

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 - MArch 2023****1. Short term plan**

No.	Activity	Implementing agency	Time line	Progress in the month of January-2023	Progress in the month of February-2023	Progress in the month of March 2023	% works completed	Details of works remaining
2.1.1	Pumping lines from the terminal pumping stations namely Kuriyathi, Pattoor, Kannammoola and Enchakkal pumping stations are to be connected directly to STP at Muttathara	Kerala Water Authority	May 2019				100%	100% work of Kuriathy completed. Pumping main of Pattoor, Kannammoola and Enchakkal included in Long term works
							100%	a. Completed
2.1.2	Rehabilitation/upgradation of Thaliyal and Aranoor Sewerage Pump house by rehabilitation of existing well, construction of new well and grit chamber, installation of new pump	Kerala Water Authority	May 2020					b. a) Providing RCC lining for the existing two wells. Lining for first well completed. 2 Pump sets erected in first well and commissioned. Pumping main



	Sets			Arannoor	5%	5%	97%	also completed. Lining for 2 nd well partly completed. b) Diesel generator – to be supplied by contractor. Work terminated at the risk and cost of the contractor. Work nearing completion. Approval to be received from Electrical Inspectorate. Probable date of completion 15.04.2023
2.1.3	5 MLD sewage treatment plant at Medical College	Kerala Water Authority	May 2020				100%	Work Completed on 8.8.21.
2.1.4	Installation of adequate pumps in Mudavanmughal and Enchakkal pumping stations.	Kerala Water Authority	March 2020				100%	Pump sets installation at Enchakkal and Mudavanmughal pump house completed.
2.1.5	DG sets in all lift and pumping stations – Mudavanmughal, Arannoor, Thaliyal, Kuriyathi, Pattoor, Kannammola, Pattom, Murinjapalam and Enchakkal	Kerala Water Authority	May 2020				100%	DG sets installation of seven pumping stations completed. Approval from Electrical inspectorate received. Work completed. Trial run also completed. For Arannoor and Thaliyal. Erection of diesel generator is already included in the item mentioned 2.1.2. For Enchakkal already exists.
	Reconnect sewer at Rajaji Nagar, stop outflow of sewage into Amayizhanchanthodu, control storm water entry into sewer							



2.1.6	to avoid overflow in Thampanoor area. Sewage generated in Rajaji Nagar shall be diverted to main sewer line. Sewage generated in Thoppil area shall be diverted main sewer line	Kerala Water Authority	Dec 2020				100%	Work completed.
2.1.7	Discharge of sewage in Parayilkadavu shall be stopped as there is overflow of sewage reaches in houses having sewerage connection and this may lead to discharge of sewage into 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%	Works completed – 75No. (Rs. 15.41cr) AMRUT-44, State plan-28 MLA ADF/SDF-3 In progress – 1No. (Rs. 3.cr.) AMRUT-1, State plan-0 Expected to be completed by 31.05.2023 for one AMRUT work
							Dropped – 2 No. (Rs. 1.52cr.)	Two works dropped due to not getting offers on repeated tenders



	Total works in progress/completed (76No.) Works dropped (2No.)						State plan-2	getting errors 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		0.5%	0.5%	98%	Works completed - 22 No. (Rs. 5.86 cr.) AMRUT-10, State plan-11 MLA ADF/SDF-1
	In progress/Ongoing (24No.)							In progress –2No. (Rs. 11.35 cr.) AMRUT-2(Details included in Excel sheet attached) State plan-0 Expected date of completion 31.03.23
	Tendering/ To be arranged (1No.) Land acquisition -1 In progress-2			0.5%			To be arranged–1-Nos. (Rs. 7.885 cr.) Land Aquisition in progress-1Nos	Land acquisition process for three work completed and land handed over to KWA and AS obtained for arranging the work under State Plan 22-23 and one work arranged and one tendered. LA for one work in initial stage.(Details shown in excel sheet attached) Direction from head office to cancel one work and recast the estimate and submit for new AS. Same has been approved in State Plan 2022-23 and tendered. Agreement Executed. Expected date of completion 31.05.23
2.1.11	Procurement of sewer cleaning machines and equipment maintenance	Kerala Water Authority	Mar 2020	0%	0%	0%	100%	Work completed.





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

2. Long Term Works

Sl No.	Long term measures proposed	Implementing agency	Amount Required (Rs.in Crore)	Time line	Progress in the month of February	Progress in the month of March	% works completed	Details of works remaining
3.1.1	Extension of sewerage system to Block F to G coastal belt							Consultant appointed for preparing Detailed Project Report for uncovered wards of the Thiruvananthapuram Corporation and Rehabilitation of existing system was terminated from the contract due to breach of contract by the firm vide Proceedings No. KWA/SE/SEW/EOI/REPL/338/2020-2021 of the Superintending Engineer, Sewerage Circle, Kerala Water Authority Thiruvananthapuram dated 31.05.2022 to arrange the balance work at their risk and cost. As discussed in the Chief Secretary, GoK' s meeting dated 21/06/2022 the work of Preparation of DPRs has to be done internally. Mean while the terminated firm M/s REPL filed a complaint against KWA in the Hon'ble High court of Kerala (WP(C) No 26031 of the year
3.1.2	Extension of sewerage system to Block H to R							
3.1.3	Extension of sewerage system to Newly added areas of corporation viz,							
3.1.4	Providing sewerage system in Block A to E							
3.1.5	Rehabilitation of existing Network and pump house in block A to E							
3.1.6	Procurement of equipments for maintenance of sewerage system							





3.1.7 Additional STP requirement

Kerala Water Authority

Three years

2022) and obtained a stay against KWA at first up to 22.08.22 which is then got extended up to 14.09.22 against taking any coercive actions. DPR preparation of sewerage system to the uncovered areas of TMC is now being carried out internally by KWA. The total wards were divided in to 9 clusters. Cluster 1 comprises of 5 wards - Attukal, Kalady, Kallipankulam, Ambalathara and kamaleswaram wards - The DPR for cluster 1 was submitted on 13/10/2022 for obtaining AS. Cluster 3, which was originally consisting of Thiruvallam, Poonkulam and Vellar is the second in the priority list and is taken up. This Cluster is then modified by adding more wards and is divided into 3 zones. Zone 1 of cluster 3 is consisting of Puthenpally and Part of Muttathara (until STP) is taken up on priority based on the demand of Thiruvananthapuram Corporation and submitted for AS. The DPR of Cluster 3 Zone 2 and Zone 3 is prepared and is under scrutiny. The DPR for cluster 2

National Mission for Clean Ganga

Format for Submission of Monthly Progress Report by States/UTs

(Hon'ble NGT in the matter of OA No.673/2018 dated 06.12.2019) **RIVER 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 February-2023	Progress in the month of March-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	Not submitted report	Not submitted report		Inauguration of functioning.

				<p>Kadapra Panchayath has resolved to identify all polluting sources involved in pollution of river resources and initiation of penal action against them</p>	<p>Kadapra Panchayath has resolved to identify all polluting sources involved in pollution of river resources and initiation of penal action against them</p>		
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				Niranam Gramapanchayat is an upper Kuttanad area , so no such dry land suitable for solid waste treatment plant is available	Not submitted report		
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C	Establishment of Material Collection Facility	Mannar Panchayat, Kadapra/ Niranam Panchayath	31.03.2021	N ot submitted report Material Collection Facility is fully functional in Kadapra Grama Panchayath	N ot submitted report Material Collection Facility is fully functional in Kadapra Grama Panchayath		Construction of permanant MCF building, collection and transportation of Non-bio degradable Materials to RRF for processing.
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				MCF construction completed 13 mini MCF implimentedc in all wards in Niranam Panchayath	Not submitted report		
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C	Resource Recovery Facility	Mannar Panchayat, Kadapra/ Niranam Panchayath	31.03.2021	Not submitted report Resource recovery facility is working as a centralised arrangement at	Not submitted report Resource recovery facility is working as a centralised arrangement at	100%	Collection and transportation of Non-bio degradable Materials to RRF for processing

				BlockPanchayath level in Kadapra Grama Panchayath It will be suitable if RRF is established at Block level in Niranam Grama Panchayath	BlockPanchayath level in Kadapra Grama Panchayath Not submitted report		
C	Installing household and community level solid waste management units	Mannar Panchayat	31.03.2021	Not submitted report	Not submitted report	100%	Construction and operation of Aerobic compost unit.

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

C	Construction of small sewage treatment plant with screening, septic tank and disinfection to the storm water drain of Mannar Town	Mannar Panchayat	31.12.2020	Not submitted report	Not submitted report	0%	Not applicable
C	Construction of compound wall with fencing	Irrigation department	31.03.2021	Detailed project report for the Holistic rejuvenation of the reaches is prepared and submitted to Government	Detailed project report for the Holistic rejuvenation of the reaches is prepared and submitted to Government		
C	Removing light jungle and muddies from river courses	Irrigation department	31.03.2021				
C	Electrical-Light arrangements and Surveillance cameras	Irrigation department	31.03.2021				
C	Regulating activities in flood plain zone, protection and management of flood plain zone	Irrigation department	31.03.2021				
	Greenery development Plantation plan. Plantation on both sides of the river, setting up 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	<p>Not submitted report</p> <p>Green protocol has been implemented in Public offices of Kadapra Gramapanchayat</p> <p>Necessary instruction are given to all offices and institution to strictly comply with the green protocol and is regularly monitored in Niranam Grama Panchayath</p>	<p>Not submitted report</p> <p>Green protocol has been implemented in Public offices of Kadapra Gramapanchayat</p> <p>Not submitted report</p>	100%	Continuation of Green Protocol .
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D(a)	Issues relating to E-flow,maintaining minimum environmental flow of river (by having watershed management provisions)	Irrigation department	30.11.2020	Detailed project report for the Holistic rejuvenation of the reaches is prepared and submitted to Government	Detailed project report for the Holistic rejuvenation of the reaches is prepared and submitted to Government		
D (b)	Irrigation practices	Irrigation department	30.04.2020				
E	Awareness programmes for sections of public	Kerala State Pollution Control Board	31.05.2020				
C	Management of municipal, plastic, hazardous, biomedical and electrical waste	LSGD	31.03.2021	Not submitted report	Not submitted report		

ACTION BY GROUND WATER DEPARTMENT

Sl. No.	Ref para item nos as per NGT Order no.673/2018 dated 20.09.2018	Activity	Progress in the month of February,2022	Progress in the month of March,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 February 2023	NOC has not been issued to industries for Ground Water extraction during March 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 4 sites Work Tendered and selection Notice issued and 5 sites work completed.	Artificial Recharge Structure 5 sites work completed and 4 sites work order issued.	Demand based	All the blocks in the district is categorized as SAFEas per GEC estimation. Kadapra-Niranam Area is not feasible for Ground WaterRecharge. However, GW recharging programme is taken up in some pockets in the midland area including Manimala basin. Where seasonal GW level fluctuation is noticed.

