

Sl No.	Long term measures proposed	Implementing agency	Amount Required (Rs.in Crore)	Time line	Progress in the month of February	Progress in the month of March	% works completed	Details of works remaining
3.1.1	Extension of sewerage system to Block F to G coastal belt	Kerala Water Authority		Three years				Consultant appointed for preparing Detailed Project Report for uncovered wards of the Thiruvananthapuram Corporation and Rehabilitation of existing system was terminated from the contract due to breach of contract by the firm vide Proceedings No. KWA/SE/SEW/EOI/REPL/338/2020-2021 of the Superintending Engineer, Sewerage Circle, Kerala Water Authority Thiruvananthapuram dated 31.05.2022 to arrange the balance work at their risk and cost. As directed in the Chief Secretary's meeting dated 21/06/2022 the work of preparation of DPRs has to be done internally. DPR preparation of sewerage system to the uncovered areas of TMC is now being carried out internally by KWA. The total wards were divided into 10 clusters. Cluster 1 comprises of 5 wards - Attukal, Kalady, Kallipankulam, Ambalathara and Kamaleswaram wards - The DPR for cluster 1 amounting to Rs 353.87 Crores was submitted to GoK on 15/10/2022 for obtaining AS. Later as per the direction from CS, the DPR of cluster 1 curtailed into 2 DPRS. DPR of cluster I Zone I&II has been submitted to the Secretary of Jalshakthi for funding under NRCP on 17/02/23. Zone 1 of cluster 3 is consisting of Puthenpally and Part of Muttathara is submitted for AS on 11.01.2023. The DPR of Cluster 3 Zone 2 and Zone 3 is prepared and is under scrutiny/revision. The DPR for cluster 2, is prepared and kept in shelf of projects as there is no fund available. The DPR for cluster 4
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 equipment for maintenance of sewerage system.							



3.1.7	Additional STP requirement							<p>(Thirumala Thrikkannapuram and Punnakkamughal wards) is prepared and as suggested for identifying Corporation / Govt lands for the collection well and STP proposed is being done and after obtaining sanction of the puramboke land identified there will be changes in the design network and there by changes will be made in the DPR. Since there is constraint in land availability for the Construction STP in this cluster, the Technology of the STP changed from SBR to MBBR and hence the revision of the design is to be made. DPR can be resubmitted after designing and obtaining the confirmation of land for the STP and collection well from the TVPM Corporation. DPR for Cluster IX (priority wards (Vizhinjam and Harbour area) is in progress, land for STP identified and the confirmation of the land to be transferred for which a meeting where both the Hon'ble Ministers of WRD and Port & Harbour department was necessitated and action is being taken to arrange the meeting.</p> <p>DPR of cluster X comprising of wards Shangumugham, Vettucaud, Vallakadavu, Beemapalli (part), Beemapalli East (part), Valiyathura and Kadakampally is under preparation.</p>
	Total Amount		5000CR					



No.	Activity	Implementing Agency	Time line	Progress in the month of August 2023	Progress in the month of September 2023	Progress in the month of October 2023	% works completed	Details of works remaining
3.3.1	Development package for ParvathyPuthanar	Irrigation department included in KIFB by K WIL includes cleaning of canal	3 Years	100%	100%	100%	100%	Phase I (First half) removal of hyacinth completed Veli to Kadinam Kayal (Ch 16.00 to Ch27.00).Ex by Inland Navigation Aakkulam Mommattumkku cleaning works 100% comp by K WIL - for an amount of 45 Lakhs (3 Month Now department work is started for clearing.
3.3.2	De-silting and development of AmayizhanchanThodu	Irrigation Department	1.5 Years	15%	20%	20%	On going	
3.3.3	Improvements to Thekkenekara canal and de-silting-		1 Year				Flood mitigation work completed	
3.3.4	Karimadam tank improvements,de-silting sheet piling/under preparation and providing fencing		1.5 Years	15%	20%	20%	Flood mitigation works ongoing	
3.3.5	Development of Karamana basin		1.5 Years				Desiltation of river completed. E-flow stateme	

SUPERINTENDING ENGINEER

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

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

(xi) Maintaining minimum Environmental flow of river

(xii) Plantation on both sides of the river

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

ACTION PLAN FOR RIVER PAMBA, KERALA

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of September-2023	Progress in the month of October-2023	% works completed	Details of works remaining
A(a)	No industries	-	-	-	-	-	-
A(a)	Monitoring of river water quality	Kerala State Pollution Control Board	Continuing project				
C(ii)	Establishment of de- centralized solid waste treatment facility	Mannar Panchayat, Kadapra/ Niranam Panchayath	31.03.2021	NA	NA		Inauguration of functioning.

				<p>Not submitted report</p> <p>Niranam Gramapanchayat is an upper Kuttanad area , so no such dry land suitable for solid waste treatment plant is available</p>	<p>The Panchayat has resolved to identify all polluting invloved in pollution of river resources and iniation of penal against them</p> <p>NA</p>		
C	Resource Recovery Facility	Mannar Panchayat, Kadapra/ Niranam Panchayath	31.03.2021	NA	NA	100%	Collection and transportation of Non-bio degradable Materials to RRF for processing

				Not submitted report	Resource Recovery Facility due to non-availability of space.		
				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	NA	100%	Construction and operation of Aerobic compost unit.

				<p>transportation of non-biodegradable plastic materials is continuing. About 12 tonnes of plastic materials handed over to Clean Kerala Company(CKC) so far. About 500 kg of plastic materials is kept ready for transportation. Construction of Two mini MCFs in each ward in all the 18 wards of Mannar GP is completed. Plastic Waste management Bylaw (Final) has been passed by Mannar GP on 19/06/2021. Action Plan on solid waste Management is approved by Grama Panchayat Committee on 27/08/2021.</p>			
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C	Door to door collection and transportation of municipal solid waste	Mannar Panchayat	31.03.2021	<p>Collection of Non-biodegradable plastic materials from houses and institutions is conducted by Haritha Karma Sena(HKS). Collection, segregation and transportation of non-biodegradable plastic materials is continuing. About 12 tonnes of plastic materials handed over to Clean Kerala Company(CKC) so far. About 500 kg of plastic materials is kept ready for transportation. Construction of Two mini MCFs in each ward in all the 18 wards of Mannar GP is completed. Plastic Waste management Bylaw(final) has been passed by Mannar GP on 19/06/2021. Action Plan on solid waste Management is approved by Grama Panchayat Committee on 27/08/2021.</p>	PlasticWaste Collection		Continuing
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C	Construction of small sewage treatment plant with screening, septic tank and disinfection to the storm water drain of Parumala Town	Kadapra Panchayat	31.12.2020	Not submitted report	The Panchayat is considered is sewage treatment plants is currently not need with in Panchayat area around Parumala		
C	Construction of small sewage treatment plant with screening, septic tank and disinfection to the storm water drain of Mannar Town	Mannar Panchayat	31.12.2020	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 arrangementsand 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, Kadabra/ Niranam Panchayat	31.05.2020	100%	Not submitted report	Green protocol has implemented in public officers Kadapa Grama Panchayat	Continuation of Green Protocol .
				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 ofthe 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 plastic materials is continuing. About	NA		

			<p>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,</p>		<p>continuing. About 12 tonnes of plastic materials handed over to Clean Kerala Company(CKC) so far. About 500 kg of plastic materials is kept ready for transportation. 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</p>	
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				<p>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>				

ACTION BY GROUND WATER DEPARTMENT

Sl. No.	Ref para item nos as per NGT Order no.673/2018 dated 20.09.2018	Activity	Progress in the month of September,2023	Progress in the month of October,2023	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks	NOC has not been issued to industries for Ground Water extraction during September 2023	NOC has not been issued to industries for Ground Water extraction during October 2023	Demand based	1.As per the GEC estimation all the blocks in the District has beencategorized as SAFE. 2.Provisions of GW (control &Regulation) Act 2002 is implementing strictly for regulating extraction of GW resource in the district
2	B(ii)	Ground water recharging / rain water harvesting	Artificial Recharge Structure 10 sites feasible and estimate for 5 sites in Pandalam Thekkekkara Grama Panchayath under preparation.	Artificial Recharge Structure Estimate for 11 sites sent to Directorate for Technical Sanction & Estimate for pond renovation at two sites in Pandalam Thekkekkara Grama Panchayath one also under preparation.	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 July 2023 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 2023 monitoring wells (borewells and open wells) collected and sent to Analytical Lab Thiruvananthapuram for chemical analysis soon.	Periodical assessment(Regular programme) Chemical analysis result ofgroundwater samples collected during November-2020 reveals that the gw quality is good and potable.	(i)Maintaining a network of observation wells in 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

MONTHLY ANALYSIS REPORT OF POLLUTED RIVER STRETCHES OCTOBER-2023

STATION: MANNAR

SamplingDate: 04.10.2023

SI. No	PARAMETERS	ITTINAYARKKADAVU BRIDGE KUTTAMPEROOR	KOTTAKAL KADAVU BRIDGE KORATTIKADAVU	PARUMALA BRIDGE	MANNAR BRIDGE
1	Temp. (°C)	28	26	27	28
2	pH	6.4	6.9	6.8	6.6
3	Conductivity (µS/cm)	37.88	38.50	38.97	40.39
4	DO (mg/L)	5.9	6.3	6.1	6.0
5	BOD (mg/L)	1.1	0.9	1.0	1.0
6	COD (mg/L)	3.2	3.2	3.2	3.2
7	TDS (mg/L)	62	56	64	50
8	TC (CFU/100ml)	810	530	390	140
9	FC (CFU/100ml)	260	170	135	40
10	FSC(CFU/100ml)	Nil	Nil	Nil	Nil

WATER QUALITY DATA OF POLLUTED RIVER STRETCHES OCTOBER-2023**DISTRICT OFFICE, PATHANAMTHITTA****Date of Sampling: 04.10.2023**

Sl. No	PARAMETERS	THAKZHY	EDATHUA	MANNAR
1	Temperature, °C	27	26	27
2	pH	6.5	6.3	6.8
3	Conductivity, µmhos/cm	48.25	56.40	44.48
4	Turbidity, NTU	0.7	2.0	1.2
5	Phenolphthalein Alkalinity, as CaCO ₃	Nil	Nil	Nil
6	Total Alkalinity, as CaCO ₃	10	11	10
7	Chloride, mg/l	10	10	8
8	COD, mg/l	3.2	3.2	3.2
9	TKN, mg/l	0.25	0.10	0.25
10	Ammoniacal-N, mg/l	BDL	0.210	BDL
11	Hardness, as CaCO ₃ mg/l	22	22	18
12	Calcium, as CaCO ₃ mg/l	14	12	10
13	Magnesium as CaCO ₃ , mg/l	8	10	8
14	Sulphate, mg/l	2.42	1.5	1.66
15	Sodium, mg/l	5.4	5.4	4.5
16	Total Dissolved Solids, mg/l	34	34	30
17	Total Fixed Solids, mg/l	29	28	25
18	Total Suspended Solids, mg/l	24	23	20
19	Phosphate, mg/l	BDL	BDL	BDL
20	Boron, mg/l	BDL	BDL	BDL
21	Potassium, mg/l	0.294	0.640	0.212
22	BOD, mg/l	0.6	1.4	0.5
23	Fluoride, mg/l	0.2	0.11	0.25
24	Dissolved Oxygen, mg/l	6.8	6.2	6.9
25	Nitrate-N, mg/l	0.128	0.124	0.168
26	Total Coliform, CFU/100 ml	160	240	170
27	Faecal Coliform, CFU/100 ml	60	80	60
28	SAR	0.500558	0.50055	0.461157
29	% of sodium	14.681542	14.03533	14.403678
30	Faecal Strepto Coccus,CFU/100 ml	Nil	Nil	Nil

National Mission for Clean Ganga

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

RIVER MANIMALA, ALAPPUZHA

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

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic</p>	<p>21.12.2019</p> <p>2020-2021</p> <p>2019-2020</p> <p>2020-2021</p> <p>2020-2021</p>	<p>Drains contributing to river pollution were identified. The drains are seasonal and water quality is above the require limit, no in situ.</p> <p>Proposal for setting up an FSTP by Chengannur municipality is initiated.</p> <p>Since the area does not contain any industry no requirement of any CETP, this action. Plan revised.</p> <p>The adjoining local bodies are in the stage of developing and establishing adequate solid waste management facilities also the solid waste during issues were not identified in the stretch during field visit held during past 1 year. Water quality analysis result of the stretch up to OCTOBER 2023 is enclosed. Awareness campaigns initiated.</p> <p>No groundwater pollution is noted in the area action yet to be initiated.</p>
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ACTION PLAN FOR RIVER PAMBA, KERALA

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of August 2023	Progress in the month of September 2023	Progress in the month of October 2023	% works completed	Details of works remaining
A(a)	Monitoring of river water quality	Kerala State Pollution Control Board	Continuing project				100%	NIL
A(b)	Rendering Plant at Eraviperoor or Thiruvalla	Eraviperoor/ Thiruvalla local body	31.03.2021				0%	Work to be initiated
C(ii)	Fencing of bridges, desilting, dredging and protection works, surveillance cameras at vantage points	Irrigation department	31.03.2021				0%	Work to be initiated
C	Preventing illegal discharge of septage and other waste water into the river. Formation of River Protection Group	Panchayath, Police , KSPCB	31.05.2020.				0%	Work pending due to COVID pandemic
C	Greenery development Plantation on both sides of the river, setting up biodiversity parks in flood plains and removing encroachment	Irrigation department in association with panchayath	31.03.2021				0%	Yet to be initiated
C(b)(ii)	Green Protocol implementation in all offices, institution & public functions	Kalloopara, Eraviperoor, Puramattom, Kaviyoor, Peringara, Kuttoorpanchayaths	31.03.2020				100%	0

D(a)	Issues relating to E-flow, maintaining minimum environmental flow of river (by having watershed management provisions)	Irrigation department, Hydrographic survey department	31.03.2021					Work to be initiated
C(ii)	Establishment of decentralized solid waste treatment facilities	Kalloopara, Eraviperoor, Puramattom, Kaviyoor, Peringara, Kuttoorpanchayaths	31.12.2020				100%	0
C	Installing household & community level solid and domestic sewage waste management	Kalloopara, Eraviperoor, Puramattom, Kaviyoor, Peringara, Kuttoorpanchayaths	31.12.2020				NA	NA
C	Door to door collection of solid waste & Material Collection Facilities (MCF) & Resource Revcovery Facilities (RRF)	Kalloopara, Eraviperoor, Puramattom, Kaviyoor, Peringara, Kuttoorpanchayaths	31.12.2020				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 August 2023	Progress in the month of September 2023	Progress in the month of October 2023	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks	31.03.2021					
2	B(ii)	Ground water recharging / rain water harvesting in Govt offices	31.03.2021					
3	NGT order in O.A no.496/2016 Identification of illegal bore wells in the catchment area.	NGT order in O.A no.496/2016 Identification of illegal bore wells in the catchment area.	31.03.2021					

**ANALYSIS REPORT OF DRAINS OF MANIMALA BETWEEN KALLOOPARA AND THONDRA
OCT-2023**

SI NO	BOTTLE NO.	Name of Drains	PH	BOD	TC	FC
1	TK1	Panayampalathodu	7.01	1.6	2300	400
2	TK2	PadathupalamThodu	6.98	0.53	2000	600
3	TK3	Thottappuzha	7.29	0.6	6000	700
4	TK4	Kuttapuzha under Kattodubridge	7.56	1.3	2400	600
5	TK5	Kadavumbara	7.89	2.4	200	0
6	TK6	Drain under Varappalam Bridge	Nil	Nil	Nil	Nil
7	TK7	Drain under kallupalam Bridge	6.85	1.3	2100	200
8	TK8	Komalamthodu	7.25	1.3	9000	400
9	TK9	Vennikulam Valiyathodu	7.38	1.6	1200	700
10	TK10	Paduthodu	7.69	0.53	5000	800
11	TK11	Mallappally Valiyathodu	7.02	2	4200	500

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	31.03.2025	Projects for to be taken
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured	31.03.2025	„
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning	31.03.2025	„
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none">• Specifying accountability of nodal authorities not below the Secretary level• Chief Secretaries may have an accountable person attached in their office for this purpose	NA	-
	<ul style="list-style-type: none">• -	NA	-
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none">• Secretary, Ministry of Jal Shakti• Member Secretary, CPCB	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&D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p> <p>(vii) Ground water regulation</p>	31.03.2024 31.03.2024	<p>Presently no STP in the panchayat</p> <p>Presently no CETP or ETP in the panchayat</p> <p>Door to door plastic waste collection, Supply of waste bins, Construction of compost pits etc.</p> <p>Not Available</p> <p>Biomedical waste disposed through IMAGE , Plastic waste collected door to door by Haritha Karma Sena</p> <p>Yes, Going On</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>		<p>-</p> <p>Yes, Going On</p> <p>Yes, Going On</p> <p>Yes, Going On</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 August2023	Progress in the month of September 2023	Progress in the month of October 2023	% works completed	Details of works remaining
A(a)	No industries	-	-	-			-	-
A(a)	Monitorng of river water quality	Kerala State Pollution Control Board	Continuing project	NA	NA			
C(ii)	Establishment of de-centralized solid waste treatment facility	Mannar Panchayat, Panchayath	31.03.2024					
C	Establishment of Material Collection Facility	Mannar Panchayat, Panchayath	31.03.2021	-	-		100%	
C	Resource Recovery Facility	Mannar Panchayat, Panchayath	31.03.2021	NA	NA		-	
C	Installing household and community level solid waste management units	Mannar Panchayat	31.03.2021	Supply Of Bio Bin	-		50%	
C	Door to door collection and transportation of municipal solid waste	Mannar Panchayat	31.03.2021	Plastic Waste Collction 75.45%	Plastic Waste Collction			

C	Construction of small sewage treatment plant with screening, septic tank and disinfection to the storm water drain of Parumala Town	Kadapra Panchayat	31.12.2020					
C	Construction of small sewage treatment plant with screening, septic tank and disinfection to the storm water drain of Mannar Town	Mannar Panchayat	31.12.2024	„	„		„	„
C	Construction of compound wall with fencing	Irrigation department	31.03.2021					
C	Removing light jungle and muddies from river courses	Irrigation department	31.03.2021					
C	Electrical-Light arrangements and Surveillance cameras	Irrigation department	31.03.2021					
C	Regualting activites in flood plain zone, protection and management of flood plain zone	Irrigation department	31.03.2021					
	Greenery developmentPlantation plan. Plantation on both sides of the river, setting up biodiversity parks on flood plains by removing encroachment	Irrigation department	31.03.2021					

C (b) (ii)	Green Protocol implementation in all Offices institution & Public function	Mannar, Kadapra/ Niranam Panchayat	31.05.2020	100%	100%		100%	
D(a)	Issues relating to E-flow, maintaining minimum environmental flow of river (by having watershed management provisions)	Irrigation department	30.11.2020					
D (b)	Irrigation practices	Irrigation department	30.04.2020					
E	Awareness programmes for sections of public	Kerala State Pollution Control Board	31.05.2020					
C	Management of municipal, plastic, hazardous, biomedical and electrical waste	LSGD	31.03.2021					

ACTION BY GROUND WATER DEPARTMENT

Sl. No.	Ref para item nos as per NGT Order no.673/2018 dated 20.09.2018	Activity	Progress in the month of August2023	Progress in the month of September 2023	Progress in the month of October 2023	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical					

		zones/blocks					
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 Result of Drains Joining to Mannar-Thakazhi Stretch of Pamba River (2022-2023)

Sl. No	Name of Drain	Parameters														
		pH			Electrical Conductivity(μ S/cm)			BOD(mg/l)			TC(Nos/100ml)			FC		
	Months	JULY	AUG	OCT	JULY	AUG	OCT	JULY	AUG	OCT	JULY	AUG	OCT	JULY	AUG	OCT
1	Parumala Drain	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
2	MannarTown Drain	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
3	Kuriyathkadavu Thodu	7.5	Nil	6.39	95.8	Nil	88.79	0.6	Nil	0.46	3200	Nil	3000	150	Nil	300
4	Karovelil Thodu	7.52	7.9	7.16	46.87	110.5	38.46	0.4	0.4	1.06	3200	4200	800	160	900	100
5	Nochithodu	7.56	6.9	6.82	61.31	122.6	68.97	0.9	1.5	1	7000	2200	1500	350	600	500
6	Pattaparambil Thodu	7.38	6.08	6.71	53.4	109.6	87.68	1.26	1.2	1	1500	3500	2000	50	700	700
7	Kappiyarissery Thodu	7.46	7.8	6.56	48.27	268	86.43	2.1	8.2	2.06	2000	10800	1800	100	3000	300
8	Kombankery Thodu	7.53	6.9	7.19	63.78	129.69	37.07	1.06	0.86	0.53	1800	3400	800	150	1000	200
9	Perackalthodu	7.63	6.8	6.89	50.51	81.69	142.9	0.6	1.7	1	2300	3300	2000	100	500	500
10	Erathodu	7.37	7.9	7.02	47.95	73.09	54.68	0.2	0.13	1.6	1300	6200	1500	70	800	200
11	Kolarayaru	7.19	7.8	6.97	48.01	141.7	30.62	0.8	0.6	1.8	900	4600	1000	20	900	100

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

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

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p> <p>(vii) Ground water regulation</p>		
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	<ul style="list-style-type: none">(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		
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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 month of August2023	Progress in the month of September 2023	Progress in the month of October 2023	% works completed	Details of works remaining
A(b)	Augmentation and Revamping of existing STP at near Adwaittha Ashramam and to increase the capacity of STP so as to treat more sewage generated in the municipality	Aluva Municipality	Dec 2019	Upgradation of STP Existing in Advaita Ashramis in progress. The agreement for the civil work has been completed at present. Electrical work is deferred for retendering. Funds have been invested for Mechanical work. Steps have been taken to speed up the work.	The construction work of STP at Advaita Ashram is in progress. The agreement for the civil works has been completed at present. Electrical work is reserved for retendering. Investments have been made for mechanical related work. Currently STP is working partially, therefore steps have been taken to speed up the partial functioning	The construction work of STP at Advaita Ashram is in progress. The agreement for the civil works has been completed at present and the work will start immedietly. Electrical work is reserved for retendering. Investments have been made for mechanical related work. Currently STP is working partially, therefore steps have been taken to speed up the partial functioning.		