3	B(iii)	Periodic ground waste quality assessment and remedial actions in case of contaminated ground water tube wells/bore wells or hand pumps	Groundwater sample collection during the month of February 2023 from monitoring wells (borewells and open wells) collected and sent to Analytical Lab Thiruvananthapuram for chemical analysis soon.	Groundwater sample collection during the month of March 2023 from monitoring wells (borewells and open wells) collected and sent to Analytical Lab Thiruvananthapuram for chemical analysis soon.	Periodical assessment(Regular programme) Chemical analysis result of groundwater samples collected during November-2020 reveals that the gw quality is good and potable.	(i)Maintaining a network of observation wells in various hydrogeomorphic units throughout the district from which water level and water samples have been collected periodically and analysed. (ii)generally groundwater quality is good and potable
4	B(iv)	For regulating use of ground water for irrigation purpose, adopting good irrigation practices	Borewell/ tube well construction is regulated in the district by insisting permit of local bodies based on the feasibility report ii) Promoting conjunctive use of groundwater and surface water for irrigation purpose.	Borewell/ tube well construction is regulated in the district by insisting permit of local bodies based on the feasibility report ii) Promoting conjunctive use of groundwater and surface water for irrigation purpose.	Continuing programme	i)Borewell/tube well construction is regulated in the district by insisting permit of local bodies based on the feasibility report of GWD ii) Promoting conjunctive use of groundwater and surface water for irrigation purpose. iii)Awareness programmes organised to the public to adopt rainwater harvesting measures

MONTHLY ANALYSIS REPORT OF POLLUTED RIVER STRETCHES MARCH - 2023

STATION: MANNAR

SAMPLING DATE: 03.03.2023

SI.NO	PARAMETERES	ITTINAYARKADAVU BRIDGE KUTTAMPEROOR	KOTTAKAL KADAVU BRIDGE KORATTIKADAVU	PARUMALA BRIDGE	MANNAR BRIDGE
1	Temp. (°C)	28	28	29	27
2	Ph	6.2	6.6	6.3	6.4
3	Conductivity (µS/cm)	40.38	41.48	78.06	49.95
4	DO (mg/L)	4.7	4.0	4.8	5.0
5	BOD (mg/L)	1.6	1.9	1.4	1.2
6	COD (mg/L)	6.4	6.4	6.4	3.2
7	TDS (mg/L)	38	36	34	32
8	TC (CFU/100ml)	960	600	780	180
9	FC (CFU/100ml)	320	200	260	60
10	FSC(CFU/100ml)	Nil	Nil	10	Nil

WATER QUALITY DATA OF POLLUTED RIVER STRETCHES MARCH-2023

DISTRICT OFFICE, PATHANAMTHITTA

Date of Sampling: 03.03.2023

Sl. No	PARAMETERS	THAKZHY	EDATHUA	MANNAR
1	Temperature, °C	29	27	28
2	pH	6.3	6.2	6.9
3	Conductivity, µmhos/cm	77.05	64	52.98
4	Turbidity, NTU	1.9	2.2	2.3
5	Phenolphthalein Alkalinity, as CaCO ₃	Nil	Nil	Nil
6	Total Alkalinity, as CaCO ₃	11	12	10
7	Chloride, mg/l	12	10	10
8	COD, mg/l	6.4	3.2	3.2
9	TKN, mg/l	0.3	0.18	0.25
10	Ammoniacal-N, mg/l	0.169	0.241	0.104
11	Hardness, as CaCO ₃ mg/l	22	22	20
12	Calcium, as CaCO ₃ mg/l	14	12	10
13	Magnesium as CaCO ₃ , mg/l	8	10	10
14	Sulphate, mg/l	3.1	2.1	2.5
15	Sodium, mg/l	6.4	6.4	5.3
16	Total Dissolved Solids, mg/l	44	38	36
17	Total Fixed Solids, mg/l	39	33	30
18	Total Suspended Solids, mg/l	34	28	25
19	Phosphate, mg/l	BDL	BDL	BDL
20	Boron, mg/l	BDL	BDL	BDL
21	Potassium, mg/l	0.735	0.762	0.669
22	BOD, mg/l	1.6	1.3	0.9
23	Fluoride, mg/l	0.3	0.17	0.25
24	Dissolved Oxygen, mg/l	5.1	5.8	6.1
25	Nitrate-N, mg/l	0.216	0.193	0.285
26	Total Coliform, CFU/100 ml	220	400	260
27	Faecal Coliform, CFU/100 ml	70	140	80
28	SAR	0.59325	0.59325	0.51526
29	% of sodium	16.8247	16.18364	14.68304
30	Faecal Strepto Coccus,CFU/100 ml	Nil	Nil	Nil

National Mission for Clean Ganga

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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 March 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 January 2022	Progress in the month of February 2023	Progress in the month of March 2023	% works completed	Details of works remaining
A(a)	Monitoring of river water quality	Kerala State Pollution Control Board	Continuing project	Result attached	Result attached	Result attached	100%	NIL
A(b)	Rendering Plant at Eraviperoor or Thiruvalla	Eraviperoor/ Thiruvalla local body	31.03.2021				0%	Work to be initiated
C(ii)	Fencing of bridges, desilting, dredging and protection works, surveillance cameras at vantage points	Irrigation department	31.03.2021				0%	Work to be initiated
C	Preventing illegal discharge of septage and other waste water into the river. Formation of River Protection Group	Panchayath, Police , KSPCB	31.05.2020.	NIL	NIL	NIL	0%	Work pending due to COVID pandemic
C	Greenery development Plantation on both sides of the river, setting up biodiversity parks in flood plains and removing encroachment	Irrigation department in association with panchayath	31.03.2021				0%	Yet to be initiated
C(b)(ii)	Green Protocol implementation in all offices, institution & public functions	Kalloopara, Eraviperoor, Puramattom, Kaviyoor, Peringara, Kuttoorpanchayaths	31.03.2020	100%			100%	0

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

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 January 2022	Progress in the month of February 2023	Progress in the month of March 2023	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks	31.03.2021					
2	B(ii)	Ground water recharging / rain water harvesting in Govt offices	31.03.2021					

3	NGT order in O.A no.496/2016 Identification of illegal bore wells in the catchment area.	NGT order in O.A no.496/2016 Identification of illegal bore wells in the catchment area.	31.03.2021					
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**ANALYSIS REPORT OF DRAINS OF MANIMALA BETWEEN KALLOOPARA AND THONDRA
FEBRUARY-2023**

<i>SI NO</i>	<i>BOTTLE NO.</i>	<i>Name of Drains</i>	<i>PH</i>	<i>BOD</i>	<i>TC</i>	<i>FC</i>
1	TK1	Panayampalathodu	Nil	Nil	Nil	Nil
2	TK2	PadathupalamThodu	Nil	Nil	Nil	Nil
3	TK3	Thottappuzha	7.61	0.9	2700	1300
4	TK4	Kuttapuzha under Kattodubridge	7.41	2.4	1200	500
5	TK5	Kadavumbara	7.25	2	400	200
6	TK6	Drain under Varappalam Bridge	Nil	Nil	Nil	Nil
7	TK7	Drain under kallupalam Bridge	Nil	Nil	Nil	Nil
8	TK8	Komalamthodu	Nil	Nil	Nil	Nil
9	TK9	Vennikulam Valiyathodu	Nil	Nil	Nil	Nil
10	TK10	Paduthodu	Nil	Nil	Nil	Nil
11	TK11	Mallappally Valiyathodu	Nil	Nil	Nil	Nil

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RIVER PAMBA, PATHANAMTHITTA

S. No.	Activity to be monitored	Timeline	Submission of progress by State/UT-Compliance status
1	Ensure 100% treatment of sewage at least in-situ remediation		NA
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured		NA
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning		NA
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none">• Specifying accountability of nodal authorities not below the Secretary level		NA

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

<p>6.1</p>	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p>	<p>2019-2020</p>	<p>Drains contributing to river pollution were Identified-The drains are seasonal and water quality is above the required limit, no in-situ Treatment is required</p> <p>Since the area does not contain any industry and so do not require any CETP, this action point is revised</p> <p>The adjoining local bodies are in the stage of developing and establishing adequate solid waste management facilities. Also, the solid waste dumping issues were not identified in the stretch during the field visit held during past one year.</p> <p>Water quality analysis results of February 2023 is enclosed.</p> <p>Awareness campaign to be initiated</p>
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	<p>(iv)<u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v)Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi)Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p>		<p>No ground water pollution is noted in the area so action yet to be initiated.</p> <p>Adopted.</p> <p>Action will be initiated.</p> <p>Action will be initiated.</p> <p>Action will be initiated.</p> <p>Action will be initiated.</p> <p>Action will be initiated.</p>
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	<p>(vii)Ground water regulation</p> <p>(viii) Adopting good irrigation practices</p> <p>(ix) Protection and management of food plain Zones (FPZ)</p> <p>(x) Rain water harvesting</p> <p>(xi)Maintaining minimum Environmental flow of river</p> <p>(xii) Plantation on both sides of the river</p> <p>(xiii)Setting up biodiversity parks on flood plains by removing encroachment</p>		
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ACTION PLAN FOR RIVER PAMBA, KERALA

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of JAN 2023	Progress in the month of FEB 2023	Progress in the month of MAR 2023	% works completed	Details of works remaining
A(a)	No industries	-	-				-	-
A(a)	Monitoring of river water quality	Kerala State Pollution Control Board	Continuing project	Result attached	Result attached	Result attached	100%	Nil
C(ii)	Establishment of de-centralized solid waste treatment facility	Mannar Panchayat, Panchayath	31.02.2023	Construction of 2 aerobic compost units completed (One each in Grama Panchayat Office compound and near			100%	Inauguration of functioning.

				<p>Mannar Private Bus Stand. The work was executed by M/s Floret Technologies, Thiruvananthapuram. An amount of Rs. 13,60,000/- was allocated in the annual plan of Mannar GP for this project. Action Plan on solid waste</p>				
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				Management is approved by Grama Panchayat Committee on 27/08/2021				
C	Establishment of Material Collection Facility	Mannar Panchayat,	31.02.2023	Collection of Non-biodegradable plastic materials from houses and institutions is conducted by Haritha Karma Sena(HKS). Non-biodegradable plastic			100%	Construction of permanent MCF building.

				materials has bCollection , segregation and transportat ion of non- biodegrada ble plastic materials is continuing. About 12 tonnes of plastic materials handed over to Clean Kerala Company(CKC) so far. About 500 kg of				
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				<p>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</p>				
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				19/06/2021.				
C	Resource Recovery Facility	Mannar Panchayat, Panchayath	31.02.2023	As there is no RRF in Mavelikkar a Block Panchayat in which Mannar GP belongs, nearby Chengannur Block Panchayat has agreed to receive the plastic materials collected and transported by Mannar GP.			100%	

				Mannar GP has started stockpiling of plastic waste materials collected through HKS in a hall above the Vridhdhasa danam owned by GP and segregated and transported to Clen Kerala company. Plastic Waste management Bylaw				
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				(Final) has been passed by Mannar GP on 19/06/2021.				
C	Installing household and community level solid waste management units	Mannar Panchayat	31.02.2023	Collection of Non-biodegradable plastic materials from houses and institutions is conducted by Haritha Karma Sena(HKS). Collection, segregation and transportation of			100%	Operation of Aerobic compost unit.

				<p>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</p>				
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				<p>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</p>				
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				Panchayat Committee on 27/08/2021.				
C	Door to door collection and transportation of municipal solid waste	Mannar Panchayat	31.02.2023	Collection of Non-biodegradable plastic materials from houses and institutions is conducted by Haritha Karma Sena(HKS). Collection, segregation and transportation of non-biodegradable			100%	The process has to be repeated throughout the year.

				<p>ble 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 trasportati on. Constructi on of Two mini MCFs in each</p>				
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				<p>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</p>				
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				on 27/08/2021.				
C	Construction of small sewage treatment plant with screening, septic tank and disinfection to the storm water drain of Parumala Town	Kadapra Panchayat	31.12.2020					
C	Construction of small sewage treatment plant with screening, septic tank and disinfection to the storm water drain of Mannar Town	Mannar Panchayat	30.09.2020	Due to the lack of space and fund, construction of small STP is not included in the annual plan of Mannar Grama Panchayat. It will be suitable if the Govt . takes			0%	Not applicable

				necessary steps in this matter.				
C	Construction of compound wall with fencing	Irrigation department	31.03.2021					
C	Removing light jungle and muddies from river courses	Irrigation department	31.03.2021					
C	Electrical-Light arrangements and Surveillance cameras	Irrigation department	31.03.2021					
C	Regualting activites in flood plain zone, protection and management of flood plain zone	Irrigation department	31.03.2021					
	Greenery developmentPlantation plan. Plantation on both sides of the river, setting up biodiversity parks on flood plains by removing encroachment	Irrigation department	31.03.2021					
C (b) (ii)	Green Protocol implementation in all Offices institution & Public function	Mannar, Panchayat	31.01.2023	Green Protocol is strictly observed in Mannar GP and other offices as well as			100%	Continuation of Green Protocol .

				<p>public functions . Strict instruction in writing is given to owners of auditoriums , assembly halls, etc to comply with Green protocol while conducting ceremonies. Rs. 1,50,000/- has been allocated for a project for the setting up of cloth bag/paper bag unit so that use of plastic carry bags can be discouraged . Green Audit was conducted</p>				
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				<p>in Mannar GP Office and other 13 Government Offices within the Panchayat Area. 11 offices were certified to have fulfilled Green Audit parameters. Certificates were awarded to the successful offices and Suchitwa</p>				
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				Padavi Declaration in Mannar GP was conducted 26/01/2021.				
D(a)	Issues relating to E-flow, maintaining minimum environmental flow of river (by having watershed management provisions)	Irrigation department	30.11.2020					
D (b)	Irrigation practices	Irrigation department	30.04.2020					
E	Awareness programmes for sections of public	Kerala State Pollution Control Board	31.05.2020	Awariness classes were conducting	Awariness classes were conducting		100%	
C	Management of municipal, plastic, hazardous, biomedical and electrical waste	LSGD	31.03.2021	Draft by-law of Plastic Waste Handling has been passed by			100%	The process is to be repeated periodically.

				<p>the Grama panchayat Committee on 05/02/2021. Collection, segregation and transportation of non-biodegradable plastic materials is continuing. About 12 tonnes of plastic materials handed over to Clean Kerala Company(</p>				
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				<p>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 of Two mini MCFs in each ward in all the 18 wards of Mannar GP. For the manage</p>				
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				nt 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.				
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				Biomedical waste is being collected from source and transported for processing by IMAGE (IMA Goes + Eco-friendly), an initiative run by IMA (Indian Medical Association).				
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ACTION BY GROUND WATER DEPARTMENT

Sl. No.	Ref para item nos as per NGT Order no.673/2018 dated 20.09.2018	Activity	Progress in the month of January 2022	Progress in the month of February 2022	Progress in the month of March 2022	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks					
2	B(ii)	Ground water recharging / rain water harvesting					
3	B(iii)	Periodic ground waste quality assessment and remedial actions in case of contaminated ground water tube wells/bore wells or hand pumps					
4	B(iv)	For regulating use of ground water for irrigation purpose, adopting good irrigation practices					

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

S l. N o	Name of Drain	Parameters														
		pH			Electrical Conductivity(μ S/cm)			BOD(mg/l)			TC(Nos/100ml)			FC		
	Months	JAN	FEB	MAR	JAN	FEB	MAR	JAN	FEB	MAR	JAN	FEB	MAR	JAN	FEB	MAR
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	Nil	6.89	Nil	Nil	66.86	Nil	Nil	0.3	Nil	Nil	1900	Nil	Nil	800	Nil
4	Karuvelil Thodu	7.4	Nil	7.76	58.23	Nil	42.66	2.9	Nil	1.1	500	Nil	4500	200	Nil	2000
5	Nochithodu	6.99	7.01	7.37	54.73	59.84	39.61	0.9	0.7	0.9	2100	2000	1900	1100	1100	1000
6	Pattaparambil Thodu	6.95	6.99	7.34	50.04	52.84	48.64	1.2	0.06	0.3	300	700	1500	100	300	900
7	Kappiyarissery Thodu	Nil	6.96	Nil	Nil	102	Nil	Nil	0.8	Nil	Nil	2600	Nil	Nil	1600	Nil
8	Kombankery Thodu	6.35	7.15	7.15	98.03	50.99	35.04	0.7	0.3	0.3	400	1100	2400	200	600	1300
9	Perackalthodu	6.91	6.98	7.26	137.1	131.7	62.85	0.4	0.4	0.06	700	1400	1900	500	700	800
10	Erathodu	6.75	7.03	7.25	53.38	51.89	47.98	2.3	0.5	1.4	2500	1600	1200	1300	500	700
11	Kolarayaru	6.58	6.98	7.25	58.16	42.97	39.03	1.7	0.06	0.5	1500	1200	2400	700	600	1300

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

RIVER CHITHRAPUZHA. ERNAKULAM

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		Major units have own treatment facility
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured		
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning		Proposed to construct Combined STP with the Thrikkakara Municipality in Brahmapuram Plant(for both Municipalities)
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none"> • 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>	Thrippunithura Municipality	<p>2 persons identified and Fine Imposed Amount - 30,000</p> <p>Plastic Waste given to a Government Approved agency for recycling processing and Bio waste processed in Brahmapuram Plant.</p> <p>Bio Medical waste collect to IMAGE and plastic waste given to government approved agencies, bio waste processing to Brahmapuram Plant.</p>
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	<p>(vii)Ground water regulation</p> <p>(viii) Adopting good irrigation practices</p> <p>(ix) Protection and management of food plain Zones (FPZ)</p> <p>(x) Rain water harvesting</p> <p>(xi)Maintaining minimum Environmental flow of river</p> <p>(xii) Plantation on both sides of the river</p> <p>(xiii)Setting up biodiversity parks on flood plains by removing encroachment</p>	Thrippunithura Municipality	
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**ACTION PLAN FOR RIVER CHITHRAPUZHA, KERALA
SHORT TERM MEASURES**

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2022	Progress in the month of January 2023	Progress in the month of February 2023	Progress in the month of March 2023	% works completed	Details of works remaining
(1) Drain joining Chithrapuzha (near Brahmapuram dumping yard) (Near FACT CD)									
C (ii)	Restricting seepage of leachate of plastic dumped in the dumping yard (Biomining of legacy waste is to be carried out)	Kochi Corporation	3 years	Work is ongoing. Legacy waste spread in sector 4, 5, 6 and 7 is now cleared and area recovered is about 10 acres. 30% work completed. Bio-mining work Stopped. Notice issued for breach of agreement. The company informed that the will resume the bio mining.. The company submitted revised action plan requesting 18 months extension approved by technical committee. Bailing machine is reached in the site. Bio mining will start in November and will complete in next June. But Corporation had informed the company to complete the Bio mining before March.	Bio mining started and progressing.	Bio mining started 8265Cum RDF- 7229Cum Rejects- 7249Cum Good earth- 284Cum Bailing not started	Bio mining stopped due to the outbreak of fire at Bhramapuram dumping yard.		

Aa (iv)	Effluent monitoring from FACT	KSPCB	Periodical	Progressing	Progressing	Progressing	Progressing		
Aa (iv)	Periodical Monitoring	KSPCB	Periodical	Progressing	Progressing	Progressing	Progressing		
(2)Drain from Cochin Refinery area									
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2022	Progress in the month of January 2023	Progress in the month of February 2023	Progress in the month of March 2023	% works completed	Details of works remaining
Aa (iv)	Surveillance to restrict the dumping of wastes into the river and its branches	Vadavucode – Puthencruz Panchayat with the help of Police	Periodical	Progressing	Progressing	Progressing	Progressing		
A(b)	Sanitation Survey	Vadavucode – Puthencruz Panchayat	3 months	Completed 1700 houses. Survey progressing. Covered 5000 houses. DLTC directed to submit the detailed report on sanitation survey	Survey progressing	Survey progressing	Progressing		
E	Periodical Cleaning of Chithrapuzha	Irrigation Department	Twice in 3 years	Reach I – Third term cleaning started Reach II, Second	Work Completed.	Completed.	water hayacinth and weeds are almost filled	100%	

				term cleaning Reach I-66% Reach II -65% For Reach III, Estimate submitted to CE Reach III will be implemented through Operation Vahini.			in the entire stretch, therefore Estimate for the removal of water hyacinth has submitted again.		
	Already implemented Effluent Treatment facility in Kochi Refinery and periodical monitoring are ongoing	KSPCB		ongoing	ongoing	Monitoring continuing	Monitoring continuing		
(3)Athikkayi branch (Provided temporary bund in joining section to check salinity intrusion)									
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2022	Progress in the month of January 2023	Progress in the month of February 2023	Progress in the month of March 2023	% works completed	Details of works remaining
A(b)	Identification of major pollution causing units(Apartments, hospitals, service stations, markets and industries) in upstream	Thrikkakkara Municipality	3 months	Progressing	Progressing	Fine of Rs 41,240/- levied	Action taken for 9 violations . Rs 14090/- levied.		

		KSPCB		Progressing	Progressing	Progressing			
Aa(iv)	Surveillance to restrict the dumping of wastes into the river and its branches	Thrikkakkara Municipality with the help of Police	Periodical Monitoring	Camera installed.40 violations identified and action initiated	Identified 52 violations. 3persons penalized. Details of vehicles collected from RTOffice to identify the vehicle that littering wastes. further actions will be initiated against the violators. Rs 33,000/- collected as fine.	Fine Of Rs.41 ,240/ levied	Action taken for 9 violations . Rs 14090/- levied.		
Aa(iv)	Periodical Monitoring	KSPCB	Periodical	Monthly monitoring progressing.	Monthly monitoring progressing.	Monthly monitoring progressing	Monthly monitoring progressing.		
A(b)	Sanitation Survey	Thrikkakara Municipality	6 months	Sanitation survey progressing. Environmental Engineer, KSPCB informed the municipality to	Sanitation survey progressing.	Sanitation survey progressing	Sanitation survey progressing.		

				submit the report.					
E	Periodical Cleaning.	Irrigation Department	Once in a year	Reach I-Third term cleaning started.Reach II-Second term cleaning. Reach I-66% ,Reach II-65% For Reach III,Estimate submitted to CE.Reach I and Reach II completed.Reach III will be implemented through Operation Vahini.	Work completed.	Work completed		100%	

(4) Drain joining Chithrappuzha from CSEZ(Chittethukara)

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2022	Progress in the month of January 2023	Progress in the month of February 2023	Progress in the month of March 2023	% Works completed	Details of works remaining
A(b)	Ensure proper functioning of ETP in CSEZ	KSPCB	Periodical	The CETP is functional. But, discharge standards not fully complied. Violation noted, action being	New CETP started operational. Complying	New CETP started operational. Complying standards Monitoring	New CETP started operational. Complying standards Monitoring	Monitoring progressing	

				initiated.	standards	progressing			
A(b)	Sanitation Survey and periodical cleaning	Thrikkakara Municipality	6 months	Sanitation survey progressing. Environmental Engineer ,KSPCB informed the municipality to submit the report.	progressing.	Sanitation survey progressing.	76% completed		
Aa(iv)	Periodical Monitoring	KSPCB	Periodical	Ongoing	Ongoing	Ongoing	Ongoing		

(5) Vettuvelikkadavu (Konothupuzha joining Chithrappuzha)

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2022	Progress in the month of January 2023	Progress in the month of February 2023	Progress in the month of March 2023	% Works completed	Details of works remaining
A(b)	Identifying and closing of all unauthorized outlets into the stream joining the river	Thripunithura Municipality	6 months	The secretary reported the action is progressing. 15 notices issued	Action progressing	Action progressing			
A(b)	Sanitation Survey	Thripunithura Municipality	3 months	Completed,	Reported to	Reported to be			

					be completed.				
Aa(iv)	Periodical Monitoring	KSPCB	Periodical	Ongoing	Ongoing	Ongoing			
C(ii)	Surveillance to restrict the dumping of wastes into the river and its branches	Thripunithura Municipality with the help of Police	6 months	Surveillance squad is already formed and action will be initiated for the inspections and night surveillance of squad. Squad inspection progressing. Environmental Engineer, KSPCB informed the municipality to submit the details of inspections. Night Squad inspection progressing. 18 cases identified. Collected Rs 88,750 as fine..	Inspection of night squad progressing. Collect ed fine of Rs 4.5Lakh (5 months)	5.13Lakhs fine leveled in which 40,000/- fine imposed for violation identified through surveillance cameras.	Inspection progressing		
E	Cleaning of Konothupuzha (work Proposal already submitted by Minor Irrigation)	Irrigation Department (Minor Irrigation)	Twice in a year		Action initiated as per the directions of Hon'ble NGT OA 237/2017				

				Main Stretch (Kadambrayar-Chithrappuzha Confluence point to Irumpanam)						
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2022	Progress in the month of January 2023	Progress in the month of February 2023	Progress in the month of March 2023	% works completed	Details of works remaining	
E	Periodic Cleaning	Irrigation Department	Once in a year	Reach1- Third term cleaning started, Reach-II- Second term cleaning Reach 1- 66%, Reach-II- 65% for reach III, Estimate submitted to CE. Reach 1& Reach II completed. Reach III will be implemented through operation vahini.	Work completed	Work completed	Work completed	completed		
C(ii)	Surveillance to restrict the dumping of wastes into the river	Vadavucode - Puthercruz with the help of Police	Periodical Monitoring	Ongoing.	Ongoing.	Ongoing.	Ongoing.			
		Thripunithura Municipality with the help of Police	6 months	Surveillance squad is already formed and action being taken for the night surveillance	Squad inspection progressing.	Squad inspection progressing. Surveillance reported	Squad inspection progressing. Surveillance reported			

						to be continue d. 5 lakhs fine levied	d to be continued. 5 lakhs fine levied		
Aa(iv)	River water quality monitoring	KSPCB	Ongoing	Conducting monthly monitoring	Conducting monthly monitoring	Conducting monthly monitoring	Conducting monthly monitoring		
A(b)	Inspection and effluent quality monitoring of the flats, industrial units, service stations, hospitals, hotels etc	KSPCB	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing		
C(ii)	Surveillance of restrict dumping of waste to the river, Sanitation survey (with the help of Police)	Vadavukode Puthenkruze Panchayath	6 months	Ongoing	Ongoing	Ongoing	Ongoing		

LONG TERM MEASURES

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2022	Progress in the month of January 2023	Progress in the month of March 2023	% works completed	Details of works remaining
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E	Provide inspection bund for Chithrapuzha	Irrigation Department	3 years	Remind letter submitted to Thahasidar Kanayannur Thaluk regarding the survey	Remind letter submitted to Thahasidar Kanayannur Thaluk regarding the survey	Remind letter submitted to Thahasidar Kanayannur Thaluk regarding the survey	45%	Remaining work is Land survey.
A(b)	Additional STP requirement (if needed)	Thrikkakkara Municipality, Thripunithura Municipality	3 years	No progress	No progress due to adequate land .Secretary informed that special council meeting convened and subcommittee constituted for identifying land for the STP	No progress due to adequate land .Secretary informed that special council meeting convened and subcommittee constituted for identifying land for the STP		
	Restriction of illegal dumping of Septage in to the river	Police						
	Flood Plain Zone(Management and Protection) Preparation of Inundation maps	Irrigation Department	3 years	Detailed study and investigations has to be done with the consultation of Hydrology Wing.	Detailed study and investigations has to be done with the consultation of Hydrology Wing.	Detailed study and investigations has to be done with the consultation of Hydrology Wing.		