						Informed that mechanical and civil related works may completed within 2 months.		
A(b)	Augmentation and Revamping of existing STP at Aluva Market and to increase the capacity of STP so as to treat more sewage generated in the municipality	Aluva Municipality	2021	45 Lakh project has been submitted for the renovation of existing ETP.	45 Lakh ETP project proposal has been submitted. A new slaughter house along with this is also considered. Therefore no decision has been made regarding the capacity of ETP	A proposal was submitted for 0.3MLD ETP. Preparation for DPR will be completed within 2 weeks. Adding waste from fish stall along with abattoir is considered.		
A(b)	Discharge of sewage from township to the River through drain near Periyar Hotel shall be stopped.	Aluva Municipality	2020					
A(b)	Identification of the establishments/commercial complexes/flats/houses/hotels etc who is discharging the sewage to the public drain and to collect fine based on polluter pay principle	Aluva Municipality, KSPCB	2020	In association with Periyar, 14 inspections were conducted. In which 12 cases were related to waste management and collected Rs. 1,20,000 as a fine. Also initiated measures to control unauthorized outlets to the river. Similarly, Rs	The outlets of establishments discharging sewage into public drains have been closed and instructed to build treatment facilities. The inspection information of September regarding the name of the establishment, the fine	74 cases been caught from the 24 inspections conducted on the month of June. A fine of Rs.5,60,000 has been imposed and out of this Rs.35,000 is paid. Further action is taken for the rest. As well as Rs. 1, 46,000 has been levied from the		

				5000 was collected from two cases related to plastic seizing.	imposed and the action taken will be sent as a report	inspections conducted on illegal waste dumping sites and 26,000 rupees has been paid out of this. The remaining follow up action is being taken.		
A(a)(iv)	Periodical inspection in the Industries, Flats, hotels monitoring of STP,ETP	KSPCB	Periodical					
C(ii)	Installation of modern abattoirs	Aluva Municipality	March 2021	DPR proposal prepared for installation of machines has been submitted for approval.	DPR proposal prepared by IRTC (Accredited Agency) for the installation of machines has been submitted for the approval	DPR proposal prepared by IRTC (Accredited Agency) for the installation of machines has been submitted for the approval		
A(b)	Procurement of sewer cleaning machines and equipment maintenance	Aluva Municipality	March 2020	The drainage clearing operations has been completed.	Drainage cleaning activities are done everyday. JCBs are also used for carry out the waste. The excavated waste is then disposed in Thumboormuzhi compost.	Drainage cleaning activities are done everyday. JCBs are also used for carry out the waste. The excavated waste is then disposed in Thumboormuzhi compost.		
E	Installation of cameras at the waste dumping spots	Aluva Municipality	2020	For monitoring the dumping sites, 25 lakh rupee-worth of cameras have been	For monitoring the dumping sites, 25 lakh rupee-worth of cameras have been established.	For monitoring the dumping sites, 25 lakh rupee-worth of cameras have been established.		

				established. But the NVR has been ceased by the police in connection with a criminal case in Aluva. So currently, they don't work.	But the NVR has been ceased by the police in connection with a criminal case in Aluva .Therefore it is currently not working. Night surveillance squad operation is still ongoing.	But the NVR has been ceased by the police in connection with a criminal case in Aluva .Therefore it is currently not working. Night surveillance squad operation is still ongoing.		
A(b)	Construction of retaining wall with HDPE liner at Kalamassery dumping yard in order to prevent the leachate discharge from the yard to Thoombungal Thodu	Kalamassery Municipality	Sept 2019	(Representative from concerned local body has not attended the meeting) NA	NA	Completed	1 0 0	
C(ii)	Installation of plastic shredding unit	Kalamassery Municipality	June 2019	NA	NA	Completed	1 0 0	
A(a)(iv)	Constitution of squads for night surveillance for finding the unauthorized dumping of sewage at NAD wetlands Kalamassery	Kalamassery Municipality, Police department	2020	NAD not provided CCTV. Night squad fine Rs.1768380	NAD not provided C CTV. Night squad fine 1825440	NAD not provided C CTV. Night squad fine 1867440		

A(b)	Installation of common STP for Kalamassery Municipality and ETP at Municipal Market	Kalamassery Municipality	December 2019	75 cent land identified at North Kalamassery for sewage and septage treatment plant violations. Second notice issued due to 2 persons and rectified the defect. Inspection conducted on 28.07.2022, fresh notice issued to 5 persons, 1 person cleared violation. Inspection conducted on 15.09.2022, fresh notice to 1 person. Inspection conducted on 29.12.2022, 5 persons cleared violation. Inspection conducted on 16.02.2023, 1 person fresh notice issued. 7 outlet of houses, 3 outlet of establishment in may 2023	75 cent land identified at North Kalamassery for sewage and septage treatment plant violations. Second notice issued due to 2 persons and rectified the defect. Inspection conducted on 28.07.2022, fresh notice issued to 5 persons, 1 person cleared violation. Inspection conducted on 15.09.2022, fresh notice to 1 person. Inspection conducted on 29.12.2022, 5 persons cleared violation. Inspection conducted on 16.02.2023, 1 person fresh notice issued. 7 outlet of houses, 3 outlet of establishment in may 2023	75 cents land identified at North Kalamassery for sewage and septage treatment plant		
A(a)(iv)	Monitoring and surveillance of industries in Kalamassery Industrial	KSPCB	2019		6 outlets were found out by the inspection conducted on last month and they were closed.			

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

					issued to 1 person . Inspection conducted on 29.12.2022, 5 persons cleared violation . Inspection conducted on 16.02.2023, 1 person fresh notice issued. 7 outlet of houses, 3 outlet of establishment in may 2023	issued to 1 person . Inspection conducted on 29.12.2022, 5 persons cleared violation . Inspection conducted on 16.02.2023, 1 person fresh notice issued. 7 outlet of houses, 3 outlet of establishment in may 2023		
E	Installation of cameras at the waste dumping spots	Kalamassery Municipality	2020	Camera installed on 10 locations. 2 portable (mobile) camera has installed for identifying waste dumping spot. Rs 36560/- levied till date.	Camera installed on 10 locations. 2 portable (mobile) camera has installed for identifying waste dumping spot. Rs 36560/- levied till date.	Camera installed on 10 locations. 2 portable (mobile) camera has installed for identifying waste dumping spot. Rs 36560 /- levied till date		
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	Arrangements have been made to drain the waste water discharged from the shopping complexes, shops etc. into the soakpit and solved the problem	Inspections are done time to time. No waste discharge was found during inspection time	Inspections are done time to time. No waste discharge was found during inspection time		

E	Installation of cameras at the waste dumping spots	Eloor Municipality	2020	<p>Keltron cameras are established in aerobic bins near HIM company and nearby the bins in Manjummel Arattukadavu.</p> <p>Cameras often not working due to software issues therefore officers from Keltron frequently conduct the inspection by the intervention of municipality and they ensure to solve the problems. Camera specification related problems are completely resolved.</p>	<p>Keltron cameras have been installed in the vicinity of the aerobic bins near HIL company and in Manjummel Arattukadavu. Also in the 2023-24 project amount has been allocated for the installation of cameras in different areas of the municipality and according to this 44,00,000 rupees tender procedures are being taken for 3 projects.</p>	<p>Keltron cameras have been installed in the vicinity of the aerobic bins near HIL company and in Manjummel Arattukadavu. Also in the 2023-24 project amount has been allocated for the installation of cameras in different areas of the municipality and according to this 44,00,000 rupees tender procedures are being taken for 3 projects</p>		
A(a)(iv)	Periodical inspection in the Industries, Flats, hotels for monitoring of STP,ETP located in Cochin corporation	KSPCB	periodical			Inspection ongoing		
A(a)	Inventory of sources of pollution through a rapid study/Study for identification of pollution sources at Edapally thodu	Kochi Municipal Corporation	3 months	<p>42 Lakhs has been found for removal of algae . As part of desilting works feom Lulu mall to Thuthiyur bridge has been</p>	<p>To find the source of discharge, a squad was formed under Engineering and health and regular inspections are carried out.</p>	<p>To find the source of discharge, a squad was formed under Engineering and health and regular inspections are carried out.</p>		

				completed	Identified sources will be informed. Desilting works have been completed	Identified sources will be informed. Desilting works have been completed		
E	issuing notice to the defaulters	Kochi Municipal Corporation	4 months					
A(a)(iv)	Periodical inspection in the flats, hotels, shops located along the river	Kochi Municipal Corporation	periodical	A thorough inspection was carried out in the establishments near the river. Notices were issued against those found violating the law.	A thorough inspection was carried out in the establishments near the river. Notices were issued against those found violating the law. Notice was sent by the Health Department. Corresponding actions will be reported before 5th September.	A thorough inspection was carried out in the establishments near the river. 112 notices were issued against those found violating the law on last month and 76 outlets of institutions have been closed. Made them to take PCB consent. A fine of 3 lakh have been imposed.		
A(b)	Identification of natural drains/thodu reaching river Periyar and cleaning of weeds, grasses etc	Irrigation department	2 years	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	Cleaning of 20 canals and 13 sub canals under Eloor municipality on the banks of Periyar in Kalamassery constituency and 40 canals under Paravur constituency situated on the banks of Periyar in Karumallor, Kunnukara and Alangad Panchayath, which	Cleaning of 20 canals and 13 sub canals under Eloor municipality on the banks of Periyar in Kalamassery constituency and 40 canals under Paravur constituency situated on the banks of Periyar in Karumallor, Kunnukara and Alangad Panchayath, which		

				<p>Operation Vahini.</p> <p>comes under the auspices of minor irrigation office are under progress. The proposal for the cleaning of the Onithod which connected from Periyar has been submitted to the government by the Ernakulum district collector from minor irrigation office. Permission not received. Irrigation Division has submitted estimates for rehabilitation of the following streams under Ernakulam.</p> <p>1. Kuthuthodu</p> <p>(IRR/IA/EST/8495/2022_5_8_7) Rs. 74.40 lakh</p> <p>2.Edathodu</p> <p>(IRR/IA/EST/8495/2022_5_11_10) Rs. 9/- lakh</p> <p>These works have not been approved.The cleaning of Vliyachal canal and Erazhichal in Eloor municipality is in progress under Minor irrigation department.</p>	<p>comes under the auspices of minor irrigation office are under progress. The proposal for the cleaning of the Onithod which connected from Periyar has been submitted to the government by the Ernakulum district collector from minor irrigation office. Permission not received. Irrigation Division has submitted estimates for rehabilitation of the following streams under Ernakulam.</p> <p>1. Kuthuthodu</p> <p>(IRR/IA/EST/8495/2022_5_8_7) Rs. 74.40 lakh</p> <p>2.Edathodu</p> <p>(IRR/IA/EST/8495/2022_5_11_10) Rs. 9/- lakh</p> <p>These works have not been approved.The cleaning of Vliyachal canal and Erazhichal in Eloor municipality is in progress under Minor irrigation department.</p>		
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C(iii)	Clearing of weeds, grasses at the river bank in order to ensure the smooth flow of water	Irrigation department	3 years	Operation Vahini 2022 has been completed. A proposal has been made for sanitation activities in Methanam areas. Permission not received	The project Operation Vahini 2022 is carried out to clean and desilt drains and hand drains. As part of this project, works on some tributaries of Periyar have been completed and also the cleaning of 17.5km of Edamula-Muttar-Varapuzha reach which is a part of Periyar is under completion. Proposals have been issued for cleaning activities Edayar and Methanam. If permission is granted, they will also be taken up	The project Operation Vahini 2022 is carried out to clean and desilt drains and hand drains. As part of this project, works on some tributaries of Periyar have been completed and also the cleaning of 17.5km of Edamula-Muttar-Varapuzha reach which is a part of Periyar is under completion. Proposals have been issued for cleaning activities Edayar and Methanam. If permission is granted, they will also be taken up		
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	The shutters are opened and operated at regular intervals.	The shutters are opened and operated at regular intervals.	The shutters are opened and operated at regular intervals.		
A(b)	Common Effluent Treatment Plant at Edayar Industrial	Industries department	2022	The project proposal for the establishment of common effluent	The project proposal for the establishment of common effluent plant			

	Estate			<p>plant is under revision and didn't receive any reply from government regarding the revised amount.</p> <p>Environmental Engineer explained more details about this subject. On 09/02/2023 during RRC chaired by Chief Secretary discussed OA673/2018 with other related departments and taken a decision that, all the industries in Edayar may have their own ETP so in that case CETP project can be abandoned. Therefore, Environmental Engineer suggested to exclude this agenda from further discussions.(including the minutes of the referred meeting)</p>	<p>is under revision and didn't receive any reply from government regarding the revised amount. Environmental Engineer explained more details about this subject. On 09/02/2023 during RRC chaired by Chief Secretary discussed OA673/2018 with other related departments and taken a decision that, all the industries in Edayar may have their own ETP so in that case CETP project can be abandoned. Therefore, Environmental Engineer suggested to exclude this agenda from further discussions.(including the minutes of the referred meeting)</p>			
A(b)	Construction of internal roads and	Industries departme		Completed construction of 13		Completed construction of 13 roads and		

	proper drainage in Edayar industrial estate	nt		roads and drainages.		drainages. Rs.6.54 crore has been approved to PWD for maintenance and repair.		
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. Currently CETP project has discontinued and the plan does not exist.	It was decided to include the project of installing the common discharge pipeline in the DPR of CETP. Currently CETP project has discontinued and the plan does not exist.			
E	Installation of Night vision surveillance cameras at the River Bank side	KSPCB	2020	The CCTV cameras and accessories have been installed. 7 cameras have been installed. New two cameras is yet to be installed. It will be fixed soon.	The CCTV cameras and accessories have been installed. 9 cameras have been installed.	The CCTV cameras and accessories have been installed. 9 cameras have been installed.		
A(a)(iv)	Periodical Monitoring of Eloor, Edayar, Kalamassery Industrial belts	KSPCB	2020	Routine inspection is going on. Night Surveillance also carried out continuously.	Routine inspection is going on. Night Surveillance also carried out continuously.	Routine inspection is going on. Night Surveillance also carried out continuously.		
A(a)(iv)	Monitoring of quality of water at various intake point	Kerala Water Authority	2020	Status not reported				

A(a)(iv)	Installation of additional continuous online River water monitoring station	KSPCB	2022	The maintenance works of Online monitoring station in the downstream side of PathalamBundhave been completed and is working. Online monitoring station in the upstream side has been installed. Display board work is in progress. Quality of water at upstream is satisfactory.	The maintenance works of Online monitoring station in the downstream side of PathalamBundhave been completed and is working. Online monitoring station in the upstream side has been installed. Display board work is in progress. Quality of water at upstream is satisfactory.	The maintenance works of Online monitoring station in the downstream side of PathalamBundhave been completed and is working. Online monitoring station in the upstream side has been installed. Display board work is in progress. Quality of water at upstream is satisfactory.		
A(b)	Identification of the establishments/commercial complexes/flats/houses/hotels etc who is discharging the sewage to the public drain	Kadungallur Panchayath	2020	Representative from concerned local body has not attended the meeting	Inspection Ongoing	Inspection Ongoing		
E	Installation of cameras at the waste dumping spots	Kadungallur Panchayath	2020		Project Ongoing	Project Ongoing		
A(b)	Identification of the establishments/commercial complexes/flats/houses/hotels etc who is	Choornikkar Panchayath	2020	150 soak pits have been constructed to prevent dumping of sewage from houses into the river, and no		150 soak pits have been constructed to prevent dumping of sewage from houses into the river, and no other		

	discharging the sewage to the public drain			other problems exist.		problems exist.		
E	Installation of cameras at the waste dumping spots	Choornikka ra Panchayath	2020	For the monitoring of sumping spots, 50 lakh rupees project is submitted for installing camera. Out of which 25 lakhs should be collected in the form of donation and Rs.2,06,000/- is already collected.		For the monitoring of sumping spots, 50 lakh rupees project is submitted for installing camera. Out of which 25 lakhs should be collected in the form of donation. 50 lakhs to be amended to 30 lakhs is under consideration. 2.11 lakhs as CSR contribution. It was decided to nrgotiate with the companies for the remaining amount, 5 lakh is also under consideration		

LONG TERM MEASURES

No. (as per Action Plan)	Activity	Implementin g agency	Time line	Progress in the month of August2023	Progress in the month of September 2023	Progress in the month of October 2023	% works complet ed	Details of works remaini ng
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	A letter (15.07.2023) has been issued by Tahsirdar of Paravur Taluk for surveying the banks of the river. Immediate actions will be followed up. An investigation estimate of Rs.8 lakhs has been prepared and submitted for construction of road and dyke wall near industrial belt. Financial sanction of 5.9 lakhs has been received, sent for administrative sanction.	Tender process for the 5.9 lakh construction of Dyke wall and surveillance road along the industrial has been completed and engaged in contract agreements. Dyke wall design will be accomplished by analyzing the investigation report		

					The design of the dyke wall can be completed only after considering the investigation report and the availability of space	and space availability.		
C(i)	Fencing of the river banks along the stretches of waste disposal (Edamula stretch)	Cochin Municipal Corporation	1-2 years					
C(iii)	Beautification of the river stretches (Edamula stretch)	Cochin Municipal Corporation	1-2 years	2018-2019 original report will be given in the next meeting. will be checked and the reply		Explanation will be given in next meeting		

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 August2023	Progress in the month of September 2023	Progress in the month of October 2023	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks					
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, FLOOR
ANALYSIS REPORT OF RIVER PERIYAR - OCTOBER 2023
Sampling point: ALUVA - MANAPPURAM**

Sl. No	Parameter	Unit	05.10.2023	25.10.2023
1	Temp	°C	28.1	28.0
2	pH		7.0	7.1
3	Conductivity	µS/cm	53.94	50.65
4	Turbidity	NTU	*	*
5	Chlorides	mg/L	10.9	14.9
6	Hardness	"	15.0	15.0
7	D.O.	"	6.7	6.3
8	Calcium	"	4.4	5.6
9	Magnesium	"	0.972	0.243
10	Ammoniacal Nitrogen	"	**	**
11	Phosphate	"	**	**
12	Total alkalinity	"	20.0	22.0
13	BOD	"	0.9	2.0
14	Sulphate	"	**	**
15	Nitrates	"	**	**
16	TC	cfu/100ml	1200.0	1200.0
17	FC	"	500.0	400.0
18	FS	"	NIL	NIL

* TURBIDITY METER IS OUT OF ORDER

** SPECTROPHOTOMETER IS OUT OF ORDER

**KERALA STATE POLLUTION CONTROL BOARD
ENVIRONMENTAL SURVEILLANCE CENTRE, FLOOR
ANALYSIS REPORT OF RIVER PERIYAR - OCTOBER 2023
Sampling point: PUTHALAM KADAVU**

Sl. No	Parameter	Unit	05.10.2023	25.10.2023
1	Temp	°C	28.0	27.9
2	pH		6.6	6.9
3	Conductivity	µS/cm	58.92	66.70
4	Turbidity	NTU	*	*
5	Chlorides	mg/L	14.9	14.9
6	Hardness	"	15.0	22.0
7	D.O.	"	5.6	5.6
8	Calcium	"	5.6	8.0
9	Magnesium	"	0.243	0.486
10	Ammoniacal Nitrogen	"	**	**
11	Phosphate	"	**	**
12	Total alkalinity	"	22.0	22.0
13	BOD	"	0.3	1.0
14	Sulphate	"	**	**
15	Nitrates	"	**	**
16	TC	cfu/100ml	1400.0	1000.0
17	FC	"	400.0	300.0
18	FS	"	NIL	NIL

* TURBIDITY METER IS OUT OF ORDER

** SPECTROPHOTOMETER IS OUT OF ORDER

**KERALA STATE POLLUTION CONTROL BOARD
ENVIRONMENTAL SURVEILLANCE CENTRE, ELOOR
ANALYSIS REPORT OF RIVER PERIYAR - OCTOBER 2023
Sampling point: PATHALAM BUND U/S**

Sl. No	Parameter	Unit	05.10.2023	25.10.2023
1	Temp	°c	B	B
2	pH		U	U
3	Conductivity	µS/cm	N	N
4	Turbidity	NTU	D	D
5	Chlorides	mg/L		
6	Hardness	"	O	O
7	D.O.	"	P	P
8	Calcium	"	E	E
9	Magnesium	"	N	N
10	Ammoniacal Nitrogen	"		
11	Phosphate	"		
12	Total alkalinity	"		
13	BOD	"		
14	Sulphate	"		
15	Nitrates	"		
16	TC	cfu/100ml		
17	FC	"		
18	FS	"		

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** SPECTROPHOTOMETER IS OUT OF ORDER