ACTION BY GROUND WATER DEPARTMENT

Sl. No.	Ref para item nos as per NGT Order no.673/2018 dated 20.09.2018	Activity	Progress in the month of December 2022	Progress in the month of January 2023	Progress in the month of February 2023	Progress in the month of March 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	NA					
2	B(ii)	Ground water recharging / rain water harvesting	Ongoing					
3	B(iii)	Periodic ground waste quality assessment and remedial actions in case of contaminated ground water tube wells/bore wells or hand pumps	Cleaning of wells are ongoing					
4	B(iv)	For regulating use of ground water for irrigation purpose, adopting good irrigation practices	NA					

National Mission for Clean Ganga

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

RIVER KADAMBRAYAR, ERNAKULAM

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		District level committee monitoring regularly.
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>Ongoing by KSPCB and Thrikkakkara Municipality</p> <p>Submitted earlier.</p> <p>Submitted earlier.</p> <p>The Kadambayar river shares the western boundary of Kunnathunadu Grama Panchayat for a stretch of approximately 6Kms. And 90% of this stretch consists of swamps, hence direct access to the river via land is ruled out. And in the remaining stretch, i.e., in and around Manakkakadvu bridge the DTPC operates a boat club with a riverside walkway and park. Any kind of possible river polluting activities by the general public in this area is monitored by the erection of CCTV camera's provided with the CSR aid of Wonderla Amusements Park. Also the police authorities are conducting routine surveillance operation so as to</p>
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	<p>(vii)Ground water regulation</p> <p>(viii) Adopting good irrigation practices</p> <p>(ix) Protection and management of food plain Zones (FPZ)</p> <p>(x) Rain water harvesting</p> <p>(xi)Maintaining minimum Environmental flow of river</p> <p>(xii) Plantation on both sides of the river</p> <p>(xiii)Setting up biodiversity parks on flood plains by removing encroachment</p>	<p>prevent any possible illegal activities which pollutes the river. In addition to these preventive measures, there operates a Ward Monitoring Committee under the supervision of Kunnathunadu Grama Panchayat Committee which ensures the prevention of polluting activities by the local people.</p> <p>Ground Water Department:As per Groundwater resources of Kerala, 2017 estimate a total number of 2 blocks (Mulanthuruthiand Vadavakkodu) comes under the Kadambrayarriver basin. All the blocks in the river stretch are safe with stage of groundwater extraction ranges from25.38% to 68.01%</p> <p>Ground Water Department and Irrigation Department : : Not submitted</p>
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ACTION PLAN FOR RIVER KADAMBAYAR, KERALA

SHORT TERM MEASURES

Short term plan

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2022	Progress in the month of January 2023	Progress in the month of Feb 2023		% works comple ted	Details of works remaining
	(2)		(4) Manakkakkadavu						
2.1.2 C(ii)	Surveillance to restrict the dumping of wastes into river and its branches	KunnathunaduPanchayat and with the help of Police		Installed camera as part of surveillance	Camera operational	Camera operational		100%	
	(6)		(8) Canal joining Kadambayar near Infopark Phasell						
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2022	Progress in the month of January 2023	Progress in the month of Feb 2023	Progress in the month of March 2023	% works comple ted	Details of works remaining
2.2 .1E	Cleaning of thodu	Kerala Irrigation Department & Vadavucode – PuthencruzPanchayat	6 mont hs	Cleaning work of Padathikkara thodu started through operation vahini	Cleaning work of Padathikkara thodu completed through Operation Vahini	Cleaning work of Padathikkara thodu completed through Operation	completed through Operation Vahini	100%	

				& Manual cleaning for the year 2021-22 started 95% completed	Work completed	Vahini Work completed	Manual cleaning completed		
2.2.3 C(ii)	Surveillance to restrict the dumping of wastes into river and its branches	Vadavucode Puthencruz Panchayat with the help of Police	-2 months	Action completed. Installed cameras.	Camera operational	Camera operational		100%	Work completed
			<p align="center"><u>Main Stream (Manakkadavu to Kadambayar-Chithrappuzha Confluence point) (Provided temporary bund (Kozhichira Bund) in Kadambayar-Chithrappuzha joining section to check salinity intrusion)</u></p>						
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2022	Progress in the month of January 2023	Progress in the month of February 2023	Progress in the month of March 2023	% works completed	Details of works remaining

A(a)	Restricting seepage of leachate of plastic dumped in the dumping yard(Bio-mining of legacy waste going on)	Kochi Corporation	January 2024	<p>Work is ongoing. Legacy waste spread in sector 4, 5, 6 and 7 is now cleared and area recovered is about 10 acres. 30% work completed. Bio-mining work Stopped. Notice issued for breach of agreement. The company informed that the will resume the bio mining.. The company submitted revised action plan requesting 18 months extension approved by technical committee.</p> <p>Bailing machine is reached in the site. Bio mining will start in November and will complete in next June. But Corporation had informed the company to complete the Bio mining before March.</p>	Bio mining re-started and progressing.	Bio mining re-started and progressing.	Bio mining stopped due to fire at Bhramapura m dumping yard	30%	Completion of the work of bio mining by January 2024
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A(b)	Provide proper facilities for restricting the seepage of leachate(Construction of Leachate treatment Plant: Collection tank)	Kochi Corporation	April 2022	<p>Leachate treatment plant is proposing to construct after reconstruction of the composting plant. Project completion April 2023.</p> <p>Leachate presently treating in Septage treatment plant.</p> <p>Inception report of new leachate treatment Plant submitted to Suchitwa mission for vetting.</p> <p>Suchitwa Mission verified the report and informed that Buoyant filter and Bio reactor is not feasible.</p> <p>Instead of High rate renewable Bioreactor shall be used. The report has been given to the Kochi corporation.</p>	<p>Agreement has been placed before the council approval. Council approval pending.</p>	Council approval pending	No progress reported	Leachate treatment Plant construction not started	
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A(c)	Provide proper facilities for collecting and treating leachate (Construction of leachate treatment plant)	Kochi Corporation	April 2023	Leachate started treating from 23/02/2022 at Brahmapuram Septage treatment Plant after its preliminary treatment in ratio:4:1(Septage: Leachate).Daily 20KL of leachate is treated at septage treatment plant. Applied for consent to operate from PCB for treatment of Septage together with Leachate in Septage treatment plant.	Agreement has been placed before the council approval. Council approval pending.	Agreement has been placed before the council approval. Council approval pending.	No progress reported	No progress	Technical committee of Suchitwa Mission held on 25.09.20 suggested treating of the leachate in septage treatment plant till reconstruction of compost plant.
Action plan by Gramapanchayath									
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2022	Progress in the month of January 2023	Progress in the month of February 2023	Progress in the month of March 2023	% works completed	Details of works remaining
E	Installation of CCTV camera at Manakkakadavu	Kunnathunadu	30.09.2019	Installed cameras. Action completed	Action Completed	Action Completed	Action Completed	100%	-

C(ii)	Cleaning of Thodu	Vadavukad-puthenkruze	6 months	Manual cleaning for the year 2021-2022 started 95% completed	Action Completed	Action Completed	Action Completed	100%	-
C(ii)	Surveillance to restrict dumping of waste to the river and branches (with the help of Police)	Vadavukad-puthenkruze	2 months	Installed cameras. Action completed.	Camera operational.	Action Completed	Action Completed	100%	-

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4. Long term Plan

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2022	Progress in the month of January 2023	Progress in the month of February 2023	Progress in the month of March 2023	% works completed	Details of works remaining
4.5 C(ii)	Solid waste treatment facility at Brahmapuram (Construction of waste to energy plant)	Kochi Corporation	December 2023	About 500 TPD WtE Plant is proposed by KSIDC in this land. M/s. Zonta Infratech Pvt Ltd informed that following procedures should be done before execution. Characterisation report not submitted till date. Construction	Agreement has been placed before the council approval. Council approval pending.	Agreement has been placed before the council approval. Council approval pending.	No progress reported	Not started	

				<p>agreement given for vetting.</p> <p>Matter regarding signing of Concessionaire agreement was discussed in the council held on 30-06-2022 and it was decided to request to the government to check the legal validity of signing the agreement by the secretary as the tender process was done by KSIDC.</p>						
4.6 A(b)	Restriction of illegal dumping of septage in to the river	Police	As soon as possible							
	6	8. REVISED ACTIONPLAN								
No. (as per Action	Activity	Implementing agency	Time line	Progress in the month of	Progress in the month of	Progress in the month of	Progress in the month	% works	Details of works remaining	

Plan)				December 2022	January 2023	February 2023	of March 2023	completed	
3.1	Slaughter house and poultry waste Rendering plant	Thrikkakkara Municipality		The land identified and the land inspected by the sub-committee. The proposal submitted for council approval. Council not approved the proposal since land value is found higher than the market value. The proposal cancelled and decided to give advertisement again	New advertisement given	New advertisement given			Action pending
3.2	Sanitation facility and treatment of waste water in the markets Treatment plant, Portable aerobic bins	Thrikkakkara Municipality	2020-21 2021-22	Requested suchitwamission to prepare DPR for the waste management in market.	No progress	No progress			Action pending
3.3	Provide facility for the treatment of sewage, sullage and garbage generated	Thrikkakkara Municipality		Land have been identified near to NGO quarters for setting up aerobins and the proposal submitted for	No progress	No progress	Market construction completed. Facility for waste		

	<p>Proposed places for the installation of Aerobins</p> <p>(1) Municipal office compound</p> <p>(2) NGO quarters</p> <p>(3) Kakkanad Market</p> <p>Near Eechamukku TV-Centre Anganavadi</p>			<p>council approval.</p> <p>The land identified near NGO quarters found inadequate.</p> <p>Progress</p> <p>Market construction completed. The land identified near NGO quarters found inadequate. Requested suchitwa mission to prepare DPR for the waste management in market.</p>			<p>management not provided. DLTC issued directions to municipality not to start operation of market without providing waste management facilities</p>		
3.4	<p>Providing facility for restricting discharge of waste water from the surrounding houses to the river</p>	<p>Thrikkakkara Municipality</p>		<p>Inspection and Survey reported to be Progressing. 1200 completed. Report of survey not submitted to DLTC.</p> <p>Survey conducted using smart garbage app. 55% completed.</p>	<p>Progressing.</p>	<p>Progressing</p>	<p>Progressing</p>		

3.5	Providing effluent treatment plant for industries No.of industries :75 no.s	Thrikkakkara Municipality		KSPCB is monitoring the industries	KSPCB is ensuring that the industries are operating with proper treatment systems.	Inspection progressing	Progressing		
3.6	Identification of illegal outlets into storm water drains and fine shall be imposed on such units – 30 units	Thrikkakkara Municipality		Action initiated	Fine levied			Action initiated	Action pending
3.7	Biodegradable waste management Bio-Composter – 2000 No.s Thumboormuzhi aerobins - 4 No.s Portable biogas – 1500 No.s Ring compost – 500 No.s Napkin destroyer – 6 No.s Viability gap Fund	Thrikkakkara Municipality		Actions initiated to issue notice to close the outlet.	No progress				

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7. MONITORING

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2022	Progress in the month of January 2023	Progress in the month of Feb 2023	Progress in the month of March 2023	% works completed	Details of works remaining
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4.1	River water quality monitoring – Monitoring of water quality	Kerala State Pollution Control Board	Ongoing; Monthly frequency	Monthly monitoring On going	monitoring progressing				
4.2	Inspection and effluent quality monitoring of the flats, industrial units, service stations, hospitals, hotels etc Monitoring of establishments, service stations, flats, industrial units	Kerala State Pollution Control Board		On going	On going				
	9	11. LONG TERM PLAN							
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2022	Progress in the month of January 2023	Progress in the month of Feb 2023	Progress in the month of March 2023	% works completed	Details of works remaining
5.1	Additional requirement STP DPR Preparation in 6 months (through consultants) To allot land,	Thrikkakkara Municipality	3 years	The Secretary informed action not being taken due to land constraints.	No adequate land.				Action to be initiated.