**KERALA STATE POLLUTION CONTROL BOARD
ENVIRONMENTAL SURVEILLANCE CENTRE, FLOOR
ANALYSIS REPORT OF RIVER PERIYAR - OCTOBER 2023
Sampling point: PATHALAM BUND D/S**

Sl. No	Parameter	Unit	05.10.2023	25.10.2023
1	Temp	°C	28.0	28.0
2	pH		6.8	7.3
3	Conductivity	µS/cm	111.7	240.9
4	Turbidity	NTU	*	*
5	Chlorides	mg/L	29.8	89.4
6	Hardness	"	37.0	90.0
7	D.O.	"	5.5	5.9
8	Calcium	"	12.8	28.0
9	Magnesium	"	1.215	4.860
10	Ammoniacal Nitrogen	"	**	**
11	Phosphate	"	**	**
12	Total alkalinity	"	18.0	22.0
13	BOD	"	1.0	1.6
14	Sulphate	"	**	**
15	Nitrates	"	**	**
16	TC	cfu/100ml	700.0	400.0
17	FC	"	100.0	NIL
18	FS	"	NIL	NIL

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**KERALA STATE POLLUTION CONTROL BOARD
ENVIRONMENTAL SURVEILLANCE CENTRE, FLOOR
ANALYSIS REPORT OF RIVER PERIYAR - OCTOBER 2023
Sampling point: PATHALAM BRIDGE**

Sl. No	Parameter	Unit	05.10.2023	25.10.2023
1	Temp	°C	28.1	27.9
2	pH		6.6	7.0
3	Conductivity	µS/cm	58.13	57.96
4	Turbidity	NTU	*	*
5	Chlorides	mg/L	14.9	16.9
6	Hardness	"	16.0	20.0
7	D.O.	"	6.3	6.4
8	Calcium	"	5.6	6.4
9	Magnesium	"	0.486	0.972
10	Ammoniacal Nitrogen	"	**	**
11	Phosphate	"	**	**
12	Total alkalinity	"	22.0	28.0
13	BOD	"	0.4	0.5
14	Sulphate	"	**	**
15	Nitrates	"	**	**
16	TC	cfu/100ml	900.0	700.0
17	FC	"	300.0	100.0
18	FS	"	NIL	NIL

* TURBIDITY METER IS OUT OF ORDER

** SPECTROPHOTOMETER IS OUT OF ORDER

**KERALA STATE POLLUTION CONTROL BOARD
ENVIRONMENTAL SURVEILLANCE CENTRE, ELOOR
ANALYSIS REPORT OF RIVER PERIYAR - OCTOBER 2023
Sampling point: MANJUMMAL BUND**

Sl. No	Parameter	Unit	05.10.2023	25.10.2023
1	Temp	°C	28.1	28
2	pH		6.7	6.9
3	Conductivity	µS/cm	60.87	102.50
4	Turbidity	NTU	*	*
5	Chlorides	mg/L	13.9	15.9
6	Hardness	"	17.0	28.0
7	D.O.	"	5.3	4.7
8	Calcium	"	6.0	9.2
9	Magnesium	"	0.486	1.215
10	Ammoniacal Nitrogen	"	**	**
11	Phosphate	"	**	**
12	Total alkalinity	"	22.0	30.0
13	BOD	"	1.2	2.1
14	Sulphate	"	**	**
15	Nitrates	"	**	**
16	TC	cfu/100ml	1900.0	1400.0
17	FC	"	700.0	400.0
18	FS	"	NIL	NIL

* TURBIDITY METER IS OUT OF ORDER

** SPECTROPHOTOMETER IS OUT OF ORDER

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

STNCode	Sampling Date	Sampling Time	StnName	Type Of Water Body	Name Of Water Body	River Basin
17	03.10.2023	10:30	Periyar at Eloor	River	Periyar River	
1338	19.10.2023	10:30	Periyar at SDP Aluva	River	Periyar River	
2334	04.10.2023	9:50	Periyar at Pathalam	River	Periyar River	
2335	04.10.2023	11:10	Periyar at Kalamassery	River	Periyar River	
3468	19.10.2023	10:45	Periyar at KWA Aluva	River	Periyar River	
2337	06.10.2023	11:00	Kadambayr At Brahmapuram	River	Kadambayr River	
2338	06.10.2023	11:30	Kadambayr At Manackakadavu	River	Kadambayr River	
1573	06.10.2023	11:15	Chithrapuzha At Irumpanam	River	Chithrapuzha River	
1154	19.10.2023	12:00	Chalaky at Pulikkakadavu	River	Chalaky River	

Sl. No.	Parameters	Values								
		Station Code								
		17	1338	2334	2335	3468	2337	2338	1573	1154
1	Temperature, °C	28	29	27	27	29	28	29	29	29
2	Dissolved Oxygen, mg/l	5.7	7	7.1	5.4	7.1	0.8	1.4	0.7	6.8
3	pH	8.2	8.7	6.7	6.5	8.1	6.9	7	7	7.6
4	Conductivity, µmhos/cm	62	45	105	66	46	102	115	135	79
5	BOD, mg/l	1.2	1	2	0.6	0.8	1	0.7	2	1.2
6	Nitrate-N, mg/l	0	0.18	0	0	0.23	0	0	0	0.29
7	Turbidity, NTU	4.4	4.1	14	12.9	3.1	9.5	14.5	8.4	5.6
8	Total Alkalinity, as CaCO ₃	20	13	18	22	15	26	30	21	22
9	Chloride, mg/l	7	5	20	6	4	15	14	23	11
10	COD, mg/l	4.0	3.2	6.4	1.8	2.4	3.2	1.8	7.2	4.0
11	TKN, mg/l	0	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2
12	Ammoniacal-N, mg/l	0	0	0	0	0	0	0	0	0
13	Total Hardness, as CaCO ₃ mg/l	22	13	21	23	15	26	30	33	21
14	Calcium, as CaCO ₃ mg/l	18	6	10	10	10	12	18	6	16
15	Magnesium as CaCO ₃ , mg/l	4	7	11	13	5	14	12	27	5
16	Sulphate, mg/l	0	0	0	0	0	0	0	12.4	0
5.8	Sodium, mg/l	3.65	2.6	11	3.5	2.1	7.8	7.3	13.27	5.8
18	Total Dissolved Solids, mg/l	35	25	58	36	26	56	63	75	44
19	Total Fixed Solids, mg/l	24	16	45	25	18	40	50	58	32
20	Total Suspended Solids, mg/l	8	6	12	12	6	8	10	10	6
21	Phosphate, mg/l	0.1	0.06	0.09	0.08	0.09	0.09	0.11	0.96	0.09
22	Boron, mg/l	0	0	0	0	0	0	0	0	0
23	Potassium, mg/l	1.25	0.68	1.08	0.04	0.71	2.77	2.87	2.57	1.61
24	Fluoride, mg/l	0.1	0.4	0.3	0.2	0.2	0.6	0.2	0.6	0.2
25	Total Coliform, MPN/100 ml	700	840	3100	4000	790	5800	4000	7000	700
26	Feecal Coliform, MPN/100 ml	220	480	480	1700	580	1700	1100	2000	540
27	Feecal Streptococci, MPN/100ml	38	250	43	200	200	320	340	310	70

National Mission for Clean Ganga

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

RIVER KARUVANNUR, THRISSUR

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

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

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of August 2023	Progress in the month Of September 2023	Progress in the month of October 2023	% works complete	Details of works remaining
Thirukuzhy thodu								
A(a)(iv)	Surveillance to restrict dumping of wastes into river and its branches	Vallachira Panchayat with the help of Police		-	-	-		
E	Cleaning and desilting of canal	Irrigation Department and Vallachira Panchayat	4months			-	100	nil
Thodu near Kadalassery bridge								
A(b)	Identification of pollution sources and surveillance to restrict dumping of wastes	Vallachira, Pudukad & Nenmanikkara Panchayats	1 month	Ongoing	Ongoing		100	0
E	Cleaning and desilting	Irrigation Department and Vallachira	4months	nil	nil	nil	100	0

		Panchayat						
Neerolithodu								
E	Cleaning and desilting	Irrigation Department	4months	completed				
Painkilikayal thodu								
E	Cleaning and desilting	Irrigation Department and Vallachira Panchayat	4months	. completed				
Kadathodu								
A(b)	Identification of pollution sources and surveillance to restrict the dumping of wastes	Vallachira & Nenmanikkara Panchayats	1 month	Ongoing	Ongoing	Ongoing	100	0
E	Cleaning and desilting	Irrigation Department	4months	<p>പ്രസ്തുത പ്രവൃത്തിയ്ക്ക് 20/03/2023 തീയതിയിലെ ജലസേചനവും ഭരണവും, ചീഫ് എഞ്ചിനീയറുടെ ഉത്തരവ് നം. AS/59D/22/25940 പ്രകാരം 9.5 ലക്ഷം രൂപയ്ക്ക് 2702-01-800-86-00-00-P-V എന്ന ഹെഡിൽ ഭരണാനുമതി ലഭിച്ചിട്ടുണ്ട്. പ്രസ്തുത തോട് വല്ലച്ചിറ പഞ്ചായത്തിന്റെ അധീനതയിൽ ആയതിനാൽ പ്രവൃത്തിക്ക് സാങ്കേതികാനുമതി നൽകുന്നതിന് പഞ്ചായത്തിന്റെ resolution ആവശ്യമാണ്. പ്രസ്തുത resolution ലഭ്യമാകുന്നതിനായി പഞ്ചായത്ത് സെക്രട്ടറിയുടെ കത്ത് സമർപ്പിച്ചിട്ടുണ്ട്</p>				
Main Stream –along Karuvannur								

A(a)(iv)	Periodic Surveillance to restrict the dumping of waste into river and imposing Fine	Irinjalakkuda Municipality, Police Dept.		Presently no such dumping of waste. Square inspection ongoing well including night squad	Presently no such dumping of waste. Squad inspection ongoing well including night squad.	Presently no such dumping of waste. Squad inspection ongoing well including night squad.		
A(b)	Sanitation Survey	Irinjalakkuda Municipality	3 Months	100% Completed	100% Completed	100% Completed		
A(b)	Closing of all un authorized outlets leading to the river	Irinjalakkuda Municipality		Inspection is going on. There is no unauthorized outlets leading to the river.	Inspection is going on. There is no unauthorized outlets leading to the river.	Inspection is going on. There is no unauthorized outlets leading to the river		
A(b)	Closing of all un authorized outlets in the drain leading to the river	Irinjalakkuda Municipality		There is no unauthorized outlets in the drain leading to the river.	There is no unauthorized outlets in the drain leading to the river	There is no unauthorized outlets in the drain leading to the river.		

E	Boards to display slogans against littering waste in various Places other IEC Activities Like posters, notices and classes	Irinjalakkuda Municipality	6 months	Installed boards along Karuvannur river side against littering waste and animal bath. Board installation process is going on in various places of municipal area. We used tp conduct surveys, distributed notices to all the houses near to the riverside.	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.	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.		
Monitoring								

A(a)(iv)	River water quality monitoring	KSPCB	Ongoing; monthly frequency	Monitoring is going on August monthly basis	Monitoring is going on September monthly basis	Monitoring is going on October monthly basis		
A(b)	Inspection & effluent quality monitoring of the Flats, industrial units, service stations, hospitals,hotels etc	KSPCB	Ongoing	Going on monthly basis.	Going on monthly basis.	Going on monthly basis		
Long Term Plan								
A(b)	Sewage treatment facilities to all house holds	Vallachira Grama Panachayat	1 yr	Nil	Nil	nil	100	0
A(b)	Construction of FSTP and STP	Irinjalakkuda Municipality	2 years	Constructio n of STP plant at General Hospital, Irinjalakuda – DPR approved by Suchitwa Mission	Constructi on of STP plant at General Hospital, Irinjalakud a – DPR approved by Suchitwa Mission	Constructio n of STP plant at General Hospital, Irinjalakuda – DPR approved by Suchitwa Mission		
C(ii)	Setting up of a modern crematorium at Mandarakkadavu, Arattupuzha	Vallachira Grama Panachayat	2 years	No Fund	No fund	No fund		100
C(ii)	Solid waste treatment facility	Vallachira Grama	2 years				100%	

		Panchayat						
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	ടി പ്രവൃത്തിയ്ക്കായി 10.00 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് Price 3.0 ൽ തയ്യാറാക്കി പ്രൊപ്പോസൽ സാമ്പത്തികാനുമതി ലഭിക്കുന്നതിനായി 2022-23 സാമ്പത്തിക വർഷത്തെ പ്രയോജിനി ലിസ്റ്റിൽ ഉൾപ്പെടുത്തി ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും ഭരണവും തിരുവനന്തപുരത്തിന് 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	Police Department installed CCTV and currently functioning	Police Department installed CCTV and currently functioning		

				Near Karuvannur Bridge	Near Karuvannur Bridge	Near Karuvannur Bridge		
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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 August 2023	Progress in the month of September 2023	Progress in the month of October 2023	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks	According to the latest GEC report there is no critical / over exploited blocks in Thrissur Dt.	According to the latest GEC report there is no critical / over exploited blocks in Thrissur Dt.	According to the latest GEC report there is no critical / over exploited blocks in Thrissur Dt.		

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

ACTION PLAN BY GRAMAPANCHAYATH

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of August 2023	Progress in the month of	Progress in the month of	% works completed	Details of works remaining
					September 2023	October 2023		
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	completed	completed	completed	100	
C	Side protection of Manalippuzha with organic materials available locally	MGNREGS	31.03.2020	completed	completed	completed	100	

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

				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.	3.5 km survey out of 7 k.m. have been completed & 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	Completed	100 %	COMPLETED
A(b)	Reconstruction and protection of Paliyekkara Karama Thodu	MGNREGS	31.03.2020	COMPLETED	COMPLETED	Completed	100%	COMPLETED

KARUVANURDate of sampling-
05.10.2023

SL. NO	PARAMETER	UNIT	KT	MRK	KND	MDK	THR	KRV
1	pH		6.35	5.95	6.28	6.31	6.26	6.87
2	EC	µs/cm	90.63	89.49	80.85	129.1	110.5	86.9
3	BOD	mg/L	1.007	1.43	1.16	1.38	1.96	1.48
4	DO	mg/L	3.07	6.25	9.01	2.12	4.92	6.6
5	COD	mg/L	8	4	8	8	4	4
6	TC	CFU/100ml	550	700	400	800	900	500
7	FC	CFU/100ml	100	250	100	150	400	350
8	FSC	CFU/100ml	NIL	10	20	40	NIL	20

KT - KANAKKAN KADAVU, KARUVANNUR

MRK - NEEROLI THODU, KARUVANNUR

KND - KANATHODU, KARUVANNUR

MDK - MUTTIKKAL DAM, KARUVANNUR

THR- THIRUKUZHI, KARUVANNUR

KRV - PAINKILIKAYAL THODU, KARUVANNUR

National Mission for Clean Ganga

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

RIVER KECHERY, THRISSUR

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

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

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of August 2023	Progress in the month of September 2023	Progress in the month of October 2023	% works complete d	Details of works remaining
WADAKKENCHERY RIVER -SHORT TERM MEASURES								
A(b)	Identification of illegal outlets from houses and shops/other establishments in town and imposing fine	Wadakkanchery Municipality, Ayyakali Urban Employment Guarantee Scheme & health squad	Completed	Polluting Sources & Illegal outlets were identified, notice issued as per Kerala Municipal Act and removed. Doing	Polluting Sources & Illegal outlets were identified, notice issued as per Kerala Municipal Act and removed. Doing	Completed		

				regular inspection	regular inspection.			
E	Installation of CCTV s on the bank of river in town	Wadakkanchery Municipality	31.03.2022		It has been informed that steps have been taken to obtain approval from the council to get funds for setting up CCTV		0%	Work not started due to scarcity of Municipal fund

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

		Investment Fund Board		and report submitted before Hon. District Collector for getting land	ted . Site identified and report submitted before Hon. District Collector for getting land.			
C(iii)	Windrow composting at Kumbalangad yard	Wadakkanchery Municipality	March 2022	Work completed	Work completed	Work completed	100%	
C(ii)	Modern slaughter House	Wadakkanchery Municipality, Kerala Infrastructure Investment Fund Board	March 2022	Lack of suitable site for the project	Lack of suitable site for the project			Lack of suitable site for the project
E	Forestation, desilting & deepening of Wadakkanchery river and fitting river side with coir geo net	Wadakkanchery Municipality	desilting deepening of Wadkanchery River 3 km in	Fitting river side with	Fitting river side with	Fitting river side with Coir Geo Net.		Fitting river side with Coir Geo Net. Awaiting

			Municipal area completed 7655m ³ desilt removed	Coir Geo Net. Awaiting Municipal Council Decision for fund allocation	Coir Geo Net. Awaiting Municipal Council Decision for fund allocation	Awaiting Municipal Council Decision for fund allocation		Municipal Council Decision for fund allocation
	Rain water harvesting	Wadakkanchery Municipality	Ongoing work					
	Ground water recharge	Wadakkanchery Municipality	Ongoing work					
	River survey	Wadakkanchery Municipality	Ongoing work					
	Regulating activities in flood plain zone, protection and management of flood plain zone	Wadakkanchery Municipality	30-03-2022	As part of the action plan prepared in	As part of the action plan prepared in	As part of the action		

				relation to the revival of Kecheri River, the plastic wastes that have fallen into the river have been included in the Job Guarantee Project and removed.	relation to the revival of Kecheri River, the plastic wastes that have fallen into the river have been included in the Job Guarantee Project and removed. 913741 rupees were	plan prepared in relation to the revival of Kecheri River, the plastic wastes that have fallen into the river		
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				91374 1 rupees were spent in this work. Garba ge that fell due to rain was remov ed in many places.	spent in this work. Garbag e that fell due to rain was remove d in many places.	hav e bee n incl ude d in the Job Gua rant ee Proj ect and rem ove d. 913 741 rupe es wer e spe nt in this wor		
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						k. Garbage that fell due to rain was removed in many places.		
	Greenery development Plantation plan. Plantation on both sides of the river, settling up biodiversity parks on flood plains by removing encroachment	Wadakkanchery Municipality	30-03-2022	Bambo saplings were planted on both sides of the river through	Bambo saplings were planted on both sides of the river through	Bambo saplings were planted on both		

				<p>h “Wada kanch erry riversi de affores tation” . 15597 6 rupees were spente d for this work. The garbag e in the flood- prone areas has been remov ed and</p>	<p>“Wada kanche rry riversid e afforest ation”. 155976 rupees were spente d for this work. The garbag e in the flood- prone areas has been remove d and the flow has been</p>	<p>side s of the river thro ugh “Wa dak anc herr y river side affo rest atio n”. 155 976 rupe es wer e spe nted for this wor</p>		
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				the flow has been facilitated.	facilitated.	k. The garbage in the flood-prone areas has been removed and the flow has been facilitated.		
	Short term plan (Kecheri river)							

E	Installation of CCTV in different locations along river side	PWD Electronic division		Progress has not been reported	Progress has not been reported	Proposals submitted under KSWMP		Including 2023-24 project
E	Fixing Boards	Choondal Grama Panchayat	Completed	Completed	Completed	Completed	100%	Board fixed (including 2021-22 project)
A(a)(iv)	Surveillance to prevent flow of sewage /effluent to river	Choondal Grama Panchayat	Ongoing					Action taken
A(b)	Stoppage of effluent from residential apartment (Shajan's flat) and pig farm into the river	Choondal Grama Panchayat	Action taken					Stop Memo Had been Given to Concerned persons
Long Term Plan (Kecheri river)								

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

IRRIGATION DEPARTMENT

No.	Activity	Implementing agency	Time line	Progress in the month of August 2023	Progress in the month of September 2023	Progress in the month of October 2023	% works completed	Details of works remaining
1	Issues relating to E-flow, maintaining minimum environmental flow of river (by having watershed management provisions)	Irrigation Department	30-03-2022	കേച്ചേരി പുഴയുടെ പാരിസ്ഥിതിക നീരൊഴുക്ക് പഠനം (E-flow) പൂർത്തിയാക്കി റിപ്പോർട്ട് 18/05/2022 ന് ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും	കേച്ചേരി പുഴയുടെ പാരിസ്ഥിതിക നീരൊഴുക്ക് പഠനം (E-flow) പൂർത്തിയാക്കി റിപ്പോർട്ട് 18/05/2022 ന് ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും ഭരണവും, തിരുവനന്തപുരത്തിന്	കേച്ചേരി പുഴയുടെ പാരിസ്ഥിതിക നീരൊഴുക്ക് പഠനം (E-flow) പൂർത്തിയാക്കി റിപ്പോർട്ട് 18/05/2022 ന് ചീഫ് എഞ്ചിനീയർ,	100%	

				ഭരണവും, തിരുവന്തപുരത്തിന് സമർപ്പിച്ചിട്ടുണ്ട്.	സമർപ്പിച്ചിട്ടുണ്ട്.	ജലസേചനവും ഭരണവും, തിരുവന്തപുരത്തിന് സമർപ്പിച്ചിട്ടുണ്ട്.		
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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 August 2023	Progress in the month of September 2023	Progress in the month of October 2023	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks	According to the latest GEC report there is no critical / over exploited blocks in Thrissur Dt.	According to the latest GEC report there is no critical / over exploited blocks in Thrissur Dt.	According to the latest GEC report there is no critical / over exploited blocks in Thrissur Dt.		