	Government Procedure are ongoing								
5.2	Acquiring of land and rehabilitate families from the banks of River To allot land, Government Procedure are ongoing	District Collector, Thrikkakkara Municipality, Revenue Dept	5 years	-	-				Action to be initiated.
			<u>DESILTING AND DEVELOPEMENT</u>						
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2022	Progress in the month of January 2023	Progress in the month of Feb 2023	Progress in the month of March 2023	% works completed	Details of works remaining
5.3	Development package Inspection bund for Chithrapuzha and Kadambrayar is included in this package. For this project, preliminary investigation of site which includes survey of land to know its	Irrigation department	3 years	1. Estimate submitted to CE (As a preliminary step Soil investigation estimate is submitted) 2. Demarcation of sides of Kadambrayar is essential for implementing this	1. Estimate submitted to CE (As a preliminary step Soil investigation estimate is submitted) 2. As per our letter only	1. Estimate submitted to CE (As a preliminary step Soil investigation estimate is submitted) 2. A letter has submitted to Thahasildar,	1. Estimate submitted to CE (As a preliminary step Soil investigation estimate is submitted) 2. A letter has submitted to Thahasildar,		

	<p>availability for formation of side bund which is to be provided with tiles. The project also includes side protection work of Chitrapuzha and Kadambayar. Provision for handrail sat the edge of the bund is given. Overall cost comes to 25 Crore. The work is being proposed urgently and will be submitted to higher authorities for financial sanction.</p>			<p>work. Therefore letter submittd to Kakkannad,Puthencru and KunnathunadVillage s for getting the survey numbers.</p>	<p>Puthencruz village has given the reply and submitted a sketch having survey nos.</p>	<p>tion estimate is submitted) 2. A letter has submitted to Thahasil darKunnathunad, Thaluk regarding demarcation. 3. Estimate for the Investiga tion work submitte d to Chief</p>	<p>Kunnathunad and Kanayannur Thaluk regarding demarcation.</p>		
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						Engineer , Irrigation & Administration on 17-02-2023 under the head "Restoring polluted stretches of rivers based on NGT order".			
5.4	Desilting and development It includes clearing and removing water hyacinth of Kadambrayar ,Chitrapuzha and Edachirathodu near Infopark phase II. This is to be done periodically (every four months),	Irrigation Department	1 year (periodical cleaning -4 months x3)	Desilting and water hayacinth removal work started under operation vahini project	Desilting and water hayacinth removal work done operation vahini project	Desilting and water hayacinth removal work done through	1. Work completed in 2022 by operation vahini. 2. Now Kadambrayar and Edachira thodu is completely filled with water hyacinth. Therefore new proposals submitted		

	depending on availability of fund.					operatio n vahini project	again for the removal of water hyacinth from Kadambrayar and Edachira thodu. 3. For Edachira thodu work, AS approved.		
5.5	sheet piling and providing fencing Fencing is provided in Sl.no 5.3	Irrigation Department	1.5ye ars	It can be included in the estimate of construction of Inspection bund (Walk way). Now as a preliminary step Soil investigation estimate is submitted	It can be included in the estimate of construction of Inspection bund (Walk way). Now as a preliminary step Soil investigation estimate is submitted	It can be inclu ded in the esti mate of cons truct ion of Insp ectio n bund (Wal	It can be included in the estimate of construction of Inspection bund (Walk way). Now as a preliminary step Soil investigation estimate is submitted. Estimate for the Investigation work. submitted to Chief Engineer, Irrigation & Administration on 17-02-2023		

						<p>k way) . Now as a preli mina ry step Soil inves tigati on esti mate is sub mitt ed. Esti mate for the Investig ation work. submitt</p>	<p>under the head “Restoring polluted stretches of rivers based on NGT order”.</p>		
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						ed to Chief Enginee r, Irrigatio n & Adminis tration on 17- 02-2023 unde r the head "Res torin g pollu ted stret ches of river s base d on NGT orde			
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						r".			
5.6	Development of river basin It includes cleaning and removal of water hyacinth from rivers and maintainits natural flow, depending on availability of fund.	Irrigation Department	1.5years	Work in progress (Removal of water hyacinth and desilting)	Work completed	Work completed			
	1	15. RECOMMENDATIONS BY KERALA STATE POLLUTION CONTROL BOARD Activities for compliance with Solid Waste Management Rules, 2016; Bio-medical Waste Management Rules, 2016							
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2022	Progress in the month of January 2023	Progress in the month of Feb 2023	Progress in the month of March 2023	% Works completed	Details of works remaining
6.1	Door-to-door collection and transportation of MSW 100% door to door collection Proposed Kerala Solid Waste Management Authority	Thrikkakkara Municipality Local bodies of Census Town		100% by 2023					

6.2	Modern Solid Waste Treatment Plant Proposed Kerala Solid Waste Management Authority	Thrikkakkara Municipality (To allot land, Government procedure are ongoing) Local bodies of Census Town	The land identified and the land inspected by the sub-committee The proposal submitted for council approval. Council not approved the proposal since land value is found higher, than the market value. The proposal cancelled and decided to give advertisement again	Advertisement given	Advertisement given		Actions initiated to procure land.	
6.3	Rendering plant for slaughter house/poultry wastes Proposed Kerala Solid Waste Management Authority	Thrikkakkara Municipality (To allot land, Government procedure are ongoing)	The land identified and the land inspected by the sub-committee The proposal submitted for council approval. Council not approved the proposal since land value is found higher, than the	Advertisement given	Advertisement given		Actions initiated to procure land.	

				market value. The proposal cancelled and decided to give advertisement again					
6.4	Common bio-medical waste treatment facility Proposed Kerala Solid Waste Management Authority	Health Department		CBWTF started at Ambalamughal, operated by KEIL	Completed	Completed			Completed
6.5	Regional sanitary landfill site identification and land acquisition Establishment and operation of Regional Sanitary Landfills Proposed Kerala State Waste Management Authority.	District Collector Local bodies							
			7.OTHERASPECTS						
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2022	Progress in the month of January 2023	Progress in the month of Feb 2023	Progress in the month of Feb 2023	% works completed	Details of works remaining

7.1	Flood plain zone management and E- flow maintaining Flood plain zone management & E- flow maintaining cleaning & desilting, depending on availability of fund. During summer season Irrigation Department Provides temporary bund to prevent the salt water intrusion due to tidal effects. To maintain natural flow, sluice gate is provided. During the low tide, the shutter of the sluice gate is kept open to maintain minimum flow	Irrigation Dept		Desilting of kadambayar in progress	Work Completed (Desilting of kadambayar)	Work Completed	1. Work completed in 2022 by operation vahini. 2. New proposal submitted for the removal of water hyacinth from Kadambayar.		
7.2	Development of bio diversity parks in banks	Thrikkakkara Municipality	1 st Phase 2020-21 2 nd Phase 2021-22						

Analysis report of polluted river stretches-R Periyar, R- Chithrapuzha,R-Kadambrayar, R-Chalakudy				
For the month of FEBRUARY 2023				
STNCode	Sampling Date	Sampling Time	StnName	TypeWaterBody
2337	No Sampling		Kadambrayar At Brahmapuram	River
2338	07.02.2023	11:00	Kadambrayar At Manackakadavu	River
1573	07.02.2023	12:00	Chithrapuzha At Irumanam	River
1154	23.02.2023	12:00	Chalakudy at Pulikkakadavu	River

Sl. No.	Parameters				
		2337	2338	1573	1154
1	Temperature, °C		28	27	28
2	Dissolved Oxygen, mg/l		2.3	2.5	6.8
3	pH		7.8	9.1	6.8
4	Conductivity, µmhos/cm		114	2399	400
5	BOD, mg/l		3.4	3.2	2.8
6	Nitrate-N, mg/l		0	10.99	0.97
7	Turbidity, NTU		1.5	3.5	1.4
8	Total Alkalinity, as CaCO ₃		19	18	20
9	Chloride, mg/l	N	22	800	103
10	COD, mg/l	o	8.8	11.2	4.8
11	TKN, mg/l		1.5	6.2	2.1
12	Ammoniacal-N, mg/l	S	0	0.14	0.42
13	Total Hardness, as CaCO ₃ mg/l	A	22	250	72
14	Calcium, as CaCO ₃ mg/l	M	5	80	26
15	Magnesium as CaCO ₃ , mg/l	P	17	170	46
16	Sulphate, mg/l	L	2.59	69.5	10.17
17	Sodium, mg/l	I	12.38	415	53.25
18	Total Dissolved Solids, mg/l	N	65	1750	222
19	Total Fixed Solids, mg/l	G	48	1400	168
20	Total Suspended Solids, mg/l		18	28	22
21	Phosphate, mg/l		0	2.24	0.02
22	Boron, mg/l		0	0	0.05
23	Potassium, mg/l		1.73	134	5.5
24	Fluoride, mg/l		0.1	1.71	0.04
25	Total Coliform, MPN/100 ml		1500	5800	2000
26	Feacal Coliform, MPN/100 ml		400	4000	940
27	Feacal Streptococci, MPN/100ml		120	170	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 PERIYAR, ERNAKULAM

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

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

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the months of January 2022	Progress in the months of February 2022	% works completed	Details of works remaining
1.A(b)	Augmentation and Revamping of existing STP at near AdwaitaAshramam and to increase the capacity of STP so as to treat more sewage generated in the municipality	Aluva Municipality	Dec 2019	Civil work has been tendered. Estimate for electrical work has been prepared but T.S is not yet received. Estimate for Mechanical work has been prepared by Dredger Division. Tender procedures will be started soon.	Representative from concerned local body has not attended the meeting		
2.A(b)	Augmentation and Revamping of existing ETP at Aluva Market and to increase the capacity of ETP so as to treat more sewage generated in the municipality	Aluva Municipality	2021	There is an existing ETP project. DPR of 3 Lakhs rupees has been approved by DPC. Tender procedures in progress ETP project is under consideration. Project has been move forward to prepare DPR of Rs 3 lakhs. Tender has been called for the work			

				but no one have taken the tender. Directions has been given to accredited agency via letter to prepare estimate including DPR in the Nagarasanjiplan.The estimate is under process.			
3.A(b)	Discharge of sewage from Hotels to the River through drain near Periyar	Aluva Municipality	2020	Health Squad inspection in progress.	Representative from concerned local body has not attended the meeting	100%	
4.A(b)	Identification of the establishments/commercial complexes/flats/houses/hotels etc who is discharging the sewage to the public drain and to collect fine based on polluter pay principle	Aluva Municipality, KSPCB	2020	Inspection in progress. Identified 140 households and 124 establishments discharging waste water to public drain. Outlets of 14 establishments have been closed.			
5.A(a)(iv)	Periodical inspection in the Industries, Flats, hotels monitoring of STP,ETP	KSPCB	Periodical	Aluva Municipality has no industries	Aluva Municipality has no industries		
6.C(ii)	Installation of modern abattoirs	Aluva Municipality	March 2021	For the establishment of modern abattoirs, a structural work completed building has been identified. For the preparation of DPR, it has been put up for council approval.	Representative from concerned local body has not attended the meeting		

				Establishment of abattoir will include in this year's project.			
7.A(b)	Procurement of sewer cleaning machines and equipment maintenance	Aluva Municipality	March 2020	Purchased sewer cleaning machines. Cleaning work in progress.	Representative from concerned local body has not attended the meeting		
8.E	Installation of cameras at the waste dumping spots	Aluva Municipality	2020	Cameras are being installed by Health wing as purchase. No need of Technical sanction. 25 Lakhs rupees have been approved by DPC. 52 points have been identified for installing camera. E-Tender has been invited.			
9.A(b)	Construction of retaining wall with HDPE liner at Kalamassery dumping yard in order to prevent the leachate discharge from the yard to ThoombungalThodu	Kalamassery Municipality	Sept 2019	Completed	Completed	100%	
10.C(ii)	Installation of plastic shredding unit	Kalamassery Municipality	June 2019	One plant is already installed and functioning.	One plant is already installed and functioning.	100%	
11.A(a)(iv)	Constitution of squads for night surveillance for finding the unauthorized dumping of sewage at NAD wet lands	Kalamassery Municipality, Police department	2020	.Culprits who were dumping wastes were identified using the cameras installed by	.Culprits who were dumping wastes were identified using		

	Kalamassery			municipality.Rs 6000 were imposed as fine in this month. Rs 74560/- were imposed from culprits who had thrown plastic wastes near roads..	the cameras installed by municipality.Rs31,760/- were imposed as fine in this month. Rs 7,04,610/were imposed total fine till datefrom culprits who had thrown plastic wastes near roads.There are no plastic inspections conducted this month.		
12.A(b)	Installation of common STP for Kalamassery Municipality and ETP at Municipal Market	Kalamassery Municipality	December 2019	75 cents land identified at North Kalamassery for sewage and septagetreatment plant. Procedures for soil testing in progress. DPR is prepared by KWA. DPR procedures in progress	75 cents land identified at North Kalamassery for sewage and septagetreatment plant. Procedures for soil testing in progress. DPR is prepared by KWA. DPR procedures in progress		

13.A(a)(iv)	Monitoring and surveillance of industries in Kalamassery Industrial Estate in order to prevent unauthorized discharges to Muttar River	Kalamassery Municipality	2019	Inspection conducted in 8 establishments and one unit was found having unauthorized discharge. Notice has been issued for the same.	Inspection conducted in 55 houses identified. Notice has been issued for 23 houses the same		
14.C(ii)	Installation of modern abattoirs including poultry and meat rendering plants.	Kalamassery Municipality, Industries Department (for land allotment)	2021	Industries department has informed that land is not available in the industrial estate. This has been informed the collector via letter. It has been instructed to report the same to the Government.	Industries department has informed that land is not available in the industrial estate. This has been informed the collector via letter. It has been instructed to report the same to the Government.		
15.A(b)	Identification of the establishments/commercial complexes/flats/houses/hotels etc who is discharging the sewage to the public drain	Kalamassery Municipality	2020	During the inspection conducted in August month, 54 households were found having unauthorized discharge and notice was issued. 13 units have cleared the violation.	During the inspection conducted in August month, 54 households were found having unauthorized discharge and notice was issued. 23 units have cleared the violation.		

16.E	Installation of cameras at the waste dumping spots	Kalamassery Municipality	2020	Camera installed on 10 locations. 2 portable (mobile) cameras has installed for identifying waste dumping spot. RsRs 1000/- has been imposed as fine in the month of January. Total amount of Rs.31,560/- have been levied as fine..	Camera installed on 10 locations. 2 portable (mobile) cameras has installed for identifying waste dumping spot.		
17.A(b)	Identification of sources of sewage discharged to drain near Pathalam bridge and action to stop the discharge which reach river Periyar from hotels, labour camps etc. In case the quantity of sewage generated is assessed to be more STP need to be installed	Eloor Municipality, KSPCB (for monitoring)	2020	Inspection in progress. Notices have been given to shops. Reply from their end has received. Unauthorized outlets are closed. Septic tank – soak pit facility is recommended for all the newly sanctioned commercial buildings.	Representative from concerned local body has not attended the meeting		
18.E	Installation of cameras at the waste dumping spots	Eloor Municipality	2020	The Cameras were installed in the land near HIL & Arattukadavu which was found as Dump sites. But presently those dump sites were cleared without any waste dumping. An amount of Rs.13,020/- were imposed on culprits who dumped wastes during the month of January.			

19.A(a)(i v)	Periodical inspection in the Industries, Flats, hotels for monitoring of STP,ETP located in Cochin corporation	Kochi Municipal Corporation	Periodical	An amount of Rs. 8,00,000/- were imposed as fine from culprits. Total amount of Rs. 46,02,300/- was collected as fine till date. Under OA147case,it is insrtructed to monitor the wghole stretch of the canal.16 houses and 18 establishments were identified.As a result 11 flats, 4 houses and 3 hotels were closed. Collected Rs 31,00,000/ as fine from 6 hotels due to unauthorized discharge.92 new establishments are also identified where notice is issued to 16 establishments and rest of them are yet to issued.			
20.A(a)	Inventory of sources of pollution through a rapid study/Study for identification of pollution sources at Edappallythodu	Kochi Municipal Corporation	3 months	Survey completed by HI and JHI of KMC. Location of waste disposal in TP canals and Edappallythodu was identified. Closing of outlet exposed to drains	Survey completed by HIand JHI of KMC. Location of waste disposal in TP canals and edappallythodu were identified.Closing of outlet exposed to		

				of TP canals is taken as a joint work by Engineering and Health wing of KMC. Work mainly focused on four zones. They are Central zone,Edappallyzone,Pachalam zone and Vytilla zone.	drains of TP canals is taken as a joint work by Engineering and health wing of KMC.Work mainly focused on four zones. They are Central zone, Edappally zone, Pachalam zone and Vytilla zone. Responsibility of closing outlet of drain was entrusted to engineering wing and necessary advance has been released for concerned Assistant engineer/Overseer. Details of closed outlets to Edappallythodu – 4 outlets of households and 6 outlets from flats.		
21.E	Issuing notice to the defaulters	Kochi Municipal Corporation	4 months	Inspection is going on. Further actions are taken.	Inspection is going on. Further actions are taken.		
22.A(a)(iv)	Periodical inspection in the flats, hotels, shops located along the river	Kochi Municipal Corporation	Periodical	Inspection in progress	Inspection in progress		Being carried out periodically

23.A(b)	Identification of natural drains/thodu reaching river Periyar and cleaning of weeds, grasses etc.	Irrigation department	2 years	4 polluted streams have been identified. The Estimate has been submitted for restoration works. Financial sanction was not yet received. Onjithodu soil test conducted. Streams have been included in Operation Vahini.	4 polluted streams have been identified. The Estimate has been submitted for restoration works. Financial sanction was not yet received. Onjithodu soil test conducted. Streams have been included in Operation Vahini.		Detailed estimate submitted to higher authority for FS. FS not obtained.
24.C(iii)	Clearing of weeds, grasses at the river bank in order to ensure the smooth flow of water	Irrigation department	3 years	The cleaning of river tributaries and desilting is jointly implemented by Local self government department and irrigation through Operation Vahini. Once this cleaning and desilting is completed the water table will increase and which in turn reduces the pollution. Measures are being taken to ensure the natural flow of the river. Desilting work in progress. For the remaining work, request have been submitted to RRC along with the DPR. Financial sanction to	The cleaning of river tributaries and desilting is jointly implemented by Local self government department and irrigation through Operation Vahini. Once this cleaning and desilting is completed the water table will increase and		

			<p>be received. The DIC has informed to clear off the grasses and weeds which are obstructing the smooth flow of drains in the industrial estate. DIC has reported that they have directed Estate Manager to ensure that the units near Periyar river banks are clearing the grass in their unit premises periodically.</p>	<p>which in turn reduces the pollution. Measures are being taken to ensure the natural flow of the river. Desilting work in progress. For the remaining work, request have been submitted to RRC along with the DPR. Financial sanction to be received. The DIC has informed to clear off the grasses and weeds which are obstructing the smooth flow of drains in the industrial estate. DIC has reported that they have directed Estate Manager to ensure that the</p>		
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					units near Periyar river banks are clearing the grass in their unit premises periodically.		
25.D(a)	Maintaining of Minimum flow in river during lean period and periodical operation of Regulators at River in-order to maintain minimum flow.	Irrigation department	3 years	Shutters are being operated periodically at the Pathalam lock cum regulator to maintain the flow of river	Shutters are being operated periodically at the Pathalam lock cum regulator to maintain the flow of river		
26.A(b)	Common Effluent Treatment Plant at Edayar Industrial Estate	Industries department	2022	For the establishment of CETP a government order has come sanctioning Rs. 37.5 Crore to DIC. KWA is entrusted to implement the project. DPR for the same has been submitted. The project is under Government consideration. In the approved amount operational maintenance cost and GST was not included. In the Chief Secretary's meeting	For the establishment of CETP a government order has come sanctioning Rs. 37.5 Crore to DIC. KWA is entrusted to implement the project. DPR for the same has been submitted. The project is under Government		

				held on 23.08.2022, for the revision of CETP project proposal 3 months time has been allotted.	consideration. In the approved amount operational maintenance cost and GST was not included. In the Chief Secretary's meeting held on 23.08.2022, for the revision of CETP project proposal 3 months time has been allotted.		
27.A(b)	Construction of internal roads and proper drainage in Edayar industrial estate	Industries department	Work progressing	For the construction of internal roads and drainage in Edayar industrial estate, Rs. 6.54 crore has been handed over to PWD. The work will be starting soon.	The construction of roads & drains in Industrial Development Area in Edayar was not yet started. A meeting was arranged with P.W.D on 23.01.2023. They have		

					initiated that the work will be started soon.		
28.A(b)	Installation of common discharge pipe line at downstream of Pathalam Regulator Bridge	Industries department, Irrigation department	3 years	It was decided to include the project of installing the common discharge pipeline in the DPR of CETP. Under this circumstance, the work comes under the responsibility of KWA.	It was decided to include the project of installing the common discharge pipeline in the DPR of CETP. Under this circumstance, the work comes under the responsibility of KWA.		
29.E	Installation of Night vision surveillance cameras at the River Bank side	KSPCB	2020	The CCTV cameras and accessories have been installed. 7 new cameras have been installed. Maintenance of two cameras in progress.	The CCTV cameras and accessories have been installed. 8 cameras have been installed. New two cameras is yet to be installed. It will be fixed soon.		
30.A(a)(iv)	Periodical Monitoring of Eloor, Edayar, Kalamassery Industrial belts	KSPCB	2020	Routine inspection is going on. Night Surveillance also carried out continuously.	Routine inspection is going on. Night Surveillance also carried out continuously.		
31.A(a)(iv)	Monitoring of quality of water at various intake point	Kerala Water Authority	2020	Status not reported	Status not reported		

32.A(a)(iv))	Installation of additional continuous online River water monitoring station	KSPCB	2022	The maintenance works of Online monitoring station in the downstream side of Pathalam Bund have been completed and is working. Online monitoring station in the upstream side has been installed. Connection work to display board in progress.	The maintenance works of Online monitoring station in the downstream side of PathalamBundh ave been completed and is working. Online monitoring station in the upstream side has been installed. Connection work to display board in progress.		
33.A(b)	Identification of the establishments/commercial complexes/flats/houses/hotels etc who is discharging the sewage to the public drain	Kadungallur Panchayath	2020	Joint inspections were done by Heath Inspector & Asha workers	. Representative from concerned local body has not attended the meeting		
34.E	Installation of cameras at the waste dumping spots	Kadungallur Panchayath	2020	6 cameras have been installed near Onjithodu. Total Rs. 25000/- have been	Representative from concerned local body has not attended the		

				levied as fine.	meeting .		
35.A(b)	Identification of the establishments/commercial complexes/flats/houses/hotelse tc. who is discharging the sewage to the public drain	Choornikkara Panchayath	2020	Inspection and monitoring is performed regularly to identify the offenders. Issual of notice to those offenders is also being done regularly. 4 flats have been identified and reported to KSPCB..	Soak pits are distributed to residewnts.notice regarding unauthorised discharge of effluent is forwaded to pcbkadavanthara		
36.E	Installation of cameras at the waste dumping spots	Choornikkara Panchayath	2020	12 Cameras have been already installed on waste dumping spots. One more camera installation is left. The fund for remaining camera will be arranged through sponsorship.	Due to un availability of Sponsors purchase pofcvamera is to be done from own fund.		

LONG TERM MEASURES

No. (as per Action Plan)	Activity	Implementin g agency	Time line	Progress in the month of November2022	Progress in the month of December 2022	% works completed	Details of works remaining
1.A(b)	Construction of walkway, ring roads etc at the Periyar River bank at industrial belt.	Irrigation department	4 years	Investigation and detailed Estimate Submitted and waiting for FS	Investigation and detailed Estimate Submitted and waiting for FS		FS not obtained for the work
2.C(i)	Fencing of the river banks along the stretches of waste disposal (Edamula stretch)	Cochin Municipal Corporation	1-2 years	ppallyThodu, which is a tributary of Periyar river touches Cochin Corporation Boundary for a small stretch. The other side of this thodu is belonging to LSGs like Kalamassery, Thrikkakkara, Eloor etc. The work of rejuvenation of Edappally Thodu is included under the IURWTS project of Kochi Metro Rail Limited. The progress of the works undertaken by	The work of rejuvenation of Thevara-Perandoor (TP) Canal is included under the IURWTS project of Kochi Metro Rail Limited. The progress of the works undertaken by KMRL is reported as follows. b) Market canal, work will be carried out this year. KIIFB is the funding agency for the		

				<p>KMRL is reported as follows.</p> <p>a) Applied for land acquisition works for various canal, it's on processing under revenue department.</p> <p>b) As no land acquisition is needed for market canal, work of it will be carried out this year. KIIFB is the funding agency for the work. Tender process for the work is going on.</p>	<p>work. Tender bid had opened for the work on 30-09-2022 Tender has cancelled and going for retendering.</p>		
3.C(iii)	<p>Beautification of the river stretches (Edamula stretch)</p>	<p>Cochin Municipal Corporation</p>	<p>1-2 years</p>	<p>Beautification work has been included in the KMRL IURWTS project. Due to the prevailing public protest, land acquisition procedure is being delayed. DPR will be prepared by Coastal Shipping Inland Navigation. The work will be commenced as soon as T.S is obtained.</p>	<p>Beautification work has been included in the KMRL IURWTS project .Notice regarding land acquisition is pending in district administrative office.Cochin corporation has also undertaken the work of cleaning Edapally canal from kaniyampuzha to muttarpuzha region and also planned to utilize 41,00,000/ rupees for the</p>		

					same.		
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ACTION BY GROUND WATER DEPARTMENT