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

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of August 2023	Progress in the month of September 2023	Progress in the month of October 2023	% works completed	Details of works remaining
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C	Punarjani Kecherri river	Choondal Grama Panchayat	Completed	-	-	-		Flood Wastes from the river has been removed and made water flow easily which reduced chances of flood .
C(ii)	Surveying of river side, eviction and planting trees	Choondal Grama Panchayat		-	-	-		Survey completed
C	Side Protection	Choondal Grama Panchayat	Completed	-	-	-		
C	Bio fencing related to river bank protection – water and soil Conservation project ward 3,4,7	MGNRES	Not started					

Date of sampling-04-10-2023				
SL. NO	PARAMETER	UNIT	VAD1	VAD2
1	pH	-	6.98	6.92

2	Electrical Conductivity	µs/cm	117.2	108.3
3	BOD	mg/L	1.8	2.3
4	DO	mg/L	6.8	6.96
5	COD	mg/L	4	24
6	TC	CFU/100ml	NIL	500
7	F C	CFU/100ml	NIL	200
8	FSC	CFU/100ml	NIL	10
VAD1 - WADAKKANCHERY PUZHA (WADAKKANCHERY BRIDGE), KECHERY				
VAD2 - WADAKKANCHERY PUZHA(CHALIPPADAM ROAD), KECHERY				

National Mission for Clean Ganga

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

RIVER PUZHAKKAL, THRISSUR

S. No.	Activity to be monitored	Timeline	Submission of progress by State/UT- Compliance status
1	Ensure 100% treatment of sewage at least in-situ remediation	31.05.2023	In progress
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured	31.05.2023	In progress
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning		STP completed initial PCB NOC obtained.
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none">• Specifying accountability of nodal authorities not below the Secretary level• Chief Secretaries may have an accountable person attached in their office for this purpose		1. 360 KLD Sewage Treatment Plant for General Hospital, Thrissur Administrative Sanction has been accorded for this project vide GO (Rt) No. 5/2018/LSGD dated 01/01/2018 for Rs. 3.52Cr.TS accorded for Rs. 3.52Cr from the technical committee constituted for AMRUT sewerage projects. Work has

			<p>been awarded to M/s Green Eco Water Systems, Hyderabad. Agreement executed on 14/10/2020. Consent to establish obtained from PCB on 17/12/2020. Even after conducting several meetings with the contractor, contractor has not started the work. Hon.Council dated 29.01.2022 decided to terminate the</p> <p>contract under risk and cost of the contractor and also to black list the contractor. It has been also decided by the council to invite limited tender from accredited agencies as per rules. Now the schedule of rate changed from approved estimate. Corporation council dated 31.08.2022 approved the recasted estimate amounting to Rs. 4.50 cr. Revised AS obtained for Rs. 4.5 cr. vide GO(Rt) No. 3222/22/LSGD dtd:</p>
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			<p>27.12.2022. Revised technical sanction obtained for Rs. 4.50 Cr. on 18.12.2022 open technology tender invited on 21.12.2022. Agreement executed on 28.03.2023 with M/s Green Method. Work in progress.,50 % completed</p> <p>100KLD Septage Treatment Plant at Ramavarmapuram,Thrissur</p> <p>Administrative Sanction has been accorded for this project vide GO (Rt) No. 5/2018/LSGD dated 01/01/2018 for Rs. 3.50Cr.TS accorded for Rs. 3.10 Cr from the technical committee constituted for AMRUT sewerage projects. Selection memo has been issued to M/s Green Eco Water Systems, Hyderabad. Hon. Council has decided to get the consent to establish from PCB first and then to proceed for further steps of executing agreement. Consent to establish obtained from PCB on 28/05/2021.Contractor has not executed the agreement even after</p>
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			<p>issuing several notices in this regard.</p> <p>Hon.Council dated 29.01.2022 decided to terminate the contract under risk and cost of the contractor and also</p> <p>to black list the contractor. It has been also decided by the council to invite limited tender from accredited agencies as per rules. Now the schedule of rate changed from approved estimate. Revised technical sanction for the recast estimate amounting to Rs. 3.5 Cr. obtained on 18.12.2022. Open technology tender invited on 21.12.2022. Single tender received and hence retendered. Single tender received again, quotation invited. 3 bids received, technical bid evaluation is in progress.</p>
	<ul style="list-style-type: none"> Monitoring at State level must take place 		NA
6	Progress report may be furnished by the State/UTs to		

	<ul style="list-style-type: none">• Secretary, Ministry of Jal Shakti• Member Secretary, CPCB		
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6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic</p>		
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	<p>waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p> <p>(vii) Ground water regulation</p> <p>(viii) Adopting good irrigation practices</p> <p>(ix) Protection and management of flood plain Zones (FPZ)</p> <p>(x) Rain water harvesting</p> <p>(xi) Maintaining minimum Environmental flow of river</p> <p>(xii) Plantation on both sides of the river</p> <p>(xiii) Setting up biodiversity parks on flood plains by removing encroachment</p>		
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**ACTION PLAN FOR RIVER PUZHAKKAL, KERALA
SHORT TERM MEASURES**

No. (as per Action Plan)	Activity	Implementin g agency	Time line	Progress in the month of August 2023	Progress in the month of September 2023	Progress in the month of October 2023	% wor comp	Details of works remaining
A(b)	Identification of illegal outlets into the Panchikkal thodu and subsidiary drains	Thrissur Corporation	3 month s			0	1 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 month s	15	12	8	1 0 0 %	0
A(b)	Ensure adequate treatment facility is provided for waste water and solid waste generated from Sri Dharma Sastha temple situated on the banks of the river	Adat Grama Panchayat						Instruction has been provide to temple authorities for construction of waste disposal facilities in

								accordance with swm2016
E	Desilting of Karakattuchal near Green field to Puzhakkal (Green field)	Irrigation Department	4 months	Work completed	Work completed	Work completed	0	
E	Desilting of Panchikkal thodu	Irrigation Department	4 months	Work completed	Work completed	Work completed	100	
E	Desilting of Kurinjikkal thuruth	Irrigation Department	4 months	Work completed	Work completed	Work completed		
E	Desilting of Muppuzha(Cleaning and deepening of feeder canal from railway bridge near Vanchikulam to diversion of Karanchira and Enamakkal feeder canal near Nedupuzhakadavu)	Irrigation Department	4 months	Work completed	100% work completed	100% work completed	100	

E	Side protection, desilting and deepening work of vanchikulam thodu at Poothole of length about 40 km (work in progress).	Thrissur Corporation	3 months	550 meter side protection wall completed. 642 meter protection wall proposed and work in progress.	660 meter side protection wall completed. 460 meter protection wall proposed and work in progress.	995 meter side protection wall completed. 25meter protection wall proposed and work in progress. 130 Nos. Works are proposed and work not started.		
E	Annual desilting, cleaning of main drains and canals within the corporation area (work in progress).	Thrissur Corporation	3 months	Work completed	Work completed	Work completed	100%	
Monitoring								

A(a)(iv)	River water quality monitoring	KSPCB	Ongoing; monthly frequency			Analysis report for the month of October submitted		
A(b)	Inspection & effluent quality monitoring of the Flats, industrial units, service stations, hospitals,hotels etc	KSPCB	Ongoing	Ongoing	Ongoing			Continuing
Long Term Plan								
A(b)	Ensuring installation of treatment facilities for at least 50% of the identified establishments	Thrissur Corporation	18 months					
A(b)	100% completion of treatment facilities for targeted institutions/ buildings	Thrissur Corporation	24 months					
A(b)	Construction of a drain 40 km with covering slabs to avoid the direct disposal of waste in to the open drain	Thrissur Corporation	24 months	35.05 KM of drain work and 5.80 KM of coveri ng slabs comp leted and More works propo sed under annu	35.30 KM of drain work and 5.85 KM of coveri ng slabs compl eted and More works propo sed under	38.5 KM of drain work and 7.10 KM of covering slabs completed and More works proposed under annual plan 2023- 24.		

				al plan and 48 numb ers of work comp leted.	annual plan 2022- 23 and 46 numbe rs of work compl eted			
A(b)	Construction of a drain 9000 m with covering slabs to avoid the direct disposal of waste in to the open drain	Thrissur Corporation	24 months	35.3 0 KM of drain work and 5.85 KM of cover ing	37.10 KM of drain work and 6.70 KM of coveri ng slabs compl	38.5 KM of drain work and 7.10 KM of covering slabs complete d and More works		

				slabs completed and More works proposed under annual plan 2022-23 and 46 numbers of work completed	eted and More works proposed under annual plan 2022-23.	proposed under annual plan 2023-24.		
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) 100KLD Septage Treatment Plant at Ramavarmapuram,		

						<p style="text-align: center;">Thrissur</p> <p>Administrative Sanction has been accorded for this project vide GO (Rt) No. 5/2018/LSGD dated 01/01/2018 for Rs. 3.5Cr.TS accorded for Rs. 3.10 Cr from the technical committee constituted for AMRUT sewerage projects. Selection memo has been issued to M/s Green Eco Water Systems, Hyderabad. Hon. Council has decided to get the consent to establish from PCB first and then to proceed for further steps of executing agreement. Consent to establish obtained from PCB on 28/05/2021. Contractor has not executed the agreement even after issuing several notices in this regard. Hon.Council dated 29.01.2022 decided to</p>
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						<p>terminate the contract under risk and cost of the contractor and also to black list the contractor. It has been also decided by the council to invite limited tender from accredited agencies as per rules. Now the schedule of rate changed from approved estimate. Revised technical sanction for the recast estimate amounting to Rs. 3.5 Cr. obtained on 18.12.2022. Open technology tender invited on 21.12.2022. Single tender received and hence retendered. Single tender received again, quotation invited. 3 bids received, technical bid evaluation is in progress.</p>
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					<p style="text-align: center;">2. 360 KLD Sewage Treatment Plant for General Hospital, Thrissur</p> <p>Administrative Sanction has been accorded for this project vide GO (Rt) No. 5/2018/LSGD dated 01/01/2018 for Rs. 3.52Cr.TS accorded for Rs. 3.52Cr from the technical committee constituted for AMRUT sewerage projects. Work has been awarded to M/s Green Eco Water Systems, Hyderabad. Agreement executed on 14/10/2020. Consent to establish obtained from PCB on 17/12/2020. Even after conducting several meetings with the contractor, contractor has not started the work.</p>
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						<p>Hon.Council dated 29.01.2022 decided to terminate the contract under risk and cost of the contractor and also to black list the contractor. It has been also decided by the council to invite limited tender from accredited agencies as per rules. Now the schedule of rate changed from approved estimate. Corporation Council dtd. 31.08.2022 approved the recasted estimate amounting to Rs. 4.50 cr. Revised AS obtained for Rs. 4.5 cr. vide GO(Rt) No. 3222/22/LSGD dtd: 27.12.2022. Revised technical sanction obtained for Rs. 4.50 Cr. on 18.12.2022 open technology tender invited on 21.12.2022. Agreement executed on 28.03.2023 with M/s Green Method.</p>
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							Work in progress.	
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	Project cancelled in AMR UT-1 and proposed in AMR UT 2.0				2.50 MLD MLD : Corporation Council decided to cancel the project in AMRUT -1 and proposed the same in AMRUT 2.0. vid Council resolution 78-A1 dtd. 08.12.202 2. 26 th SLTC of AMRUT-1 held on 20.12.202 2 and

								24.12.202 2 approved the same and recomme nded to SHPSC. 32 nd SHPSC dated 23.01.202 3 approved the same. The same was approved by G.O (Rt) No. 660/2023 /LSG dtd: 20.03.202 3. Corporati on submitted the applicatio
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								<p>n for land conversion in LLMC held on 20.02.2023 and 21.03.2023, but clearance is yet to be obtained. Honble Mayor has sent letter on 28.04.2023 to Agricultural Officer for producing proof for inclusion of the proposed land in RAMSAR site.</p>
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								Reminder letter sent on 08.05.2023.
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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 August 2023	Progress in the month of September 2023	Progress in the month of October 2023	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks	According to the latest GEC report there is no critical / over exploited blocks in Thrissur Dt.	According to the latest GEC report there is no critical / over exploited blocks in Thrissur Dt.	According to the latest GEC report there is no critical / over exploited blocks in Thrissur Dt.		
2	B(ii)	Ground water recharging / rain water harvesting	Proposal for two artificial recharge schemes (dug well recharge) submitted for technical sanction. Two artificial recharge schemes tendered.	Three artificial recharge sites selected and one proposal sent for technical sanction. Two	Three artificial recharge sites selected and one proposal sent		

				artificial recharge schemes completed.	for technical sanction.		
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					

ACTION PLAN BY GRAMAPANCHAYATH

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of August 2023	Progress in the month of September 2023	Progress in the month of October 2023	% works completed	Details of works remaining
C	Removing weeds in Puzhakkal River	Adat Gramapanchayath	31.03.2020				100%	completed
C(ii)	Removing waste from all wards through kudumbasree	KUDUMBASREE	31.03.2020				100%	completed
C	water conservation projects-- tree plantation under GA in 18 wards 100000/ each	MGNREGS	31.03.2020				79%	21
C	ward 14 pachthurthu construction	Haritha Keralam Mission	31.03.2020				100%	completed
C	side protection to water bodies coir geo textile	MGNREGS	31.03.2020				80%	20

PUZHAKKAL**Date of sampling-10-10-2023**

SL. NO	PARAMETER	UNIT	SBA	KTH	PTU	MP
1	pH		6.72	7.13	6.81	7.07
2	EC	µs/cm	124.3	187.2	264.2	148.6
3	BOD	mg/L	0.53	0.53	1.74	3.8
4	DO	mg/l	5.98	4.5	5.7	4.9
5	COD	mg/L	4	4	8	12
6	TC	CFU/100ml	200	350	700	800
7	F C	CFU/100ml	50	150	200	350
8	FSC	CFU/100ml	20	10	10	20

SBA - NEAR SOBHA CITY, KIZHAKKUMMURI ROAD , PUZHAKKAL

KTH - KURINJAKKAL THODU, PUZHAKKAL

PTU - PANCHIKKAL THODU, PUZHAKKAL

MP - MUPPUZHA, PUZHAKKAL

**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 – OCTOBER 2023

S. No	Activity to be monitored	Timeline	Submission of progress by State/UT- Compliance status
1	Ensure 100% treatment of sewage at least in-situ remediation	March 2021	Field Survey was completed and the location was identified for STP. Kerala Water Authority is preparing a DPR for sewerage network and STP for Pattambi Municipality.
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured	Not proposed	Not Applicable
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning	March 2021 (Primary STP and Septage Treatment Plant proposed, not STP)	Kerala Water Authority is preparing a DPR for sewerage network and STP.
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none"> • Specifying accountability of nodal authorities not below the Secretary level • Chief Secretaries may have an accountable person attached in their office for this purpose 	Applicable at State level	Not Applicable
	<ul style="list-style-type: none"> • Monitoring at State level must take place 	Applicable at State level	Not Applicable
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none"> • Secretary, Ministry of Jal Shakti • Member Secretary, CPCB 	Applicable at State level	Not Applicable

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv)<u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p> <p>(vii) Ground water regulation</p>	<p>Primary STP (oil and grease trap with grit chamber)- March 2021</p> <p>Not Proposed</p> <p>Not proposed</p> <p>MSW treatment Plant – March 2021</p> <p>March 2021</p> <p>Implemented by January 2020</p> <p>No specific proposal</p>	<p>Kerala Water Authority is preparing a DPR for sewerage network and STP.</p> <p>Not Applicable</p> <p>Not Applicable</p> <p>Implemented</p> <p>Water quality monitoring of polluted river stretch and two additional points were completed until JANUARY 2022. Results are complying with outdoor bathing standards.</p> <p>Management of dry wastes were achieved through the MCF and RCF facilities, BMW by CBWTF, E-Waste by authorised collection agencies.</p> <p>Not Applicable</p>
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<p>(viii) Adopting good irrigation practices</p>	<p>No specific proposal</p>	<p>Not Applicable</p>
<p>(ix) Protection and management of food plain Zones (FPZ)</p>	<p>March 2021</p>	<p>A more comprehensive DPR by Irrigation Department and submitted for approval of State Government</p>
<p>(x) Rain water harvesting</p>	<p>No specific proposal</p>	<p>Not Applicable</p>
<p>(xi) Maintaining minimum Environmental flow of river</p>	<p>March 2021</p>	<p>A more comprehensive DPR by Irrigation Department and submitted for approval of State Government</p>
<p>(xii) Plantation on both sides of the river</p>	<p>No specific proposal</p>	<p>Not applicable</p>
<p>(xiii) Setting up biodiversity parks on flood plains by removing encroachment</p>	<p>No specific proposal</p>	<p>Not applicable</p>

ACTION PLAN FOR RIVER BHARATHAPUZHA, KERALA

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of September 2023	Progress in the month of October 2023	% works completed	Details of works remaining
1	Establishment and Modernisation of MSW treatment Plant (Solid Waste Management)	Pattambi Municipality	March 2021	Implemented	Implemented	100% work completed	Nil
2	Material collection Facility (Solid Waste Management)	Pattambi Municipality	Implemented by January 2020	Implemented	Implemented	100% implemented	Nil
3	Resource recovery facility (Solid Waste Management)	Pattambi Municipality	Implemented by January 2020	Implemented	Implemented	100% implemented	Nil
4	Installing house hold and community level solid waste management units	Pattambi Municipality	March 2021	Household level project Technical Sanction approved	Tendering work is in progress	79% implemented	21% implementation remaining
5	Door to Door Collection and Transportation of MSW	Pattambi Municipality	December 2020	Implemented	Implemented	Implemented	Nil
6	Regulating activities in flood plain zone protection and management of flood plain zone including side bank protection and greenery development	Irrigation department	March 2021	A more comprehensive DPR by Irrigation Department and submitted for approval of State Government	A more comprehensive DPR by Irrigation Department and submitted for approval of State Government. Planning Board	Implementation not started	Full implementation remaining

					approved budget of 500 Crore for NGT related projects. That fund may be utilised for the implementation of DPR.		
7	Issues relating to E-flow, maintaining minimum environmental flow of river (by having watershed management provisions) including removal of light jungles and muddies from river courses	Irrigation department	March 2021	A more comprehensive DPR by Irrigation Department and submitted for approval of State Government	A more comprehensive DPR by Irrigation Department and submitted for approval of State Government	Implementation not started	Full implementation remaining
8	Management of Municipal plastics, hazardous, biomedical and electrical and electronic wastes	Panchayath Municipality	Implemented by January 2020	Implemented	Implemented	100% Implemented	Nil
9	Awareness programmes for sections of public	KSPCB	March 2021	Implemented	Implemented	100% Implemented	Nil
10	Monitoring of river water quality by sampling	KSPCB	2020-2021	Water quality monitoring in Bharathapuzha at Pattambi and two additional points were completed until September 2023	Water quality monitoring in Bharathapuzha at Pattambi and two additional points were completed until October 2023	Implemented.	Implemented. Will continue up to the full implementation of the action plan. Consistently achieving

							bathing standards
11	Primary Sewage Treatment Plant and Septage Treatment plant	Pattambi Municipality	March 2021	KWA has proposed a plan to construct a STP	Field Survey was completed and the location was identified for STP. Kerala Water Authority is preparing a DPR for sewerage network and STP for Pattambi Municipality.	20% implemented	80% remaining
12	Installation of Modern Slaughter House and Rendering Plant	Pattambi Municipality	March 2021	Project submitted before DPC for purchasing land for slaughter house	Project submitted before DPC for purchasing land for slaughter house.	10% implemented	90% remaining
13	Construction of Sanitary Complex in Public Place	Pattambi Municipality	March 2021	DPR preparation on the renovation of two sanitary complexes and four new sanitary complexes at Pattambi Municipality is in progress.	DPR preparation on the renovation of two sanitary complexes and four new sanitary complexes at Pattambi Municipality is in progress.	15% implemented	85% remaining
14	Green Protocol implementation in all offices institution & public function	Pattambi Municipality	March 2021	Implemented	Implemented	100% Implemented	Nil

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

Nhangatiri Temple (U/S of NWMP-2)

Station Name		RIVER BHARATHAPUZHA AT PATTAMBI (NWMP-2)									
Type of Water body		RIVER									
Completed by		DO, PALAKKAD									
Agency		Kerala State Pollution Control Board									
1	Station Code	2	3	3	2						
2	Date and time of sample taken (DD/MM/YY, HH/MM)	10/5/2023									
		1	1	:	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 ₂ S		Other	
7	Floating Matter	Floating Algae			Floating sludge			Oil & Grease		Water Hyacinth	
8	Visible effluent discharges in proximity	Industrial			Municipal sewage			None ✓			
9	Human activities around the station	Cattle wading			Tourism spot			Fishing	Bathing ✓		Other
10	Location details	U/s of town or industrial area ✓			D/s of town or industrial area			Pilgrim center/Bathing Ghat/Water intake		None	
11	Flow rate	27.44 m ³ /s									
12	Major polluting source	Industrial effluent			MSW	PW	None ✓		Other		
13	Uses of water in downstream	Irrigation			Drinking water source ✓			Fishing		Domestic	
		Organized water source			Cultivation			Bathing Ghat		Others	

Sl.No	Determinants	Values
1	Temperature, 0C	29.9
2	Dissolved Oxygen, mg/l	7.6
3	pH	7.68
4	BOD, mg/l	2.6
5	Total Coliform, MPN/100 ml	200
6	Fecal Coliform, MPN/100 ml	100
7	Fecal Streptococcus, MPN/100 ml	ABSENT

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

Veliampallu regulator (D/S of NWMP-2)