Sl. No.	Ref para item nos as per NGT Order no.673/2018 dated 20.09.2018	Activity	Progress in the month of October 2022	Progress in the month of November2022	Progress in the month of December2022	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks					
2	B(ii)	Ground water recharging / rain water harvesting					
3	B(iii)	Periodic ground waste quality assessment and remedial actions in case of contaminated ground water tube wells/bore wells or hand pumps					
4	B(iv)	For regulating use of ground water for irrigation purpose, adopting good irrigation practices					

KERALA STATE POLLUTION CONTROL BOARD
ENVIRONMENTAL SURVEILLANCE CENTRE, ELOOR
ANALYSIS REPORT OF RIVER PERIYAR - MARCH 2023

Sampling point: VETTUKADAVU

Sl. No	Parameter	Unit	05.03.2023	25.03.2023
1	Temp	°c	33.2	34.1
2	pH		6.6	6.6
3	Conductivity	µS/cm	16010.00	14960.00
4	Turbidity	NTU	*	*
5	Chlorides	mg/L	5361.6	4269.4
6	Hardness	"	2300.0	2000.0
7	D.O.	"	4.1	7.4
8	Calcium	"	600.0	480.0
9	Magnesium	"	194.400	194.400
10	Ammoniacal Nitrogen	"	3.438	0.781
11	Phosphate	"	BDL	BDL
12	Total alkalinity	"	70.0	58.0
13	BOD	"	0.8	1.8
14	Sulphate	"	148.500	106.700
15	Nitrates	"	BDL	BDL
16	TC	cfu/100ml	900.0	1200.0
17	FC	"	100.0	200.0
18	FS	"	NIL	NIL

* TURBIDITY METER IS OUT OF ORDER

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

Sl. No	Parameter	Unit	05.03.2023	25.03.2023
1	Temp	°c	33.0	34.1
2	pH		6.7	7.1
3	Conductivity	µS/cm	248.10	183.70
4	Turbidity	NTU	*	*
5	Chlorides	mg/L	51.6	41.7
6	Hardness	"	32.0	40.0
7	D.O.	"	6.0	5.7
8	Calcium	"	9.2	12.8
9	Magnesium	"	2.187	1.944
10	Ammoniacal Nitrogen	"	0.095	BDL
11	Phosphate	"	BDL	BDL
12	Total alkalinity	"	22.0	34.0
13	BOD	"	1.4	1.0
14	Sulphate	"	8.981	2.484
15	Nitrates	"	BDL	BDL
16	TC	cfu/100ml	1400.0	700.0
17	FC	"	300.0	100.0
18	FS	"	NIL	NIL

* TURBIDITY METER IS OUT OF ORDER

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

Sl. No	Parameter	Unit	05.03.2023	25.03.2023
1	Temp	°c	33.0	34.1
2	pH		6.6	7.0
3	Conductivity	µS/cm	226.10	103.20
4	Turbidity	NTU	*	*
5	Chlorides	mg/L	15.9	19.9
6	Hardness	"	15.0	26.0
7	D.O.	"	5.3	4.6
8	Calcium	"	4.4	6.4
9	Magnesium	"	0.972	2.430
10	Ammoniacal Nitrogen	"	0.424	BDL
11	Phosphate	"	BDL	BDL
12	Total alkalinity	"	26.0	36.0
13	BOD	"	0.2	2.4
14	Sulphate	"	4.650	0.828
15	Nitrates	"	BDL	BDL
16	TC	cfu/100ml	600.0	900.0
17	FC	"	100.0	100.0
18	FS	"	NIL	NIL

* TURBIDITY METER IS OUT OF ORDER

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

Sl. No	Parameter	Unit	05.03.2023	25.03.2023
1	Temp	°c	33.0	34.2
2	pH		6.7	6.8
3	Conductivity	µS/cm	224.60	427.10
4	Turbidity	NTU	*	*
5	Chlorides	mg/L	46.7	53.6
6	Hardness	"	32.0	36.0
7	D.O.	"	6.5	5.7
8	Calcium	"	10.4	12.0
9	Magnesium	"	1.458	1.458
10	Ammoniacal Nitrogen	"	0.145	0.781
11	Phosphate	"	BDL	BDL
12	Total alkalinity	"	20.0	38.0
13	BOD	"	5.6	1.6
14	Sulphate	"	8.471	3.248
15	Nitrates	"	BDL	BDL
16	TC	cfu/100ml	1200.0	400.0
17	FC	"	400.0	NIL
18	FS	"	NIL	NIL

* TURBIDITY METER IS OUT OF ORDER

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

Sl. No	Parameter	Unit	05.03.2023	25.03.2023
1	Temp	°c	33.0	34.1
2	pH		6.9	6.7
3	Conductivity	µS/cm	21860.0	13920.0
4	Turbidity	NTU	*	*
5	Chlorides	mg/L	7446.6	3971.5
6	Hardness	"	3500.0	1900.0
7	D.O.	"	2.8	4.6
8	Calcium	"	800.0	480.0
9	Magnesium	"	364.5	170.1
10	Ammoniacal Nitrogen	"	3.8	0.9
11	Phosphate	"	BDL	BDL
12	Total alkalinity	"	92.0	66.0
13	BOD	"	2.6	1.3
14	Sulphate	"	152.9	95.6
15	Nitrates	"	BDL	BDL
16	TC	cfu/100ml	600.0	400.0
17	FC	"	NIL	NIL
18	FS	"	NIL	NIL

* TURBIDITY METER IS OUT OF ORDER

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

Sl. No	Parameter	Unit	05.03.2023	25.03.2023
1	Temp	°c	32.9	34.1
2	pH		6.8	6.9
3	Conductivity	µS/cm	95.50	81.19
4	Turbidity	NTU	*	*
5	Chlorides	mg/L	15.9	12.9
6	Hardness	"	15.0	25.0
7	D.O.	"	4.2	4.0
8	Calcium	"	4.4	8.0
9	Magnesium	"	0.972	1.215
10	Ammoniacal Nitrogen	"	0.050	BDL
11	Phosphate	"	BDL	BDL
12	Total alkalinity	"	20.0	38.0
13	BOD	"	1.1	1.9
14	Sulphate	"	4.904	0.573
15	Nitrates	"	BDL	BDL
16	TC	cfu/100ml	400.0	1200.0
17	FC	"	NIL	200.0
18	FS	"	NIL	NIL

* TURBIDITY METER IS OUT OF ORDER

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

Sl. No	Parameter	Unit	05.03.2023	25.03.2023
1	Temp	°c	32.9	34.2
2	pH		6.7	6.9
3	Conductivity	µS/cm	226.20	129.50
4	Turbidity	NTU	*	*
5	Chlorides	mg/L	11.9	14.9
6	Hardness	"	14.0	27.0
7	D.O.	"	6.6	5.5
8	Calcium	"	4.0	8.8
9	Magnesium	"	0.972	1.215
10	Ammoniacal Nitrogen	"	0.061	0.167
11	Phosphate	"	BDL	BDL
12	Total alkalinity	"	30.0	44.0
13	BOD	"	3.6	0.7
14	Sulphate	"	5.032	0.828
15	Nitrates	"	BDL	BDL
16	TC	cfu/100ml	900.0	1600.0
17	FC	"	200.0	300.0
18	FS	"	NIL	NIL

* TURBIDITY METER IS OUT OF ORDER

National Mission for Clean Ganga

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

RIVER KARUVANNUR, THRISSUR

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 January 2023	Progress in the month of February 2023	Progress in the month of march 2023	% works complete d	Details of works remainin g
Thirukuzhy thodu								
A(a)(iv)	Surveillance to restrict dumping of wastes into river and its branches	Vallachira Panchayat with the help of Police		-	-	-		
E	Cleaning and desilting of canal	Irrigation Department and Vallachira Panchayat	4months	ടി തോടിന്റെ ഭൂരിഭാഗം നീളവും നിലവിലില്ല എന്നും ശേഷിക്കുന്ന ഏകദേശം 15 മീറ്ററോളം വരുന്ന	ടി തോടിന്റെ ഭൂരിഭാഗം നീളവും നിലവിലില്ല എന്നും ശേഷിക്കുന്ന ശേഷിക്കുന്ന ഏകദേശം 15 മീറ്ററോളം വരുന്ന	ടി തോടിന്റെ ഭൂരിഭാഗം നിലവിലില്ല എന്നും ശേഷിക്കുന്ന ഏകദേശം 15 മീറ്ററോളം വരുന്ന	100	nil

				<p>ഭാഗം തൊഴി ലുറപ്പ് പദ്ധതി കൾ ഉൾപ്പെ ടുത്തി എല്ലാ വർഷ വും വൃത്തി യാക്കു ന്നു് എന്നു പഞ്ചാ യത്ത് അധി കൃതർ അറിയ ിച്ചിട്ടു .</p> <p>ആയത റിനാൽ ടി പ്രവൃ ത്തി ആവ ശ്യമില്ല എന്ന ജനപ്ര തിനിധ ികളും, കർഷ</p>	<p>ദേശ ം 15 മീറ്റേ റാളം വരു ന്ന ഭാഗം തൊ ഴിലു റപ്പ് പദ്ധ തിക ൾ ഉൾ പ്പെ ടു ത്തി എല്ലാ വർ ഷവും വൃ ത്തി യാ ക്കു ന്നു ് എന്ന ും പഞ്ച ായ ത്ത് അധി കൃത ർ അറി</p>	<p>വരു ന്ന ഭാഗം തൊഴി ലുറപ്പ് പദ്ധതി കൾ ഉൾ പ്പെ ടു ത്തി എല്ലാ വർഷ വും വൃത്ത ിയാക്ക ുന്നു ് എന്നു പഞ്ചാ യത്ത് അധി കൃതർ അറിയ ിച്ചിട്ടു .</p> <p>ആയ തിനാ ൽ ടി പ്രവൃ ത്തി ആവ ശ്യമി ല്ല</p>		
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				<p>കരും അഭിപ്രായപ്പെട്ടു എന്ന വിവരം അസിസ്റ്റന്റ് എഞ്ചിനീയർ, മൈനർ ഇറിഗേഷൻ സെക്ഷൻ, ചേർപ്പ് സ്ഥല പരിശോധനയ്ക്കു ശേഷം റിപ്പോർട്ട് ചെയ്തിട്ടുള്ളതായ ി എക്സിക്യൂട്ടീവ് എഞ്ചിനീയർ, മൈനർ</p>	<p>യിച്ചിട്ടുണ്ട്. ആയതിനാൽ ടിപ്രവൃത്തി ആവശ്യമില്ല എന്ന ജനപതിനിധികളും, കർഷകർഷകരും അഭിപ്രായപ്പെട്ടു എന്ന വിവരം അസിസ്റ്റന്റ് എഞ്ചിനീയർ, മൈനർ ഇറിഗേഷൻ സെക്ഷൻ, ചേർപ്പ് സ്ഥല പരിശോധനയ്ക്കു ശേഷം റിപ്പോർട്ട് ചെയ്തിട്ടുള്ളതായ</p>	<p>എന്ന ജനപതിനിധികളും, കർഷകരും അഭിപ്രായപ്പെട്ടു എന്ന വിവരം അസിസ്റ്റന്റ് എഞ്ചിനീയർ, മൈനർ ഇറിഗേഷൻ സെക്ഷൻ, ചേർപ്പ് സ്ഥല പരിശോധനയ്ക്കു ശേഷം റിപ്പോർട്ട് ചെയ്തിട്ടുള്ളതായ</p>		
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				<p>ഇറിഗേഷൻ ഡിവിഷൻ, തൃശ്ശൂർ അറിയപ്പെട്ടിട്ടുള്ളവർ.</p>	<p>സെക്ഷൻ ചേർപ്പ് സ്ഥല പരിശോധനയ്ക്കുശേഷം റിപ്പോർട്ട് ചെയ്തിട്ടുള്ളതായി എക്സിക്യൂട്ടീവ് എഞ്ചിനീയർ, മൈനർ ഇറിഗേഷൻ ഡിവിഷൻ, തൃശ്ശൂർ</p>	<p>എക്സിക്യൂട്ടീവ് എഞ്ചിനീയർ, മൈനർ ഇറിഗേഷൻ ഡിവിഷൻ, തൃശ്ശൂർ</p>		
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					ൂർ അറിയിച്ചിട്ടുണ്ട്.			
Thodu near Kadalassery bridge								
A(b)	Identification of pollution sources and surveillance to restrict dumping of wastes	Vallachira, Pudukad & Nenmanikkara Panchayats	1 month	Ongoing	Ongoing	Ongoing	100	0
E	Cleaning and desilting	Irrigation Department and Vallachira Panchayat	4months	ടി പ്രവൃത്തിയ്ക്കായി 2.7 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് Price 3.0 ൽ തയ്യാറാക്കി 15/09/2022 ന് ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും ഭരണവും തിരുവനന്തപുരത്തിന് സാമ്പത്തികാനുമതിയ്ക്കായി സമർപ്പിച്ചിട്ടുണ്ട്. കൂടാതെ ടി പ്രവൃത്തി “Restoring polluted stretches of rivers based on NGT Orders” എന്ന ശീർഷകത്തിൽ ഉൾപ്പെടുത്തിക്കൊള്ളു മുൻഗണനാ ലിസ്റ്റ് ഒരിക്കൽ കൂടി 17-02-2023 ന് ഇറിഗേഷൻ & അഡ്മിനിസ്ട്രേഷൻ ചീഫ് എഞ്ചിനീയർക്ക് സമർപ്പിച്ചിട്ടുണ്ട്.				
Neerolithodu								
E	Cleaning and desilting	Irrigation Department	4months	ടി പ്രവൃത്തിയ്ക്കായി 10.00 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് ജൂൺ 3.0 ൽ തയ്യാറാക്കി 15/09/2022 ന് ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും ഭരണവും തിരുവനന്തപുരത്തിന് സാമ്പത്തികാനുമതിയ്ക്കായി സമർപ്പിച്ചിട്ടുണ്ട്.				
Painkilikayal thodu								
E	Cleaning and desilting	Irrigation Department and Vallachira	4months	ടി പ്രവൃത്തിയ്ക്കായി 15.00 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് ജൂൺ 3.0 ൽ തയ്യാറാക്കി 15/09/2022 ന് ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും ഭരണവും തിരുവനന്തപുരത്തിന് സാമ്പത്തികാനുമതിയ്ക്കായി സമർപ്പിച്ചിട്ടുണ്ട്. നടപ്പിലാക്കുന്നതിന് ഫണ്ട് ലഭ്യമായിട്ടില്ല.				