Station Name		BHARATHAPUZHA AT PATTAMBI									
Type of Water body		RIVER									
Completed by		DO, PALAKKAD									
Agency		Kerala State Pollution Control Board									
1	Station Code	2	3	3	2						
2	Date and time of sample taken (DD/MM/YY, HH/MM)	10/5/2023									
		1	2	:	0	5					
3	Weather	Cloudy			Clear ✓			Windy		Raining	
4	Approximate depth of main stream	< 50 cm			50 – 100 cm			>100 cm ✓		Flood	
5	Color & Intensity	Clear ✓			Turbid			Green		Brown	
		1 = Light			2 = Moderate ✓			3 = High			
6	Odour	None ✓			Fishy			H ₂ S		Other	
7	Floating Matter	Floating Algae			Floating sludge			Oil & Grease		Water Hyacinth	
8	Visible effluent discharges in proximity	Industrial			Municipal sewage			None ✓			
9	Human activities around the station	Cattle wading			Tourism spot			Fishing	Bathing ✓		Other
10	Location details	U/s of town or industrial area			D/s of town or industrial area ✓			Pilgrim center/Bathing Ghat/Water intake		None	

11	Flow rate	278 m ³ /s				
12	Major polluting source	Industrial effluent	MSW	PW	None ✓	Other
13	Uses of water in downstream	Irrigation	Drinking water source ✓		Fishing	Domestic
		Organized water source	Cultivation	Bathing Ghat	Others	

Sl.No	Determinants	Values
1	Temperature, 0C	30
2	Dissolved Oxygen, mg/l	6.93
3	pH	7.68
4	BOD, mg/l	2.66
5	Total Coliform, MPN/100 ml	400
6	Fecal Coliform, MPN/100 ml	ABSENT
7	Fecal Streptococcus, MPN/100 ml	ABSENT

**NATIONAL WATER QUALITY MONITORING PROGRAMME
(NWMP -2 DATA- OCTOBER 2023)**

Station Name		BHARATHAPUZHA AT PATTAMBI				
Type of Water body		RIVER				
Completed by		DO, PALAKAKD				
Agency		Kerala State Pollution Control Board				
1	Station Code	2	3	3	2	
2	Date and time of sample taken (DD/MM/YY, HH/MM)	10/5/2023				
		1	0	:	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 ₂ S	Other	
7	Floating Matter	Floating Algae	Floating sludge	Oil & Grease	Water Hyacinth	
8	Visible effluent discharges in proximity	Industrial	Municipal sewage ✓	None		
9	Human activities around the station	Cattle wading	Tourism spot	Fishing	Bathing ✓	Other
10	Location details	U/s of town or	D/s of town or	Pilgrim center/Bathing	None	
11	Flow rate	42 m ³ /s				
12	Major polluting source	Industrial effluent	MSW ✓	PW	None	Other
13	Uses of water in downstream	Irrigation	Drinking water source ✓		Fishing	Domestic
		Organized water source	Cultivation	Bathing Ghat	Others	

Sl.No	Determinants	Values
1	Temperature, 0C	30.2
2	Dissolved Oxygen, mg/l	6.8
3	pH	7.35
4	BOD, mg/l	0.66
5	Total Coliform, MPN/100 ml	500
6	Fecal Coliform, MPN/100 ml	200
7	Fecal Streptococcus, MPN/100 ml	ABSENT

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

RIVER BHAVANI, PALAKKAD- OCTOBER2023

S. No.	Activity to be monitored	Timeline	Submission of progress by State/UT- Compliance status
1	Ensure 100% treatment of sewage at least in-situ remediation	March 2020. Target achieved	Action plan completed. Septic tank systems are adopted for entire sewage treatment
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured	Not proposed	Not Applicable
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning	STP not Proposed	Septic tank systems are adopted for entire sewage treatment
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none"> • Specifying accountability of nodal authorities not below the Secretary level • Chief Secretaries may have an accountable person attached in their office for this purpose 	Applicable at State level	Not Applicable
	<ul style="list-style-type: none"> • Monitoring at State level must take place 	Applicable at State level	Not Applicable
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none"> • Secretary,Ministry of Jal Shakti • Member Secretary,CPCB 	Applicable at State level	Not Applicable

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p>	<p>Drains contributing pollution to the River were not identified</p> <p>Not Proposed</p> <p>Not proposed</p> <p>Dec 2020</p>	<p>Not Applicable</p> <p>Not Applicable</p> <p>Not Applicable</p> <p>Dry waste- Implemented. Material Collection Facility and 80% of work completed for MSW treatment plant. Wet waste- 100% Managed at source level</p>
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<p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p>	<p>March 2021</p>	<p>Water quality monitoring of polluted river stretch and three additional points were completed until JANUARY 2022</p>
<p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p>	<p>Implemented by January 2020</p>	<p>Not applicable</p>
<p>(vii) Ground water regulation</p>	<p>No specific proposal</p>	<p>Not applicable</p>
<p>(viii) Adopting good irrigation practices</p>	<p>No specific proposal</p>	<p>Not applicable</p>
<p>(ix) Protection and management of food plain Zones (FPZ)</p>	<p>March 2021</p>	<p>A more comprehensive DPR prepared and submitted for approval by Irrigation Department -Check dams at Bhoothivazhi, Anakkal and Chemmanur are proposed in the DPR.</p>
<p>(x) Rain water harvesting</p>	<p>No specific proposal</p>	<p>Not applicable</p>

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

ACTION PLAN FOR RIVER BHAVANI, KERALA

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of September 2023	Progress in the month October 2023	% works completed	Details of works remaining
C(ii)	Establishment of MSW treatment Plant (Solid Waste Management)	Pudur Grama Panchayath	2019-2020	Own fund position insufficient for doing the project	Own fund position insufficient for completing the project	80% implemented	20% - installation of treatment equipment/ facilities are remaining
C(ii)	Material collection Facility (Solid Waste Management)	Pudur Grama Panchayath	2019-2020	Implemented	Implemented	100% Implemented	Nil
C(ii)	Construction of Compound wall Material collection Facility Plant	Pudur Grama Panchayath	2019-2020	Implemented	Implemented	Implemented	Nil
C(ii)	Installing of waste Bin in Colonies	Pudur Grama Panchayath	2019-2020	Minis MCF in the colonies of Pudur Panchayath were started as an alternative of installation of waste bin in the colonies. Mini MCF facility were installed in the four	Minis MCF in the colonies of Pudur Panchayath were started as an alternative of installation of waste bin in the colonies. Mini MCF facility were	62% implemented	38 % implementation remaining

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

				completed			
D	Construction of Check dams at the identified locations	Irrigation department	2020 - 21	Checkdam at Boothivazhy, Anakkal&Chemmannura re proposed in the DPR	Checkdam at Boothivazhy, Anakkal&Chemmanur are proposed in the DPR	75%	25 %
D	Issues relating to Eflow, maintaining minimum environmental flow of river(by having watershed management provisions)	Irrigation department	2020 - 21	DPR prepared for comprehensive solution	DPR prepared for comprehensive solution	Implementation not started	Full implementation remaining
E	Information Education and Communication (IEC)	Pudur Grama Panchayath	2019 -20	Awareness programs conducted	Implemented	Implemented	Implemented
A(a)	Monitoring of river water quality by sampling	KSPCB	2019 -20	Water quality monitoring in Bhavani at Elachivazhi and three additional points were completed until September2023	Water quality monitoring in Bhavani at Elachivazhi and three additional points were completed untilOctober2023	Implemented. Will continue up to the full implementation of the action plan.	Implemented.

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

Cheerakuzhi (U/S of NWMP-6)

Station Name		RIVER BHAVANI AT ELACHIVAZHI									
Type of Water body		RIVER									
Completed by		DO, PALAKKAD									
Agency		Kerala State Pollution Control Board									
1	Station Code	1	2	0	8						
2	Date and time of sample taken (DD/MM/YY, HH/MM)	10/6/2023									
		1	2	:	0	0					
3	Weather	Cloudy			Clear ✓			Windy		Raining	
4	Approximate depth of main stream	< 50 cm			50 – 100 cm ✓			>100 cm		Flood	
5	Color & Intensity	Clear ✓			Turbid			Green		Brown	
		1 = Light ✓			2 = Moderate			3 = High			
6	Odour	None ✓			Fishy			H ₂ S		Other	
7	Floating Matter	Floating Algae			Floating sludge			Oil & Grease		Water Hyacinth	
8	Visible effluent discharges in proximity	Industrial			Municipal sewage			None ✓			
9	Human activities around the station	Cattle wading ✓			Tourism spot			Fishing	Bathing ✓		Other
10	Location details	U/s of town or			D/s of town or			Pilgrim center/Bathing		None ✓	
11	Flow rate	19.32 m ³ /s									
12	Major polluting source	Industrial effluent			MSW	PW	None ✓		Other		
13	Uses of water in downstream	Irrigation ✓			Drinking water source ✓			Fishing	Domestic ✓		
		Organized water source			Cultivation	Bathing Ghat		Others			

Sl.No	Determinants	Values
1	Temperature, 0C	26.5
2	Dissolved Oxygen, mg/l	6.93
3	pH	7.67
4	BOD, mg/l	1.2
5	Total Coliform, MPN/100 ml	100
6	Fecal Coliform, MPN/100 ml	100
7	Fecal Streptococcus, MPN/100 ml	ABSENT

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

Chalayur Uru (U/S of NWMP-6)

Station Name		RIVER BHAVANI AT ELACHIVAZHI									
Type of Water body		RIVER									
Completed by		DO, PALAKKAD									
Agency		Kerala State Pollution Control Board									
1	Station Code	1	2	0	8						
2	Date and time of sample taken (DD/MM/YY, HH/MM)	10/6/2023									
		0	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 ₂ S		Other	
7	Floating Matter	Floating Algae			Floating sludge			Oil & Grease		Water Hyacinth	
8	Visible effluent discharges in proximity	Industrial			Municipal sewage			None ✓			
9	Human activities around the station	Cattle wading ✓			Tourism spot			Fishing	Bathing ✓		Other
10	Location details	U/s of town or			D/s of town or			Pilgrim center/Bathing		None ✓	
11	Flow rate	22.2 m ³ /s									
12	Major polluting source	Industrial effluent			MSW	PW	None ✓		Other		
13	Uses of water in downstream	Irrigation ✓			Drinking water source ✓			Fishing	Domestic ✓		
		Organized water source			Cultivation	Bathing Ghat		Others			

Sl.No	Determinants	Values
1	Temperature, 0C	26
2	Dissolved Oxygen, mg/l	7.46
3	pH	7.57
4	BOD, mg/l	0.6
5	Total Coliform, MPN/100 ml	200
6	Fecal Coliform, MPN/100 ml	100
7	Fecal Streptococcus, MPN/100 ml	20

POLLUTED RIVER STRETCH MONITORING PROGRAMME (DATA SHEET OCTOBER 2023)													
Karathur (D/S of NWMP-6)													
Station Name			RIVER BHAVANI AT ELACHIVAZHI										
Type of Water body			RIVER										
Completed by			DO, PALAKKAD										
Agency			Kerala State Pollution Control Board										
1	Station Code	1	2	0	8								
2	Date and time of sample taken (DD/MM/YY, HH/MM)	10/6/2023											
3	Weather	Cloudy			Clear ✓			Windy			Raining		
4	Approximate depth of main stream	< 50 cm			50 – 100 cm			>100 cm ✓			Flood		
5	Color & Intensity	Clear ✓			Turbid			Green			Brown		
		1 = Light ✓			2 = Moderate			3 = High					
6	Odour	None ✓			Fishy			H ₂ S			Other		
7	Floating Matter	Floating Algae			Floating sludge			Oil & Grease			Water Hyacinth		
8	Visible effluent discharges in proximity	Industrial			Municipal sewage			None ✓					
9	Human activities around the station	Cattle wading ✓			Tourism spot			Fishing	Bathing ✓		Other		
10	Location details	U/s of town or			D/s of town or			Pilgrim center/Bathing		None ✓			
11	Flow rate	33.3 m ³ /s											
12	Major polluting source	Industrial effluent			MSW		PW		None ✓		Other		
13	Uses of water in downstream	Irrigation ✓			Drinking water source ✓				Fishing ✓		Domestic ✓		
		Organized water source			Cultivation		Bathing Ghat		Others				

Sl.No	Determinants	Values
1	Temperature, 0C	27
2	Dissolved Oxygen, mg/l	7.53
3	pH	7.76
4	BOD, mg/l	0.6
5	Total Coliform, MPN/100 ml	ABSENT
6	Fecal Coliform, MPN/100 ml	ABSENT
7	Fecal Streptococcus, MPN/100 ml	ABSENT

NATIONAL WATER QUALITY MONITORING PROGRAMME (NWMP -6 DATA- OCTOBER- 2023)													
Station Name			RIVER BHAVANI AT ELACHIVAZHI										
Type of Water body			RIVER										
Completed by			DO, PALAKKAD										
Agency			Kerala State Pollution Control Board										
1	Station Code	1	2	0	8								
2	Date and time of sample taken (DD/MM/YY, HH/MM)	10/6/2023											
3	Weather	Cloudy			Clear ✓			Windy			Raining		
4	Approximate depth of main stream	< 50 cm			50 – 100 cm			>100 cm ✓			Flood		
5	Color & Intensity	Clear ✓			Turbid			Green			Brown		
		1 = Light ✓			2 = Moderate			3 = High					
6	Odour	None ✓			Fishy			H ₂ S			Other		
7	Floating Matter	Floating Algae			Floating sludge			Oil & Grease			Water Hyacinth		

8	Visible effluent discharges in proximity	Industrial	Municipal sewage	None <input checked="" type="checkbox"/>		
9	Human activities around the station	Cattle wading <input checked="" type="checkbox"/>	Tourism spot	Fishing	Bathing	Other
10	Location details	U/s of town or	D/s of town or	Pilgrim center/Bathing		None <input checked="" type="checkbox"/>
11	Flow rate	29.16 m ³ /s				
12	Major polluting source	Industrial effluent	MSW	PW	None <input checked="" type="checkbox"/>	Other
13	Uses of water in downstream	Irrigation <input checked="" type="checkbox"/>	Drinking water source <input checked="" type="checkbox"/>		Fishing	Domestic
		Organized water source	Cultivation	Bathing Ghat	Others	

Sl.No	Determinants	Values
1	Temperature, 0C	26
2	Dissolved Oxygen, mg/l	7.19
3	pH	7.68
4	BOD, mg/l	0.8
5	Total Coliform, MPN/100 ml	500
6	Fecal Coliform, MPN/100 ml	200
7	Fecal Streptococcus, MPN/100 ml	40

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

RIVER KADALUNDI, MALAPPURAM

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

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure,Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p>		<p>Last updated report submitted was on October 27 ,2023</p> <p>(I) Identified 3 drains on 10/12/2018 at the Hajiya pally stretch. Already Screen Net installed to both side of the bridge and periodic inspection & drainage of cleaning doing.</p> <p>(ii) Malappuram municipality – 30KLD. Consent application is submitted for the revamping activities. Application has been returned for clarification. Action plan prepared through KWA</p> <p>(iii) NIL</p> <p>(iv) Activities progressing with decentralised source level treatment method and 2506 devices are distributed. New Project approved for 6000 Ring compost unit. Project Approved .Got T.S.E. Tender.</p> <p>(v) Attached Analysis Report for the month of October 2023. More activities are progressing under the “Thelineer Ozhukum Navakeralam” scheme</p>
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<p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p> <p>(vii) Ground water regulation</p> <p>(viii) Adopting good irrigation practices,</p> <p>(ix) Protection and management of food plain Zones (FPZ),</p> <p>(x) Rain water harvesting,</p> <p>(xi) Maintaining minimum Environmental flow of river</p> <p>(xii) Plantation on both sides of the river</p> <p>(xiii) Setting up biodiversity parks on flood plains by removing encroachment</p>		<p>(vi) Actions being initiated to prevent illegal waste dumping. Bio-Medical Waste collecting through IMAGE. Municipality has one MRF and 3 MCF's. Dry Waste Collecting through HKS and stored in these facilities from where recyclable materials are handed over to authorised recyclers and rejects, to KEIL through Clean Kerala Company.</p> <p>(vii) NA</p> <p>(viii) Complying</p> <p>(ix) NA</p> <p>(x) Complying</p> <p>(xi) Complying</p> <p>(xii) NA</p> <p>(xiii) NA</p>
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1.6	The discharge of waste water from the surrounding houses to the Valiyathodu - Blocking of discharge of liquid waste	Malappuram Municipality	completed	completed	completed	completed	completed	completed
1.7	Identification of illegal outlets into storm water drains and fine imposed on such units.	Malappuram Municipality	ongoing	completed	completed	completed	completed	completed
1.8	Biodegradable waste Bio gas plants- 186 Bio bins – 908 Bucket compost – 1445 Tumburmuzhi Aerobic bins - 4 Submitted proposal for 8000 ring compost systems	Malappuram Municipality	In progress	In progress	In progress	In progress	completed	Completed
1.9	Non biodegradable waste MCF & Plastic shredding and Bailing Echo Kiosk	Malappuram Municipality	Completed	Completed	Completed	Completed	Completed	Completed
			March 2020	In progress	In progress	40 mini MCF has been approved	completed	Completed

1.10	Identification and monitoring of illegal activities/ CC TV Network installation	Malappuram Municipality	Ongoing	In progress	In progress	In progress	No progress	No progress
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2.KERALA STATE POLLUTION CONTROL BOARD

No.	Activity	Implementing agency	Time line	Progress in the month of August 2023	Progress in the month of September 2023	Progress in the month of October 2023	% works Completed	Details of works remaining
2.1	River water quality Monitoring- Thirurangadi, Hajaripally National Water Quality Programme(NWMP)	KSPCB	Ongoing; Monthly frequency	100%				

2.2	River water quality Monitoring - Thirurangadi, Kooriyad, Manikut, Hajiyarpally, Anakkayam, Oravambrum - State Water monitoring programme (SWMP)	KSPCB	Ongoing; Seasonal - Pre - monsoon, monsoon, post - monsoon	100%					
2.3	Inspection and effluent quality monitoring of the flats, industrial units, service stations, hospitals, hotels etc. in Malappuram Municipalarea	KSPCB	Ongoing; Interval; Red – 1 month, Orange- 3 months, Green- 6 months	100%					
3.GROUND WATER DEPARTMENT									
No.	Activity	Implementing agency	Time line	Progress in the month of August2023	Progress in the month of September2023	Progress in the month of October2023	% works completed	Details of works remaining	

3.1.	<p>Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks (Earlier status : As per Groundwater resources of Kerala, 2017 estimate a total number of 3 blocks (Mankada, Vengara and Malappuram) comes under the Kadalundi river basin. Out of three blocks Malappuram and Vengara are semi-critical blocks and the rest is a safe one, stage of groundwater extraction ranges from 69.43 % to 79.84%)</p>	Ground water Department		<p>No action included in the approved action plan to be performed by Ground Water Department</p>	<p>No action included in the approved action plan to be performed by Ground Water Department</p>	<p>No action included in the approved action plan to be performed by Ground Water Department</p>		
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3.2	<p>Ground water recharging / rain water harvesting</p> <p>(Earlier status : The average pre - monsoon groundwater level ranges from 7.59mbgl - 13.57 mbgl. Groundwater Department has implemented 3 no of roof top rain water recharging through recharge pit schemes in Vengarablock.)</p>	Ground water Department		<p>No action included in the approved action plan to be performed by Ground Water Department</p>				
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		<p>No action included in the approved action plan to be performed by Ground Water Department</p>				

3.4	For regulating use of ground water for irrigation purpose, adopting good irrigation practices (Earlier status : The total irrigation draft in the area ranges from 979.683 - 1857.49 ha.m.)	Ground water Department		No action included in the approved action plan to be performed by Ground Water Department				
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**Format for Submission of Monthly Progress Report by States/UTs
(Hon'ble NGT in the matter of OA No.673/2018 dated 06.12.2019)**

RIVER TIRUR, MALAPPURAM

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

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <ul style="list-style-type: none"> (i) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment. (ii) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline 	<p>Last updated report submitted was on ,2023 October26</p> <ul style="list-style-type: none"> (i) Identified 17 drains out of which 9 were additionally identified on 11.07.2019 (ii) <u>Tirur FishMarket STP</u>– 45 KLD- Not working condition. Accordingly conducted site inspection by Board on 09.11.2023 to evaluate progress, No progress found. Since about 3 years repeated directions are being issued for time bound renovation of fish market STP. (ii) <u>Tirur municipal Bus Stand STP</u>-50 KLD –Present status- work completed ,send letter to suchitwa mission for technical evaluation and approvals. preparing for trial run. iii) NIL (iv) De centralised treatment facilities, Disposal using sanitary landfills, composting operations, MRF, MCF etc. Slaughter house- completed civil work. Electrical installation works started. (v) Attached as Annexure II-Analysis report during the month of October 2023
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<p>(iii) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p> <p>(vii) Ground water regulation</p> <p>(viii) Adopting good irrigation practices,</p> <p>(ix) Protection and management of food plain Zones (FPZ),</p>		<p>(vi) Actions are being initiated to prevent illegal waste dumping. BMW are being disposed scientifically through IMAGE. Municipality have MRF, MCF facilities</p> <p>(vii) NA</p> <p>(viii) Complying</p> <p>(ix) NA</p> <p>(x) Complying</p> <p>(xi) Complying</p> <p>(xii) NA</p> <p>(xiii) Reported that encroachment survey is completed and now the process of laying survey stones is in progress.</p>
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(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 TIRUR, KERALA

1. IRRIGATION DEPARTMENT								
1.								
No.	Activity	Implementing agency	Time line	Progress during month of August 2023	Progress during month of September 2023	Progress during month of October 2023	% works completed	Details of works remaining
1.1.1	Strengthening the right side bund of Tirur- PonnaniPuzhaat Porur, ward no. 1 TirurMunicipality	Irrigation Department	6 Months	Agreement Executed. Site Handed over.	In progress	Investigation work report of the collective regulator has been received and the estimate will be prepared in connection with it.	28%	
1.1.2	Cleaning and development of old PonnaniThodu at Thazhepalam	Irrigation Department	6 Months			progressing		

1.1. 3	Repair and Rehabilitation of Koottayi Regulator cum Bridge across TirurPonnaniPuzhain Mangalam Grama Panchayath in Malappuram Dist	Irrigation Department	18 Months	No progres		Materials for the work have been brought down and the work can be started in the first week of December.	No progress	Ring bund formation, Bailing out of water, Apron Extension, Cut off wall formation. Erection of shutters and other mechanical parts.KERI investigation report awaited.
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2.TIRUR MUNICIPALITY

No.	Activity	Implementing agency	Time line	Progress during month of August 2023	Progress during month of September 2023	Progress during month of October 2023	% 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 ThumboorMuzhiModel 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	Tirur Municipality	March 2020	completed	completed	Completed	100	NIL

	Segregation shed							
2.4	SlaughterHouse	Tirur Municipality	December 2020	Electrical works on going	Electrical works on going	In progress	90%	ETP wok submitted for TS to suchitwa mission tvm
2.5	Fencing on Bridgeside ThalakkadathurBridge	Tirur Municipality	December 2020	completed	completed	completed	100	NIL
2.6	Installation of CCTV Camera near the river BankThalakatathurBridge	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	Re tender completed,2 agencies participated,file submitted to council for approval and negotiation.	Progressing	O & M was not mentioned in the tender call for ETP work,hence O&M was also included in the letter & only one company participated in it,company informed that O&M amout	Renovation work under process	(See minutes)

						90000/month +GST,the huge amount cannot be sanctioned without the report of technical committee.		
2.9	Setting up of STP at Private Bus stand	Tirur Municipality	June 2020	Pipeline work completed.Trial run going on	STP work completed,send letter to suchitwa mission For technical evaluation and approvals.	progressing	progressing	(See minutes)
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 constructingin the middle of the road so as to avoid intrusion of pipes from	Tirur Municipality	June 2020	Completed	Completed	Completed	100	Completed

	outside							
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	20 Notice.

3. KERALA STATE POLLUTION CONTROL BOARD

No.	Activity	Implementing agency	Time line	Progress in the month of August 2023	Progress in the month of September 2023	Progress in the month of October 2023	% works completed	Details of works remaining
3.1	River water quality Monitoring- Thalakkadathur National Water Quality Programme (NWMP)	KSPCB	Ongoing; Monthly frequency					Ongoing monthly frequency
3.2	River water quality Monitoring State Water monitoring programme (SWMP)	KSPCB	Ongoing; Seasonal					Ongoing seasonal
3.3	Inspection and effluent quality monitoring of the flats, Industrial units, Service stations, hospitals, auditorium, hotels in Municipal area		Ongoing; Interval; Red - 1 months					Ongoing

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

No.	Activity	Implementing agency	Time line	Progress in the month of August 2023	Progress in the month of September 2023	Progress in the month of October 2023	% works completed	Details of works remaining
4.1	Protection of TirurPonnani River	Thalakkad Grama Panchayath handover fund to District Panchayath	31.03.2020	Completed	Completed	Completed	100	NIL
4.2	Installation of CC TV camera on YetterikadavuKunjulikkadavuMangattiri Bridge, Aikkanchiri Bridge, Paravanna Bridge	Vettom - KS SECURITY SYSTEM	Spill over due to lack of fund	completed	completed	completed	100	NIL
4.3	Installation of CC TV camera	Mangalam Grama Panchayath Win Plus Agency, Kondotty	Completed	completed	completed	completed	100	NIL
4.4	Haritha KeralamThirur-Ponnanipuzha protection	Mangalam Grama Panchayath Nirmithi Kendra, Kozhikode	31.03.2020	No progress	No progress	No progress Due to audit objection.	70% protection of wall completed	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 August 2023	Progress in the month of September 2023	Progress in the month of October 2023	% works completed	Details of works remaining
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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 INCLUDE UNDER THIS PLAN BY GROUND WATER DEPARTMENT	NO ACTION INCLUDE UNDER THIS PLAN BY GROUND WATER DEPARTMENT	NA	NA
5.3	Periodic ground waste quality assessment and remedial actions in case of contaminated ground water tube wells/bore wells or hand pumps	Ground water Department No observation well along the river stretches)			NA		NA	NA
5.4	For regulating use of ground water for irrigation purpose, adopting good irrigation practices (Earlier status: The total irrigation draft in the area ranges from 49.14 - 870.97 ha.m.)	Ground water Department No Data Available. No Updation after GEC 2017. (Report not published)			NO ACTION INCLUDE UNDER THIS PLAN BY GROUND WATER DEPARTMENT	NO ACTION INCLUDE UNDER THIS PLAN BY GROUND WATER DEPARTMENT	NA	NA

6.REVENUE DEPARTMENT

No	Activity	Implementing agency	Timeline	August 2023	Progress September2023	Progress Octoberber2023	% works completed	Details of works remaining
6.1	Survey of boundaries of river side	Revenue department		Completed	Completed	Completed	100%	Encroachment survey completed.

**ANALYSIS REPORT OF POLLUTED STRETCH POINTS IN TIRUR RIVER
OCTOBER 2023**

SI NO	Name of point	PARAMETERS				
		pH	DO (mg/l)	BOD (mg/l)	COD (mg/l)	FC(cfu/100ml)
1	Drain near Tirur Railway station	6.6	4.2	2.1	8.4	110
2	Thazhepalam drain	6.8	5.3	2.1	9	30
3	Naduvilangadi drain (old ponnanihodu)	Dried				
4	Annassery drain	7.5	2.4	0.6	1.8	250
5	Canal at CV Land	Dried				
6	Canal at Mangalam thuruth	6.5	6.1	2.2	9	40
7	Canal at Pullooni	7.7	4.0	1.6	7	20
8	Drain near Mangattiri bridge	Dried				
9	Drain near Ettirikkadavu bridge	6.8	3.7	1.2	4	130
10	Epothingal	6.7	5.3	0.6	3	250
11	Asarikkadav	6.7	4.2	1.5	6	50
12	Kandanathkadav	7.6	5	1.6	7	80
13	Pancharamoola	6.5	2.0	1.0	5	180
14	Kakadav	6.8	5.5	0.9	3	100
15	Kanathkadav	6.7	3	1.0	4	500
16	Drain near tirur railway station	Dried				
17	Payyanangadi(kadayithodu)	6.6	2.3	1.2	8	50

**ANALYSIS REPORT OF POLLUTED STRETCH POINTS IN
KADALUNDY RIVER OCTOBER 2023 ALONG HAJIYARPALLY**

Sl.No	Name of point	PARAMETERS				
		pH	DO (mg/l)	BOD(mg/l)	COD (mg/l)	FC (cfu/100 ml)
1	Valiyangadi drain	6.6	6.8	0.8	3	25
2	Valiyangadi bypass drain	Dried				
3	Valiyathod drain	7.0	5.3	1.0	4	100
4	Hajiyarpally	7.0	7.5	1.5	5	40

KeralaStatePollutionControlBoard,DistrictOffice,Kozhikode

NATIONALMISSION 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 OCTOBER 2023– Kallayi polluted river stretch

SI 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 STP and their commissioning	Work under progress	Proposal for 13 MLD STP (6 MLD STP plant proposed at Kothi, 7 MLD STP plant proposed at Avikkal)– Kothi work started at Avikkal waiting for judgement
4	Chief secretaries may set up appropriate monitoring mechanisms at the state level <ul style="list-style-type: none">• Specifying accountability of nodal authorities not below the secretary level• Chief secretaries may have an accountable Person attached in their office for this purpose		NIL
	<ul style="list-style-type: none">• Monitoring at the state level must take place	Fortnightly commencing 21.12.2019	NIL

5	<p>Progress report may be furnished by the state/UTs to</p> <ul style="list-style-type: none"> Secretary ,ministry of Jal Shakti Member secretary, CPCB 	<p>Monthly (preferably before 20th Of every month)</p>	<p>NIL</p>
5.1	<p>Progress report may be comprised of details along with completion timeline on:</p> <p>(i) Identification of polluting source including drains contributing to river pollution and action as per NGT order on in situ treatment.</p> <p>(ii) <u>status of STPs, I&D and sewage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p>	<p>Action continuing</p> <p>31.03.2021</p> <p>31.07.2019</p> <p>work in progress</p>	<p>Drains identified .Pollution load calculated. Action plan prepared. Joint squad of PCB and Corporation inspection in action. Issued notice to 92 units. 30 units installed treatment facilities. During Jan-Mar 2020 joint squad of PCB and corporation inspected 82 units. Issued notice to 56 units. In 16 units installation of treatment units Effluent treatment facilities are under progress. Issued notice to 36 units and a fine of Rs.18500/- was imposed for the month of September 2020.. Monthly progress report submitted by Kozhikode corporation attached as Annexure 1</p> <p>Dredging of Kallayi river from Kaduppini to Kothi -DPR submitted to SE, INC, KK Don 16.10.2019 for 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 weeds from EK canal-11.2 Km Submitted by Irrigation department</p> <p>(i) Construction of 2 MLD, 1 MLD STP plant of Calicut medical college started. -10% work completed</p>

	<p>(iii)<u>status of CETPs</u> Details of existing CETP and ETP infrastructure, Gap analysis, proposed along with completion timeline, No. of industries and complying status.</p> <p>(iv)<u>status of solid waste management & details of processing facilities</u> Details of existing infrastructure, Gap analysis, proposed along with completion timeline</p>	<p>work in progress</p> <p>No specific proposal</p> <p>Functioning</p> <p>Work in progress</p> <p>Functioning</p> <p>Work in progress</p>	<p>(ii) Proposal for 13 MLD STP (6 MLD STP plant proposed at Kothi, 7 MLD STP plant proposed at Avikkal) – Tendering in progress.</p> <p>(iii) STP of 13 MLD proposed at Kotooli. About 12% of sewer lines were laid by KWA – Hon'ble NGT stayed the project (O.Ano.215/2016).</p> <p>(iv) Individual septic tank and soak pit system provided for house hold, units like bakery, cool bars small restaurants with less seating capacity. Individual STPs for high rise building, hotels, Restaurants, Commercial buildings.</p> <p>No CETP proposed</p> <p><u>Kozhikode Corporation</u></p> <p>(i) Existing centralized waste disposal facility of 100 MT/DAY at Njeliyanparamba (windrow composting)</p> <p>(ii) Proposal of 450 TPD waste to energy plant at Njeliyanparamba implementation in progress. Capping work started.</p> <p>(iii) Chicken waste rendering plant of 40 TPD functioning in Thamarassery – 170 chicken stalls of Kozhikode corporation are disposing off the waste through this rendering plant. Rendering plant construction for chicken stall waste – Perumanna Peruvayal</p>
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		Functioning. And work progressing	(iv) 3 MRF facilities existing (At Njeliyamparamba (Super MRF) 3TPD- with plastic shredding unit, west hill industrial estate -2TPD --with plastic shredding unit, Near Jayanthinagar colony)- 70% completed
		Functioning	(v) 24 units of aerobic compost facilities existing (Tagore hall, SK Pottakkad hall, Jubileehall, Mofusil bus stand, T.B. Clinic, Circle office).
		Functioning	(vi) 350 ring compost and 150 Biogas plants installed in households- kkd Corporation 26 biogas plant complete – peruvayal 190 ring compost complete – mavoor
		Functioning	(vii) Community level biogas plant- 3 nos (Mental Hospital 1TPD, ITI Malikadav -1TPD, Juvine home-1TPD)
		Functioning	(viii) 3 Biogas plants in market (Central market 2TPD, Vegetable market 2TPD, New bus stand, 2TPD)
		30/03/2021	
		31/12/2022	(ix) Treatment facility for waste in Central Market – Tendering in Progress
		31.03.2021	(x) Establishment of slaughter house-
		31.03.2021	<u>Mavoor Panchayath</u> MCF 1 nos, ring compost, compost pit- Completed and functioning <u>Perumanna Panchayat</u> <u>at</u> Compost pit and MCF with baling machine (1 nos) -Work in progress completed within two months. <u>Peruvayal Panchayat</u> Compost pit, mini MCF 2

			nos,biogasplant- WorkinprogressMCF- 1nostemporarly functioning OlavannaPanchayat MCF-1 completedMiniMCF- 3Workin progressMRF-1Inblock
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<p>(v) latest water quality of pollutedriver, its tributaries, drains withflow detailsandgroundwaterqualityinthe catchment ofpollutedriver;</p>		<p>AnalysisreportofKallayiriverstretchfor the month of AUGUST2022Attachedas Annexure2</p>
<p>(vi) preventing dumping ofwaste and scientific wastemanagementincludi ngbio-medical waste plasticwaste and decentralizingwaste processing,includngwast egeneratedfromhotels,ash rams, etc.</p>		<p>SameasItemno.5.1(v) Fine of 32 Lakhs imposed for illegaldumping of solid wastes into riversand public places. Installation ofCCTV. Biomedical waste fromHospital, labs ,clinicscollectedthroughimage, plastic waste disposal throughrecyclers. Individual solid wasteprocessingfacilitieslikebiogaspl ant,bio bins in high rise building, hotels,restaurants etc.Fencing proposed byirrigationdepartment.</p>
<p>(vii)ground waterregulati on</p>		<p>NIL</p>
<p>(viii) adopting goodirrigation practices</p>		<p>NIL</p>
<p>(ix) protection andmanagement of floodplainzones(FPZ),</p>		<p>Flood prone mapping- Proposed byirrigationdepartment</p>
<p>(x)Rainwaterharvesting</p>	<p>31/03/2021</p>	<p><u>MavoorPanchayat</u> Wellrecharging- Estimateunderpreparation</p>

		31/03/2021	<u>PeruvavalPanchayat</u> Wellrecharging-Work inprogress
		31/03/2021	<u>OlavannaPanchayat</u> Wellrecharging- Workinprogressandcompletedbytheendofmarch2023
(xi)Maintainingminimum environmentalflowof river		31/03/2021	<u>PerumannaPanchayat</u> CleaningofMampuzha river-Workin Progress
		31/03/2021	<u>PerumannaPanchayat</u> CleaningofMampuzha river-Ongoing
		Completed	<u>OlavannaPanchayat</u> CleaningofMampuzhariver- Completed
(xii)Plantationonbothsides oftheriver		Completed	<u>MavoorPanchayat</u> 3500unitscompleted
(xiii) Settingup biodiversityparks on flood plains byremovingencroachment			Bio park in Kozhikode district- Proposedbyirrigationdepartment

(Hon'bleNGTinthematterofOANo.673/2018dated 06.12.2019)

ACTION PLAN FOR RIVER KALLAYI, KERALA

Kozhikode Corporation

No.	Activity	Implementing agency	Time line	Progress in the month of JULY 2023	Progress in the month of AUGUST 2023	Progress in the month of SEPTEMBER 2023	Progress in the month of OCTOBER 2023	% works completed	Details of works remaining
1	Identification of illegal outlets into storm water drain and issue Notice to such units	Kozhikode Corporation	30.12.2020	2 notices issued	2 notices issued	2 notices issued	2 notices issued	On going work	ongoing
2	Waste to energy project proposed at Njeliyamparamba	KSIDC	30.06.2021	Ongoing	ongoing	ongoing	ongoing	60%	40%
3	Establishment of Aerobic compost units 24 units established in 6 sites	Kozhikode Corporation	Completed and functioning	Completed and functioning	Completed and functioning	Completed and functioning	Completed and functioning	completed 100%	

4	Segregation of solid waste at source level and treatment of household wastes 300ri ng compost and 150 biogas plants 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 Thamarasery panchayath. Now waste is collected from 170 units	Fresh cut agency	on trial run	Ongoing	ongoing	ongoing	ongoing	100% Coverage	
6	Implementation of Green protocol unit	Kozhikode Corporation	30.06.19	Completed	completed	completed	completed	100%	
7	Setting up of common STP of (13MLD) 7.1 At Kothibridge - 6MLD plant proposed 7.2 At Avikkal - 7MLD plant proposed	Kozhikode Corporation	31.03.2020	7MLD-The case in the munsiff court, the hearing was completed the final judgement was pronounced	7MLD-The case in the munsiff court, the hearing was completed the final judgement was	7MLD-The case in the munsiff court, the hearing was completed the final judgement was	7MLD-The case in the munsiff court, the hearing was completed the final judgement was	6MLD- Total station survey completed, construction of Fencing is	Construction of 6 & 7MLT STPs and 98KMS sewerline.

				in favour of the protestors .hence the work can be restarted after resolving the court case.	in favour of the protestors .hence the work can be restarted after resolving the court case.	in favour of the protestors .hence the work can be restarted after resolving the court case.	in favour of the protestors .hence the work can be restarted after resolving the court case.	completed.	
8	Cleaning of Canolicanal	Kozhikode Corporation	20.07.2019	completed	completed	completed	completed	100%	Completed
9	Purchasing of Solar Boat for Canolicanal 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		
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	2 notices issued	2 notices issued	notices issued	notice issued	Ongoing work	
13	Cleaning of B.K canal	Kozhikode Corporation	31.03.2020	completed	completed	completed	completed	100%	N.A
14	Establishment of treatment plant at Medical college (3MLD plant) Tender over 14.1-2MLD plant proposed 14.2-1MLD plant proposed	Kozhikode Corporation	31.03.2020	construction of 1MLD STP and network laying works started at site . 2MLD network laying is almost completed and 1MLD construction in progress	construction of 1MLD STP and network laying works started at site . 2MLD network laying is almost completed and 1MLD construction in progress	construction of 1MLD STP and network laying works started at site . 2MLD network laying is almost completed and 1MLD construction in progress	construction of 1MLD STP and network laying works started at site . 2MLD network laying is almost completed and 1MLD construction in progress	40%	900ms pipelaying and Construction of 1MLD STP is pending

15	Construction of drains at Y.M.RCAyyankar colony	Kozhikode Corporation	31.03.2020	Estimate scrutiny in progress at CELSGD's office for TS approval	Estimate scrutiny in progress at CELSGD's office for TS approval	Estimate scrutiny in progress at CELSGD's office for TS approval	Estimate scrutiny in progress at CELSGD's office for TS approval	60%	963m drainage construction remaining
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16	Implementation of STP at Kottooli(13.5MLD)	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						
18	Establishment of comfort stations	Kozhikode Corporation		50%	50%	50%	50%	50%	COMPLET ED ON MA RCH 2023
19	Provide facility for MRF, RRF, Super MRF 3 units existing 19.1 Njeliyanparamb 19.2 Industrial estate 19.3 Mayor bhavanjanthinar colony	Suchitwa Mission	Project in progress	30%	30%	30%	30%	30%	70%

20	Identification of illegal outlets from house to storm water drain and issue Notice to such Houses	Kozhikode Corporation	Ongoing process	4 notices	4 notices	4 notices	4 notices		
21	Establishment of Plastic shredding unit	Kozhikode Corporation	Ongoing process					100%	
22	Establishment of slaughtering unit	Kozhikode Corporation	Submitted to Impact Kerala for KIFBAid - Got Initial Approval. Final Document Preparation ongoing						
23	Cleaning of drains in Kozhikode Town	Kozhikode Corporation	Ongoing process	Completed	Completed	Complete process	Completed		

Perumanna Grama Panchayath

No	Activity	Implementing agency	Time line	Progress in the month of JULY 2023	Progress in the month of AUGUST 2023	Progress in the month of SEPTEMBER 2023	Progress in the month of OCTOBER 2023	% works completed	Details of works remaining
1	Outlets into storm water drain and issue notice	Perumanna GP, kozhikode	Continues process	Non notice issued	Non notice issued	7 notice issued	7 notice issued	Inspection Conducted regularly	
2	Establishment of six aerobic compost units in panchayat	Perumanna GP Kozhikode through MGNREGS	Dec-21	Completed	100%	Work started 1	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 GP	Continues process in every year	74%		74%	74%	74% work completed	
4	Setting up of residential treatment plant for chicken stall waste	Perumanna GP	Continues process	Resolution passed by Panchayat board to execute an agreement with Freshcut, thamarassery, kkd	Resolution passed by Panchayat board to execute an agreement with Freshcut, thamarassery, kkd	Resolution passed by Panchayat board to execute an agreement with Freshcut, thamarassery, kkd	Resolution passed by Panchayat board to execute an agreement with Freshcut, thamarassery, kkd	91%	

5	Setting up of 360 soakpit plant in all housesnear the river area andpanchayat	PerumannaG PMGNREGS	Dec-21	119nosco mpleted	119noscom pleted	119noscomplet ed	119nosco mpleted	Remaini ngwork has beensus pendeda slackofp ersonald aysforc urrent year	
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6	implimentationof360compostunitnearthiriver side andpanchayat	PerumannaGPMGNREGS	Dec-21	126noscompleted	126noscompleted	126noscompleted	126noscompleted	Remainin gworkhas beensuspe ndedasla ckofperson aldaysfor current year	
7	Implementation ofwater flow project(aluvangalthaz hamperumbattaelama napadam, valiyapadam.mampuzhthodenav eekaranaprojectno260 /2021projectcost16.6 7lakhs).itisajointventureprojectbygrama, block and jillapanchayat	Perumanna GP,Kozhikode blockpanchayat, Kozhikode jillapanchayat	Dec-21	Completed	Completed	Completed	Completed	Technical sanctiono btained .tenderpro cedureco mpleted .including in2021- 22planass pilloverpr oject.	Tender hasbeendon e
8	Cleaningofmampuzha river(projectname :mampuzha waterflowrestoration, projectno 01/2018-19	Distric panchayatKozhik ode	2018-19	Completed bypanchayat	Completed bypanchayat	Completed bypanchayat	Completed bypanchayat	25 lakhstransf erredto districtpan chayat	Workhas been complete bydistrictpanchayat ,kozhikode

9	Establishment of 18nosofminiMCFin differentwardsincluding payyadimetal wheretheriverisflowing	PerumannaGP MGNREGS	Dec-21	11Noscompleted	11Noscompleted	11Noscompleted	11Noscompleted	11Nos 100%	7unitsnotstarted
10	Collectionofplastic wastefromtheriver	PerumannaGP	Continuous process	Threetimescompleted	Threetimescompleted	Threetimescompleted	Threetimescompleted	N A	Processwill be doneevery year

Peruvayal Grama Panchayath

No .	Activity	Implementing agency	Time line	Progress in the month of JULY 2023	Progress in the month of AUGUST 2023	Progress in the month of SEPTEMBER 2023	Progress in the month of OCTOBER 2023	% works completed	Details ofworks remaining
1	Outlet in storm water drain and issued notice	Peruvayal G P	Continuou sprocess	5noticeissued	5notice issued	Notice issued	20 notice issued	Ongoing	
2	Establishmentof5units anaerobic composed unit in panchayat.	Peruvayal GP through MGNREGS	4/2021TO 03/2021	work will commenceon thirdweekofn ovember2022			work will commenceon thirdweekofn ovember2023	NA	

3	Setting up of reentering plant for chicken solid waste	PeruvayalG P	Continuous process	Started soon	Started soon	Started soon	Commence by panchayat	100%	
4	Setting up of 379 soakpitplantinallhouses	PeruvayalG P	04/2020to 03/2021	Ongoing	ongoing	ongoing	ongoing	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 Panchayath	Completed by panchayath	Completed by panchayath	6mini MCF Completed	25 lakhs transferred to district panchayat	Ongoing
6	Establishment of 8 numbers of mini MCF	PeruvayalG P through MGNREGS	4/2020 TO 2021	6mini MCF Completed	6mini MCF Completed	6mini MCF Completed	3 times collected	80%	4 will start immediately
7	Collection of plastic waste from the river	PeruvayalG 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	PeruvayalG P	Continuous process	3 times collected	3 times collected	3 times collected	26 number completed		Continuous process
9	Establishment of Biogas plant	PeruvayalG P	2020-21	26 numbers completed	26 number completed	26 number completed	26 number completed	70%	Work will be completed by the end of february 2023

10	Wellrecharge	PeruvayalGp through MGN REGS	2020-21	78number completed	78number completed	78number completed	36number completed	82%	Work will be completed by the end of february 2023
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Mavoor Grama Panchayat

No	Activity	Implementing agency	Time line	Progress in the month of JULY 2023	Progress in the month of AUGUST 2023	Progress in the month of SEPTEMBER 2023	Progress in the month of OCTOBER 2023	% Work completed	Details of work remaining
1	MCF	Mavoor Gp	31.03.2019	Completed and functioning	Completed and functioning	Completed and functioning	Completed and functioning	100%	Nil
2	Fish market construction	Mavoor Gp	31.03.2019	Completed and functioning	Completed and functioning	Completed and functioning	Completed and functioning	100%	Nil
3	Ring compost	Mavoor Gp	31.03.2019	Completed and functioning	Completed and functioning	Completed and functioning	Completed and functioning	100%	NIL(190units)
4	Tree plantation in riverside	MGNREGS	Completed	Completed	Completed	Completed	Completed	100%	NIL(3500units)
5	Compost pit	MGNREGS	Completed	Completed	completed	completed	completed	100%	NIL(1000units)
6	Wellrecharge	MGNREGS	31.03.21	TENDER PROCESS	TENDER PROCESS	TENDER PROCESS	TENDER PROCESS		2units(Budsschool, Ayurveda dispensary)
7	Bucket compost	Mavoor Gp	31.03.21	completed	completed	completed	completed	100%	502units

8	Collection of nonbiodegradable waste	MavoorGp	Through out the year	Ongoing	Ongoing	Ongoing	Ongoing		
9	Transportation of waste material to refinement unit	Konnari Advanced Polymers Limited	2022-23	Completed	Completed	Completed	Completed	100%	
10	Cleaning of Cherupuzha (Kuniyakadav to Thenghilakadav)	MavoorGP	2022-23	Completed	Completed	Completed	Completed	100%	1500 Meter
11	Valayannor Thodu Cleaning	MGNREGS	2022-23	Completed	Completed	Completed	Completed	100%	115 meter
12	Aryankode Kalchira Thodu Cleaning	MGNREGS	2022-23	Ongoing	Ongoing	Ongoing	Ongoing		115 meter
13	Puthiyottil thazham Elaram athodu	MGNREGS	2023-24	Ongoing	Ongoing	Ongoing	Ongoing		
13	Chalippadam Punchappadam thodu	MGNREGS	2023-24	Ongoing	Ongoing	Ongoing	Ongoing		160m
13	Kadayan thodu	MGNREGS	2023-24	Ongoing	Ongoing	Ongoing	Ongoing		160 m
14	Vellaramkandi Chirakkal thazham thodu	MavoorGP	2023-24	Ongoing	Ongoing	Ongoing	Ongoing		
14	Ring compost	MavoorGP	2022-23	Ongoing	Ongoing	Ongoing	Ongoing		

OLAVNNA GRAMAPANCHAYAT

No	ACTIVITY	IMPLIMENTING AGENCY	TIMELINE	PROGRESS IN THE MONTH OF JULY 2023	PROGRESS IN THE MONTH OF AUGUST 2023	PROGRESS IN THE MONTH OF SEPTEMBER 2023	Progress in the month of OCTOBER 2023	%WORKS COMPLETED	DETAILS OF REMAINING WORK
1	Collection of plastic waste from the river	Olavanna gramapanchayat	Continuous process	4 times collected	4 times collected	4 times collected	4 times collected	96%	Process continuing
2	Collection of segregation of solid waste in the river	Olavanna gramapanchayat	Continuous process	5 times collected	5 times collected	5 times collected	5 times collected	97%	Process continuing
3	Establishment of Mini MCF in all wards	Olavanna gramapanchayat through MGNREGS	4/2020 To 3/2021	2 Mini MCF Completed	4 Mini MCF Completed	4 Mini MCF ONGOING	4 Mini MCF ONGOING		Remaining will start immediately
4	Cleaning of Mam buzhariver	Olavanna gramapanchayat	Continuous process					93%	Process continuing

5	Wellrecharge	Olavanna gramapancha yatthrough MGNREGS	4/2023 To 3/2024	1 No's	1 No's	1 No's	1 No's	1 No's	Work will be completed by the end of March 2024
6	Setting up of soak pit in houses	Olavanna gramapancha yatthrough MGNREGS	4/2022 To 3/2024	14No's	14No's	14No's	14No's	14No's	Work will be completed by the end of March2024
7	Actiontakenagainst dumping of wasteintoriver	Olavanna gramapancha yat	Continouspr ocess					93%	Continuing
8	Collection of non-biodegradablewaste	Harith karma sena	Throughoutthe year						Continuing

IRRIGATION DEPARTMENT

No.(as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of JULY 2023	Progress in the month of AUGUST 2023	Progress in the month of SEPTEMBER 2023	Progress in the month of OCTOBER 2023	% works completed	Details of works remaining
1	Desilting of Kallayi river from Kaduppinito Kothian Kozhikode Corporation	Irrigation department	31.03.21	DPR was submitted to SE, INC, KK Don 16.10.2019 for Rs 773.05 lakhs and 43.05 for (5 bridges) under action plan of Kallayi river under urban agglomeration on 06.03.2021. The work is under retender process.					
2	Provide fencing on the sides of the Bridge	Irrigation department	31.03.21	DPR was submitted to SE, INC, KK Don 16.10.2019 for Rs. 773.05 lakhs and 43.05 for fencing of 5 bridges, revised DPR submitted					

				toSuperintendingEngineerforRs.47.2lakhs vide letter number D1/GL/NGT/2019 dated28.01.2023		
3	Dredging,Desilting &removalofweedsfromEK Canal(11.2km)	Irrigationd epartment	31.07.19	WorkentrustedtoKeralawater ways&infrastructure Ltd(KWIL)		
4	BioParkinKozhikodeD istrict	Irrigationd epartment		Landforthe proposed biopark isto bedemarcatedbytheRevenueAuthoritiesafter necessary boundary survey and subsequentbiocoverworksaretobedone bySocial ForestryDepartment		
5	FloodProneMappinginK ozhikodeDistrict	Irrigationd epartment		Actontobetakenbythehydrologywingof irrigation department as this needs datacollection,scientificanalysisandmodeli ng		

Kerala State Pollution Control Board

No.(as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of AUGUST 2023	Progress in the month of SEPTEMBER 2023	Progress in the month of OCTOBER 2023	% 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, Hotel etc .in Malappuram Municipal area	KSPCB	Ongoing Interval: Red-					

			1month. Orange – 3months. Green – 6months.					
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Suchitwa Mission

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

Action Plan by Ground Water Department

No.(as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of AUGUST 2023	Progress in the month of SEPTEMBER 2023	Progress in the month of OCTOBER 2023	% work completed	Details of work 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, Kozhikode Block comes under the Kallai river basin and the block is safe with stage of groundwater Extraction 68.49%)	Ground Water Department		Nil	Nil	Nil		
B(ii)	Groundwater recharging/rainwater harvesting (Earlier status: The average pre-monsoon groundwater level is 7.23 mbgl. Groundwater Department has implemented 3 no of dug well recharge schemes at Kozhikode block)	Ground Water Department		Nil	Nil	Nil		
B(iii)	Periodic groundwater quality assessment and remedial actions in case of contaminated groundwater tubewells/borewells	Ground Water Department		Nil	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 Depart ment		Nil	Nil	Nil		

Action plan by irrigation Department

No.(as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of AUGUST 2023	Progress in the month of SEPTEMBER 2023	Progress in the month of OCTOBER 2023	% works completed	Details of works remaining
E	Dredging and desilting	Irrigation Dept.	3 years	DP Rs. 790 lakhs deposited by KOZHICODE corporation for desilting of Kallayi river under urban agglomeration on 06.03.2021. The work is under tender process.				
E	E-flow (by micro watershed management)	Irrigation Dept.	3 years	Action to be taken by Hydrology Wing of Irrigation Department as this needs data collection, scientific analysis and modelling skills. The matter has been communicated to the Hydrology wing Assistant Engineer at Kozhikode.				

E	Floodplainzone(protectionandmanagement)	IrrigationDept.	3years	Action to be taken byHydrology Wing of Irrigation Department. The matter has been communicated to the Hydrology Wing.		
E	Greenery development (plant in trees onthe banks)	IrrigationDept.	3years			



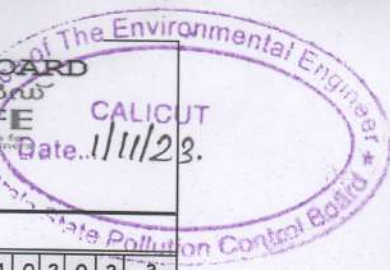
KERALA STATE POLLUTION CONTROL BOARD

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REGIONAL OFFICE, KOZHIKODE

Phone: 0495-2300744 Mail: pcbkzd@gmail.com Website: kspcb.kerala.gov.in

3rd FLOOR, ZAMORIN'S SQUARE, LINK ROAD, KOZHIKODE - 673 002



ANALYSIS REPORT OF RIVER WATER

Report No.	K R O R 4 8 3 0 / 1 to 5	Date:	3 1 1 0 2 0 2 3					
Date of Sample Collection	1 3 1 0 2 0 2 3	Date of receipt of the sample	1 3 1 0 2 0 2 3					
Sampled by:	RL ,KKD	Time	Hours: 1 5 : 0 0					
Sampling Method	APHA1060B,a	Sample ID	KL1, KL2, KL3, KL5,& KL6					
Sample container	PC 2.5 L	Sample Lab Code	KROS 4830/1-5					
Source:	KALLAI RIVER WATER	Ref.letter No.	PCB/KKD/DO/ Polluted River Stretch/2018 Vol. IV, Dated :13.10.2023					
Specific sampling location:	GIVEN BELOW	Received from:	EE,DO,KKD					
Sample preservation:	Ice box	Period of analysis:	13.10.2023-30.10.2023					
		No. of samples	5					
		Analysed by:	CVR/CNR/MJ/SP					
		Method:Standard Methods for the examination of Water and Wastewater, APHA AWWA WEF (22 nd Ed.)						
Sl no	Parameters	unit	Method No.	SAMPLE ID				
				KL 1	KL 2	KL 3	KL 5	KL 6
1	pH		APHA 4500-H+,B	6.65	6.75	6.95	7.59	7.71
2	CONDUCTIVITY	µmhos /cm	APHA 2510B	296	498.6	600.6	24810	41620
3	BOD	mg/L	IS3025 (Part 44)	2.4	4.8	3.4	4.8	3.4
4	DISSOLVED OXYGEN	mg/L	APHA 4500-O,C	3.5	2.7	2.3	1.9	1.7
5	TOTAL COLIFORM,	CFU/100ml	APHA 9222B	14000	34000	48000	520000	400
6	FECAL COLIFORM	CFU/100ml	APHA 9222D	10000	22000	31000	410000	220
7	FECAL STREPTOCOCCUS	CFU/100ml	APHA 9230 C	600	800	1000	1100	30
8	TEMPERATURE	°C	APHA 2550B	28	28	28	27	27

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, KL3- KALLAI RIVER AT MANKAVU BRIDGE, KL5- KALLAI RIVER AT KALLAI BRIDGE & KL6- KALLAI RIVER AT KOTHI BRIDGE, THEKKEPURAM .

AE2/AE1
20

Deeja
31/10/23
Scientist in charge

DA 673
Polluted River stretch
Action plan
3182
21/11/23



KERALA STATE POLLUTION CONTROL BOARD

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REGIONAL OFFICE, KOZHIKODE



Phone: 0495-2300744 Mail: pcbrokkd@gmail.com Website: kspcb.kerala.gov.in

3rd FLOOR, ZAMORIN'S SQUARE, LINAK ROAD, KOZHIKODE - 673 002

ANALYSIS REPORT OF RIVER WATER

Report No. KROR4830 / 1 to 5 Date: 31102023
Date of Sample Collection: 13102023
Sampled by: RL, KKD
Sampling Method: APHA1060B,a
Sample container: PC 2.5 L
Source: KALLAI RIVER WATER
Specific sampling location: GIVEN BELOW
Sample preservation: Ice box

Table with 8 columns: sl no, Parameters, unit, Method No., and 5 columns for SAMPLE ID (KL 1 to KL 6). Rows include pH, CONDUCTIVITY, BOD, DISSOLVED OXYGEN, TOTAL COLIFORM, FECAL COLIFORM, FECAL STREPTOCOCCUS, and TEMPERATURE.

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, KL3- KALLAI RIVER AT MANKAVU BRIDGE, KL5- KALLAI RIVER AT KALLAI BRIDGE & KL6- KALLAI RIVER AT KOTHI BRIDGE, THEKKEPURAM .

Handwritten signature and date 31/10/23, Scientist in charge



KERALA STATE POLLUTION CONTROL BOARD

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REGIONAL OFFICE, KOZHIKODE



Phone: 0495-2300744 Mail: pcbrokkd@gmail.com Website: kspcb.kerala.gov.in

3rd FLOOR, ZAMORIN'S SQUARE, LINK ROAD, KOZHIKODE - 673 002

ANALYSIS REPORT OF RIVER WATER

Report No.	K R O R 4 8 3 0 / 1 to 5	Date:	3 1 1 0 2 0 2 3					
Date of Sample Collection	1 3 1 0 2 0 2 3	Date of receipt of the sample	1 3 1 0 2 0 2 3					
		Time	Hours: 1 5 : 0 0					
Sampled by:	RL ,KKD	Sample ID	KL1, KL2, KL3, KL5,& KL6					
Sampling Method	APHA1060B,a	Sample Lab Code	KROS 4830/1-5					
Sample container	PC 2.5 L	Ref.letter No.	PCB/KKD/DO/ Polluted River Stretch/2018 Vol. IV, Dated :13.10.2023					
Source:	KALLAI RIVER WATER	Received from:	EE,DO,KKD					
		Period of analysis:	13.10.2023-30.10.2023					
Specific sampling location:	GIVEN BELOW	No. of samples	5					
		Analysed by:	CVR/CNR/MJ/SP					
Sample preservation:	Ice box	Method:Standard Methods for the examination of Water and Wastewater, APHA AWWA WEF (22 nd Ed.)						
sl no	Parameters	unit	Method No.	SAMPLE ID				
				KL 1	KL 2	KL 3	KL 5	KL 6
1	pH		APHA 4500-H+,B	6.65	6.75	6.95	7.59	7.71
2	CONDUCTIVITY	µmhos /cm	APHA 2510B	296	498.6	600.6	24810	41620
3	BOD	mg/L	IS3025 (Part 44)	2.4	4.8	3.4	4.8	3.4
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5	TOTAL COLIFORM,	CFU/100ml	APHA 9222B	14000	34000	48000	520000	400
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7	FECAL STREPTOCOCCUS	CFU/100ml	APHA 9230 C	600	800	1000	1100	30
8	TEMPERATURE	°C	APHA 2550B	28	28	28	27	27

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, KL3- KALLAI RIVER AT MANKAVU BRIDGE, KL5- KALLAI RIVER AT KALLAI BRIDGE & KL6- KALLAI RIVER AT KOTHI BRIDGE, THEKKEPURAM .

Handwritten signature and date 31/10/23

Scientist in charge

National Mission for Clean Ganga

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

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

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management & Details of</u></p>	<p><u>RAMANTHALI</u> 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 removing encroachment</p>		<p>Implementing in all households as per KPBR rules</p>
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ACTION PLAN FOR RIVER KAVVAI, KERALA

Action Plan of Local Body								
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 October 2023	% 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	Payyannur Municipality	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					
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 October 2023	% 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">• Specifying accountability of nodal authorities not below the Secretary level• Chief Secretaries may have an accountable person attached in their office for this purpose		
	<ul style="list-style-type: none">• Monitoring at State level must take place		
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none">• Secretary, Ministry of Jal Shakti• Member Secretary, CPCB	Monthly before 20 th 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 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>Pipe compost-600 Biogas plant-25 Compost pit -100 Thumboor muzhi-1</p> <p>Lab report is attached</p> <p><u>MADAYI</u> ONGOING <u>Udayagiri</u> 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><u>Pattuvam</u> 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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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 October 2023	% works completed	Details of works remaining
Udayagiri GP								
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					
Chapparappadavu GP								
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 stake holders	03/2020 (Will extend if necessary)					
		Pariyaram Panchayat						
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 stake holders	Whenever necessary					
A (b)	Identification of illegal outlets in to drains and stoppage of the same	Pariyaram Panchayat	09/2019					
		Madayi GP						
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 drains and stoppage of the same	Local Body	2022					
Thalipparamba Municipality								
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						
Pattuvam GP								
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 October 2023	% works completed	Details of works remaining
1	Providing fencing on Kuppam bridge (NH) across Kuppam river at Thalipparamba in Thalipparamba Municipality	Irrigation department	2021	Initially the DPR submitted for 45lakhs. 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 new estimate amount was 43 lakhs only. Now the DPR is resubmitted for FS Rs.56 lakhs as per DSR 2018.				
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	This work shall not be considered until adequate technical study is conducted (Vide letter No.752755/C1/16/WRD Thiruvananthapuram dtd 30/09/2020 of the Additional Chief Secretary to Government				
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>	

Combined Action Plan

	Proposed action	Agency	Timeline	Progress in the month of December 2020	Progress in the month of January 2021	Progress in the month of January 2023	% 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 theriveri)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 WaterDepartment

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 January 2023	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks					

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					

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

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

<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&D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in</p>	<p><u>RAMANTHALLI</u></p> <p>There are 5 natural drains meeting the river, of which 3 drains cleaned.</p> <ol style="list-style-type: none"> 1. Parappa Thodu (Ward 6)- 1 Km. 2. Chennakki Thodu (Ward 8) – 1.3 Km. 3. Kallayi Thodu (Ward 3&4) – 1 Km. <p>Two are partly cleaned and the cleaning work is in progress.</p> <ol style="list-style-type: none"> 1. Manthan Thodu (Ward 6) -1 Km 2. Ambachikundu Thodu (Ward 15) – 500 M (The work is slowly ongoing due to the higher level of water in stream, 40% Completed)
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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

Action Plan of LocalBody								
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 October 2023	% works completed	Details of works remaining
A(b)	Sanitation Facility STP proposed at market place	PayyannurMunicipality	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)	PayyannurMunicipality	2020	0	0	0	80%	Project implementation in progress
C(ii)	Non biodegradable Waste Disposal MCF and RRF	PayyannurMunicipality	Ongoing				1	MCF & RRF in function
E	Awareness Youth, Asha workers and other stake holders and	PayyannurMunicipality	Ongoingproject	90%	100%	100%	ongoing	Completed

	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 camerasat major points	Kankol – Alappadamba GP	2019					
C(ii)	Biodegradable waste disposal Bio bins, Pit Compost, Bio gas Plant (2460 Nos)	Kankol – Alappadamba GP	Ongoing					
C(ii)	Non Biodegradable waste disposal MCF	Kankol – Alappadamba GP	Ongoing					
E	Awareness Youth, Asha workers and other	Kankol – Alappadamba GP	Once in a month					

	stake holders							
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 Nos	Ramanthali GP	2022	Ring Compost-100 Compost Pit –15 Biogas Plant-10	Ring Compost-100 Compost Pit – 0 Biogas Plant – 0	Ring Compost-290 Compost Pit – 0 Biogas Plant – 0	100%	
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 June2022	Progress in the month of October 2023	% 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 frompayyanur 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 Koykottuvayalthodu inKunhima ngalam Panchayath	Irrigation Department	2020					Work completed under SDRF scheme by MI Division Kannur.

	State Disaster Response Fund			
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 bank of the river will be completed within 3 years from the commencement of works with a fund of 0.40 crores	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.
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 Crores	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

	from the available fund			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.				
Combined Action by KSPCB								
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 January 2023	% works completed	Details of works remaining
1	Sanitation Providing of toilets to residences With treatment and disposal system for sewage and sullage	Local body						
2	Community Toilet Proposed construction of newcommunity Toilet at satellite points on the bank of river	All local bodies, SuchitwaMissi on, 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	Pollution Control Board	Six months					

	to operate of the Board exists							
10	Sanitation survey should be done 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	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 January 2023	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks (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 from 7.97mbgl - 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 water 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 control Board.

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

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 October 2023	% 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 October 2023	% works complete d	Details of works remaining
C (ii)	Providing fencing on Ramapurambridge across Ramapuramriver at Madayi GP	Irrigation department	2021	Initially the DPR submitted for 12 lakhs. But as per the letter No.752755/C1/16/WRD Thiruvanamthapuramdtd 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 14.5lakhs 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

	Proposed action	Agency	Timeline	Progress in the month of December 2020	Progress in the month of January 2021	Progress in the month of January 2023	% 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 theriveri)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 January 2023	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks					
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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POLLUTED RIVER STRETCH WATER QUALITY MONITORING PROGRAMME OCTOBER 2023					
Station Name		KAVVAYI RIVER			
Type of Water body		RIVER			
Completed by		JSA1,JSA2,PGSA			
Agency		KERALA STATE POLLUTION CONTROL BOARD			
Date and time of sample taken		12-10-2023	12-10-2023	12-10-2023	12-10-2023
Sl.No	Determinants	Kankol	Karikuzhithodu	Thattarakadavu Bridge	Kuttyol palam
1	Temperature, 0C	28	28	28	28
2	Dissolved Oxygen, mg/l	6.5	6.47	6.53	6.4
3	pH	6.01	6.24	6.01	6.11
4	Conductivity, μ hos/cm	100	150	250	150
5	BOD, mg/l	0.6	1.87	2.6	2.3
6	Turbidity, NTU	2.9	0.2	1.2	2.3
7	Total Alkalinity, mg/l	7	12	27	11
8	Chloride, mg/l	32	8	21	37
9	Ammoniacal-N, mg/l	0	0	0	0
10	Hardness as CaCO ₃ , mg/l	12	22	120	11
11	Calcium as CaCO ₃ , mg/l	6	11	80	9
12	Magnesium as CaCO ₃ , mg/l	6	11	40	2
13	Sulphate, mg/l	0	0	0	0
14	Phosphate, mg/l	0	0	0	0
15	Fluoride, mg/l	0	0	0	0
16	Total Coliform, MPN/100 ml	380	380	430	480
17	Fecal Coliform, MPN/100 ml	230	160	180	220

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POLLUTED RIVER STRETCH WATER QUALITY MONITORING PROGRAMME OCTOBER 2023

Station Name	PERUVAMBA RIVER				
Type of Water body	RIVER				
Completed by	JSA1,JSA2,PGSA				
Agency	KERALA STATE POLLUTION CONTROL BOARD KANNUR				
Date of sample taken	12-10-2023		12-10-2023	12-10-2023	12-10-2023
Sl.No	Determinants	MATHAMANGALAM	KACHERIKADVU	CHANDAPURA	KANDAKALI
1	Temperature, 0C	28	28	28	28
2	Dissolved Oxygen, mg/l	7	7.7	7.1	8.06
3	pH	7.1	7.2	6.12	5.89
4	Conductivity, μ mhos/cm	188	296	140	1364
5	BOD, mg/l	1.26	1.7	2.4	2.66
6	Turbidity, NTU	0.5	1.2	4.5	2.3
7	Total Alkalinity, mg/l	10	9.2	11	4
8	Chloride, mg/l	29	25	25	39
9	Ammoniacal-N, mg/l	BDL	0	0	0
10	Hardness as CaCO ₃ , mg/l	15	13.5	23	84
11	Calcium as CaCO ₃ , mg/l	11	8	15	55
12	Magnesium as CaCO ₃ , mg/l	4	5.5	8	29
13	Sulphate, mg/l	BDL	0	9.3	9.5
14	Phosphate, mg/l	BDL	0	0	0
15	Fluoride, mg/l	BDL	0	0.4	0
16	Total Coliform, MPN/100 ml	380	500	350	620
17	Fecal Coliform, MPN/100 ml	220	220	220	350

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POLLUTED RIVER STRETCH WATER QUALITY MONITORING PROGRAMME OCTOBER 2023

Station Name		RAMAPURAM RIVER				
Type of Water body		RIVER				
Completed by		JSA1,JSA2,PGSA				
Agency		KERALA STATE POLLUTION CONTROL BOARD KANNUR				
Date of sample		20-10-2023	20-10-2023	12-10-2023	21-10-2023	16-10-2023
Sl.No	Determinants	KAPPUGAL	ATHIYADAM	RAMAPURAM	VAYALAPRA	KACHERIKADAVU
1	Temperature, 0C	27	28	28	28	28
2	Dissolved Oxygen, mg/l	5.6	4.6	4.1	5.3	7.7
3	pH	6.07	6.4	6.09	6.3	6.4
4	Conductivity, µmhos/cm	152	161	290	625	580
5	BOD, mg/l	0.2	1.86	1.6	0.07	1.7
6	Turbidity, NTU	3.5	1.2	2.3	1.1	2.1
7	Total Alkalinity, mg/l	12	13	5	16	21
8	Chloride, mg/l	36	25	100	128	58
9	Ammoniacal-N, mg/l	0	0	0.09	0.1	0
10	Hardness as CaCO ₃ , mg/l	21	24	33	120	14
11	Calcium as CaCO ₃ , mg/l	10	11	32	80	7
12	Magnesium as CaCO ₃ , mg/l	11	13	1	40	7
13	Sulphate, mg/l	1.6	0.1	11.8	12	8.1
14	Phosphate, mg/l	0	0	0	0	0
15	Fluoride, mg/l	0	0	0	0	0
16	Total Coliform, MPN/100 ml	320	330	380	430	420
17	Fecal Coliform, MPN/100 ml	210	120	120	210	220


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POLLUTED RIVER STRETCH WATER QUALITY MONITORING PROGRAMME OCTOBER 2023

Station Name		KUPPAM RIVER					
Type of Water body		RIVER					
Completed by		JSA1, JSA2, PGSA					
Agency		KERALA STATE POLLUTION CONTROL BOARD KANNUR					
Date of sample taken		20-10-2023	12-10-2023	20-10-2023	20-10-2023	20-10-2023	20-10-2023
Sl.No	Determinants	MANGALASS ERRY	KUPPAM BRIDGE	VARIANKOT TAM	VELLAVU	KUTTIYERIKADAVU	VELLICHAKEEL
1	Temperature, 0C	28	28	28	28	28	28
2	Dissolved Oxygen, mg/l	4.8	4.7	5.8	5.93	5	6.6
3	pH	6.5	6	6.4	6.5	6.8	7.2
4	Conductivity, μ mhos/cm	520	226	340	320	220	854
5	BOD, mg/l	0.6	2.1	1	1.53	1.3	1.74
6	Turbidity, NTU	2.9	0.9	2.9	2.5	1.8	1.2
7	Total Alkalinity, mg/l	18	10	13	18	14	18
8	Chloride, mg/l	280	42	108	98	65	120
9	Ammoniacal-N, mg/l	0	0.002	0	0	0	0
10	Hardness as CaCO ₃ , mg/l	52	25	38	50	45	52
11	Calcium as CaCO ₃ , mg/l	32	22	20	28	20	25
12	Magnesium as CaCO ₃ , mg/l	20	3	18	22	25	17
13	Sulphate, mg/l	0.1	20	0.1	0	0.2	0
14	Phosphate, mg/l	0	0	0	0	0	0
15	Fluoride, mg/l	0	0	0	0	0	0
16	Total Coliform, MPN/100 ml	620	280	620	520	630	580
17	Fecal Coliform, MPN/100 ml	300	180	350	340	290	290


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1.Kavvayi

Sl.no	Drain	BOD on October 2023	Remarks
1	Kotti thodu	0.8	
2	School ground thodu	1.06	
3	Ulliyathu kadavu	1.94	
4	Karikuzhithodu	1.87	
5	Kalikadapuram thodu	No Water	
6	Kallatu kadavu	No Water	
7	Muttathu kadav	2.6	
8	Vadipram thodu	No Water	

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2.Peruvamba

Drain	BOD on October 2023	Remarks
1 Naranga thodu	No Water	High amount of Plastic waste
2 Perumba thodu	2.4	Plastic waste was noticed, nearby shopping complex shops are dumping waste.
3 Valliohthodu	3	
4 Panapuzha thodu	1	
5 Poomkottu Chal	0.9	
6 Manjangottu Thode	1	
7 Kannelamthodu	1.25	
8 Mavullapoyil thodu	2	Plastic waste
9 Kollali thodu	0.7	
10 Kannada thodu	1	
11 Koyakkotu thodu Thokadu	1.3	
12 Cherottuvayal thodu	No water	
13 Kayyil arakulam thodu Kunjimagalam puzha	3	
14 Tattanvayal thodu	0.9	
15 Appithode	1.3	


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3. Ramapuram thodu

Sl.no	Drain	BOD on October 2023	Remark
1	Chembali kundu	2.9	
2	Kavilavalapu thodu	2.4	
3	Aduthila thodu	No Water	
4	Ottayi thodu	2.4	
5	Kapungal thodu	0.34	
6	Moolakadav	2.7	


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4.Kuppam

Sl.no	Drain	BOD on October 2023	Remarks
1	Karuvanchal	0.9	Full bags of dumped plastic wastes
2	Karthikapuram	2.7	Plastic waste was noticed
3	Near Udayagiri Bridge	0.68	
4	Mukkada Thodu	1.1	
5	Moonamkunnu Thodu	1.1	
6	Kuttaparamba- Neduvodu Thodu	2	
7	D/S of Alakode Hospital	0.9	
8	Pathayachira	3.1	Turbid water present with high Plastic waste.
9	Near the houses on bank of main River (@ Pariyaram GP)	2.1	
10	Near House Boat @ Pariyaram GP	2.4	
11	Kavimmunabu	2.5	
12	Manja Thodu	3.1	
13	Sulthan Thodu	2.7	Floating waste is seen, plastic and intestinal waste of animals is floating.
14	Cheru thodu	2.9	Full of Black sludge, and plastic and dry log ,highly polluted thodu


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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 MOGRAL, KASARGOD

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

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic</p>		
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	<p>waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p> <p>(vii) Ground water regulation</p> <p>(viii) Adopting good irrigation practices</p> <p>(ix) Protection and management of flood plain Zones (FPZ)</p> <p>(x) Rain water harvesting</p> <p>(xi) Maintaining minimum Environmental flow of river</p> <p>(xii) Plantation on both sides of the river</p> <p>(xiii) Setting up biodiversity parks on flood plains by removing encroachment</p>		
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ACTION PLAN FOR RIVER MOGRAL, KASARAGOD DISTRICT, KERALA
MONTHLY PROGRESS REPORT FOR THE MONTH OF SEPTEMBER 2023

RIVER MOGRAL, KASARGOD

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of August 2023	Progress in the month of September 2023	Progress in the month of October 2023	% works completed	Details of works remaining
C	Material collection facility	Mogral Puthur Grama Panchayath	March 2020	Completed	Completed	Completed	100 %	NA
C	Waste collection including vehicle hire charge to collect waste.	Mogral Puthur Grama Panchayath	March 2020	NIL	NIL	NIL	0 %	
E	Installation of camera	Mogral Puthur Grama Panchayath	June 2020	dropped	dropped	dropped	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%	NA
C(iii)	Bamboo Capital Bamboo Planting- aiming water conservation and raising water levels thus preventing solid erosion, waste dumping in public places	Mogral Puthur Grama Panchayath	On-going	Completed	Completed	Completed	100 %	NA
E	River cleaning	Mogral Puthur Grama Panchayath	2019	Completed	Completed	Completed	100 %	NA
C(iii)	Bamboo Plantation of Madhur	Madhur grama Panchayath	2019	completed	completed	completed	100 %	Bamboo plantation done in 2019 (replantation needed)
C(ii)	Viability Gap Funding for Haritha Karmasena	Madhur grama Panchayath	2019	completed	completed	Completed	100%	

C(ii)	Material recovery facility centre	Madhur grama Panchayath	2019	-	-		100%	Completed. Non Biowaste collected at MCF handed over to Thirivonam Agency Completed
C(ii)	Construction of Plastic Shredding Machine building	Madhur grama Panchayath	2019	-	-		100 %	Completed. Non Biowaste collected at MCF handed over to Thirivonam Agency Completed
C(ii)	Purchase of Plastic shredding machine	Madhur grama Panchayath	2019	-	-		-	Completed. Non Biowaste collected at MCF handed over to Thirivonam Agency

C	Tying of net on both sides of the bridge	Irrigation Department	2019-2020	<p>DPR submitted to Chief Engineer (Price ID: 2019/10715/IA) for approval. Informed that as the proposed NH upgrade works are going on and these works are to be carried out along with the bridges which are part of the NH ,it would not be desirable to Carry to these works now. It is hereby notified that NH department itself undertakes and executes the said works in connection with the upgradation of NH 66.</p>	<p>DPR submitted to Chief Engineer (Price ID: 2019/10715/IA) for approval. Informed that as the proposed NH upgrade works are going on and these works are to be carried out along with the bridges, which are part of the NH, it would not be desirable to carry to these works now. it is hereby notified that NH department itself undertakes and executes the said works in connection</p>	<p>DPR submitted to Chief Engineer (Price ID: 2019/10715/IA) for approval. Informed that as the proposed NH upgrade works are going on and these works are to be carried out along with the bridges, which are part of the NH, it would not be desirable to carry to these works now. it is hereby notified that NH department itself undertakes and executes the said works in connection with the upgradation of NH 66</p>	<p>DPR submitted to Chief Engineer (Price ID:2019/10715/IA) for approval.</p>	Work still under process.
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					with the upgradation of NH 66			
A(a)	Water monitoring	quality	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		08.10.2023	
Nature and flow of the river		Medium flow, water level decreased	
Sl.No	Parameters	Unit	Mogral Bridge
1	Temperature	°C	30.9
2	pH	-	6.86
3	Conductivity	µmhos/cm	457
4	Turbidity	NTU	1.5
5	BOD	mg/l	0.2
6	Dissolved Oxygen	mg/l	6.2
7	Total Coliforms	cfu/100ml	490
8	Feecal Coliforms	cfu/100ml	140
9	Feecal Streptococcus	cfu/100ml	10
10	Chlorides	mg/l	110
11	Total Alkalinity	mg/l	30
12	Total Hardness	mg/l	50
13	Calcium Hardness	mg/l	20
14	Magnesium Hardness	mg/l	30
15	Calcium	mg/l	8
16	Magnesium	mg/l	7.290
17	Total Dissolved Solids	mg/l	264
18	Sodium	mg/l	55.18
19	Potassium	mg/l	4.53

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		08.10.2023	
Nature and flow of the river		Water level decreased, Medium flow	
Sl.No	Parameters	Unit	Puzhakkara
1	Temperature	°C	30.5
2	pH	-	7.38
3	Conductivity	µmhos/cm	87.3
4	Turbidity	NTU	1
5	BOD	mg/l	0.2
6	Dissolved Oxygen	mg/l	6.6
7	Total Coliforms	cfu/100ml	420
8	Feecal Coliforms	cfu/100ml	160
9	Feecal Streptococcus	cfu/100ml	15
10	Chlorides	mg/l	24
11	Total Alkalinity	mg/l	14
12	Total Hardness	mg/l	15
13	Calcium Hardness	mg/l	4
14	Magnesium Hardness	mg/l	11
15	Calcium	mg/l	1.6
16	Magnesium	mg/l	2.673
17	Total Dissolved Solids	mg/l	52
18	Sodium	mg/l	6.011
19	Potassium	mg/l	0.41

Sd/-
Assistant Scientist

National Mission for Clean Ganga

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

RIVER UPPALA, KASARGOD

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

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p>		
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	<p>(vii) Ground water regulation</p> <p>(viii) Adopting good irrigation practices</p> <p>(ix) Protection and management of food plain Zones (FPZ)</p> <p>(x) Rain water harvesting</p> <p>(xi) Maintaining minimum Environmental flow of river</p> <p>(xii) Plantation on both sides of the river</p> <p>(xiii) Setting up biodiversity parks on flood plains by removing encroachment</p>		
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ACTION PLAN FOR RIVER UPPALA, KASARAGOD DISTRICT, KERALA
MONTHLY PROGRESS REPORT FOR THE MONTH OF September 2023
RIVER UPPALA, KASARGOD

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of July 2023	Progress in the month of August 2023	Progress in the month of September 2023	% works completed	Details of works remaining
C(ii)	Material collection facility. Operation	Mangalpady Grama Panchayath	2019	NA	NA	NA	NA	Completed kubanoor plant is working
C	Waste management including purchase of vehicle to collect waste.	Mangalpady Grama Panchayath/ Green Space Private company	2019- 2020	NA	NA	NA	NA-	Approval for purchase of vehicle not sanctioned
E	Installation of camera	Mangalpady Grama Panchayath	March 2020	NA	NA	NA	NA	NA
C	Electrification of material collection facility	Manjeshwaram Grama Panchayat	2019-2020	Tender accepted and agreement signed	16 ton Rejected waste transported	16420 kg rejected waste transported.	100%	Completed
C	Transportation of collected waste	Manjeshwaram Grama Panchayat	March 2020	Tender called for waste management, agency accepted and agreement signed	Tender called for waste management agency accepted and agreement signed	Tender called for waste management, agency accepted and agreement signed	100%	Completed.
E	Installation of camera	Manjeshwaram Grama Panchayat	March 2020	CC TV installed at 4 places by Keltron, connected to Police Station and Panchayath Office	CC TV installed at 4 places by Keltron, connected to Police Station and Panchayath Office	CC TV installed at 4 places by Keltron, connected to Police Station and Panchayath Office	100%	completed

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

Sd/-

Environmental Engineer

UPPALA RIVER - UPPALA BRIDGE (Existing NWMP Station)			
Sampling Point		Uppala Bridge	
NWMP Station Code		2306	
Latitude		12°41'41.7"N	
Longitude		74°54'16.9"E	
Date of Sampling		08.10.2023	
Nature and flow of the river		Moderate flow, water level decreased	
Sl.No	Parameters	Unit	Uppala Bridge
1	Temperature	° C	30.9
2	pH	-	7.25
3	Conductivity	µmhos/cm	122.2
4	Turbidity	NTU	2.2
5	BOD	mg/l	0.6
6	Dissolved Oxygen	mg/l	6.7
7	Total Coliforms	cfu/100ml	620
8	Feecal Coliforms	cfu/100ml	128
9	Feecal Streptococcus	cfu/100ml	10
10	Chlorides	mg/l	20
11	Total Alkalinity	mg/l	21
12	Total Hardness	mg/l	25
13	Calcium Hardness	mg/l	13
14	Magnesium Hardness	mg/l	12
15	Calcium	mg/l	5.2
16	Magnesium	mg/l	2.9
17	Total Dissolved Solids	mg/l	68
18	Sodium	mg/l	14.2
19	Potassium	mg/l	2.6

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		08.10.2023	
Nature and flow of the river		Water level decreased, moderate flow	
Sl.No	Parameters	Unit	Uppala River Near Bhagavathi Temple
1	Temperature	° C	30.5
2	pH	-	7.49
3	Conductivity	µmhos/cm	100.2
4	Turbidity	NTU	1.3
5	BOD	mg/l	1.3
6	Dissolved Oxygen	mg/l	7.5
7	Total Coliforms	cfu/100ml	740
8	Feecal Coliforms	cfu/100ml	148
9	Feecal Streptococcus	cfu/100ml	10
10	Chlorides	mg/l	18
11	Total Alkalinity	mg/l	20
12	Total Hardness	mg/l	20
13	Calcium Hardness	mg/l	12
14	Magnesium Hardness	mg/l	8
15	Calcium	mg/l	4.8
16	Magnesium	mg/l	1.944
17	Total Dissolved Solids	mg/l	58
18	Sodium	mg/l	11.62
19	Potassium	mg/l	1.9

Sd/-
Assistant Scientist