		Panchayat						
		Kadathodu						
A(b)	Identification of pollution sources and surveillance to restrict the dumping of wastes	Vallachira & Nenmanikkara Panchayats	1 month	Ongoing	Ongoing	Not included in the Nenmanikkara Gramma panch ayath	10 0	0
E	Cleaning and desilting	Irrigation Department	4months	<p>ടി പ്രവൃത്തിയ്ക്കായി 9.5 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് Price 3.0 ൽ തയ്യാറാക്കി 15/09/2022 ന് ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും ഭരണവും തിരുവനന്തപുരത്തിന് സാമ്പത്തികാനുമതിയ്ക്കായി സമർപ്പിച്ചിട്ടുണ്ട് .</p> <p>കൂടാതെ ടി പ്രവൃത്തി “Restoring polluted stretches of rivers based on NGT Orders” എന്ന ശീർഷകത്തിൽ ഉൾപ്പെടുത്തിക്കൊണ്ടുള്ള മുൻഗണനാ ലിസ്റ്റ് ഒരിക്കൽ കൂടി 17-02-2023 ന് ഇറിഗേഷൻ & അഡ്മിനിസ്ട്രേഷൻ ചീഫ് എഞ്ചിനീയർക്ക് 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 November monthly basis	Monitoring is going on December monthly basis	Monitoring is going on monthly basis		
A(b)	Inspection & effluent quality monitoring of the Flats, industrial units, service stations, hospitals,hotels etc	KSPCB	Ongoing	Going on November monthly basis.	Going on December monthly basis.	Going on monthly basis		
Long Term Plan								
A(b)	Sewage treatment facilities to all house holds	Vallachira Grama Panachayat	1 yr	Nil	Nil	nil	100	0
A(b)	Construction of FSTP and STP	Irinjalakkuda Municipality	2 years	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 Panachayat	2 years		100%		Mini MCF	
C(ii)	Construction of Windrow composting plant	Irinjalakkuda Municipality	2 years	Windrow Compost plant having 4 ton capacity. Construction has been already completed. Presently it is functioning well and producing Bio manure for sale.	Windrow Compost plant having 4 ton capacity. Construction has been already completed. Presently it is functioning well and producing Bio manure for sale.	Windrow Compost plant having 4 ton capacity. Construction has been already completed. Presently it is functioning well and producing Bio manure for sale.		
E	Rejuvenation of Kanathodu	Irrigation Department	1 year	<p>ടി പ്രവൃത്തിയ്ക്കായി 10.00 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് Price 3.0 ൽ തയ്യാറാക്കി 15/09/2022 ന് ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും ഭരണവും തിരുവനന്തപുരത്തിന് സാമ്പത്തികാനുമതിയ്ക്കായി സമർപ്പിച്ചിട്ടുണ്ട് .</p> <p>കൂടാതെ ടി പ്രവൃത്തി “Restoring polluted stretches of rivers based on NGT Orders” എന്ന ശീർഷകത്തിൽ ഉൾപ്പെടുത്തിക്കൊള്ളു മുൻഗണനാ ലിസ്റ്റ് ഒരിക്കൽ കൂടി 17-02-2023 ന് ഇറിഗേഷൻ & അഡ്മിനിസ്ട്രേഷൻ ചീഫ് എഞ്ചിനീയർക്ക് സമർപ്പിച്ചിട്ടുണ്ട്.</p>				
E	Installation of CCTV for Surveillance to prevent the dumping of waste in to the river	Irinjalakkuda Municipality	2 years	Police Department installed	Police Department installed	Police Department installed		

				CCTV and currently functioning Near Karuvannur Bridge	CCTV and currently functioning Near Karuvannur Bridge	CCTV and currently functioning 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 January 2023	Progress in the month of February 2023	Progress in the month of March 2023	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks	According to the latest GEC report there is no critical / over exploited blocks in Thrissur Dt.	According to the latest GEC report there is no critical / over exploited blocks in Thrissur Dt.	According to the latest GEC report there is no critical / over exploited blocks in Thrissur Dt.		
2	B(ii)	Ground water recharging / rain water harvesting					

3	B(iii)	Periodic ground waste quality assessment and remedial actions in case of contaminated ground water tube wells/bore wells or hand pumps	Water level data collected from GWD observation wells.	Water level data collected from GWD observation wells.	Water level data collected from GWD observation wells.		
4	B(iv)	For regulating use of ground water for irrigation purpose, adopting good irrigation practices	-	-	Awareness class on groundwater resource conservation and management conducted for the elected representatives, officials, public and students in Vellangallur Block.	-	-

ACTION PLAN BY GRAMAPANCHAYATH

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of January 2023	Progress in the month of February 2023	Progress in the month of march 2023	% works completed	Details of works remaining
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C	MANALIPUZHA RIVER PROTECTION -Jalaraksha Jeevaraksha - Manalipuzha conservation	Vallachira Grama Panchayath	1 year	Nil	Nil	Nil	1000m	500m
C	Setting up of Nursery for Bamboo seedlings in Kadalassery	MGNREGS	31.03.2020	TS SAN CTIONED, BUT NOT PUBL IC PLAC E	TS SANCTI ONED, BUT NOT PUBLIC PLACE	nil	25	75
C	Side protection of Manalippuzha with organic materials available locally	MGNREGS	31.03.2020	Nil	Nil	nil	25	75
C	Side Protection of Manalippuzha with Bamboo plants	MGNREGS	31.03.2020	Nil	Nil	nil	100	0
C	Deepening & Protecting Muttikkal Thodu by Spreading Geo Textiles	MGNREGS	31.03.2020	600 m	600 m	nil	100	0
C	Cluster 2-Kurumaly puzha sub river bed -Project document preparation	Puthukkad Panchayath	1 year	Docu mentation com plete d	Docume ntation complet ed		100	Docu mentation compl eted

C	Manalippuzha River Protection-Jala Raksha, Jeeva Raksha , Survey and Tree Plantation	Nenmenikkara Grama Panchayat	31.03.2020	3.5 km survey out of 7 k.m have been completed and survey posts have been fixed .	3.5 km survey out of 7 k.m. have been completed and survey posts 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
C	Manalipuzha River protection	MGNREGS	31.03.2020	3.5 km survey out of 7 k.m have	3.5 km survey out of 7 k.m have been completed and	3.5 km survey out of 7 k.m. have been completed & survey posts have been fixed		As survey did not complete

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

KARUVANUR
Date of sampling
01.03.2023

SL. NO	PARAMETER	UNIT	KT	MRK	KND	MDK	THR	KRV
1	PH		6.88	6.7	7.17	6.59	6.96	6.89
2	EC	μ/cm	55.68	22.7	51.29	45.77	22.57	46.4
3	BOD	mg/L	2.18	1.23	0.27	1.49	2.19	1.07
4	DO	mg/L	6.13	5.76	5.6	4.48	6.24	6.13
5	COD	mg/L	4	4	4	4	8	4
6	TC	CFU/100	600	150	650	450	300	250

		ml						
7	FC	CFU/100 ml	400	100	400	350	200	200
8	FSC	CFU/100 ml	NIL	NIL	NIL	NIL	NIL	NIL

KT - KANAKKAN KADAVU, KARUVANNUR

MRK - NEEROLI THODU

KND - KANATHODU, KARUVANNUR

MDK - MUTTIKKAL DAM, KARUVANNUR

THR- THIRUKUZHI, KARUVANNUR

KRV - PAINKILIKAYAL THODU, KARUVANNUR

National Mission for Clean Ganga

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

RIVER KECHERY, THRISSUR

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

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

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of January 2023	Progress in the month of February 2023	Progress in the month of March 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 December enclosed herewith	Analysis report for the month of January enclosed herewith	Analysis report for the month of February enclosed herewith		Continuing
A(b)	Inspection & effluent quality monitoring of the Flats, industrial units, service stations, hospitals,hotels etc	KSPCB	Ongoing	Ongoing	Ongoing	Ongoing		Continuing
Long Term Plan								
E	Identification and cleaning of polluted drains reaching wadakkancheri river	Irrigation Dept	30-03-2022	Estimate submitted for fund	Estimate submitted for FS.	ടി പ്രവൃത്തിയുടെ എസ്റ്റിമേറ്റ് സാമ്പത്തികാനുമതി		Estimate submitted for FS.

						മതി ക്കാ യി ജലം സമ നവും ഭരണ വും ചിപ് എ ത്തിന ിയർ ക്ക് അയ ച്ചിട്ടു . കൂടാ തെ ടി പ്രവൃ ത്തി “Res tori ng poll uted stre tche s of river s base		
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						<p>d on NGT Ord ers” എന്ന ശീർ ഷക ത്തി ൽ ഉൾ പ്പെ ത്തി യ കാ ർ യ്ക്ക മുൻ ഗണ നാ ലി സ് സ ക ൽ കു ടി 17 - 0 2- 20 23 ന് ഇ ന്ദ ര ജ ൻ ദ ാ യ് മി നി സ് ത്ര ഷ ൻ ചീ ഫ് എ</p>		
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						ബിന റയർ ക്ക് സമർ പ്പിച്ചി ട്ടു്.		
A (b)	Common STP	Wadakkanchery Municipality, Kerala Infrastructure Investment Fund Board	March 2022	Topographical survey completed . Site identified and report submitted before Hon. District Collector for getting land	Topogr aphical survey comple ted . Site identifi ed and report submitt ed before Hon. District Collect or for getting land.			Site for one STP identified. Applied for NOC from District Collector (Land is Puzha Puramboke and Irrigation Department Canal Puramboke)
C(iii)	Windrow composting at Kumbalangad yard	Wadakkanchery Municipality	March 2022	Construction of windrow compost plant work completed and	Construction of windrow compost plant work completed		90% work comple ted	Construction of windrow compost plant work completed and trial run

				trial run started				started
C(ii)	Modern slaughter House	Wadakkanchery Municipality, Kerala Infrastructure Investment Fund Board	March 2022	Lack of suitable site for the project	Lack of suitable site for the project			Lack of suitable site for the project
E	Forestation, desilting & deepening of Wadakkanchery river and fitting river side with coir geo net	Wadakkanchery Municipality	desilting deepening of Wadkanchery River 3 km in Municipal area completed 7655m ³ desilt removed	Fitting river side with Coir Geo Net. Awaiting Municipal Council Decision for fund allocation	Fitting river side with Coir Geo Net. Awaiting Municipal Council Decision for fund allocation	Fitting river side with Coir Geo Net. Awaiting Municipal Council Decision for fund allocation		Fitting river side with Coir Geo Net. Awaiting Municipal Council Decision for fund allocation

	Rain water harvesting	Wadakkanchery Municipality	Ongoing work					
	Ground water recharge	Wadakkanchery Municipality	Ongoing work					
	River survey	Wadakkanchery Municipality	Ongoing work					
	Regulating activities in flood plain zone, protection and management of flood plain zone	Wadakkanchery Municipality	30-03-2022	As part of the action plan prepared in relation to the revival of Kecheri River, the plastic wastes that have fallen into	As part of the action plan prepared in relation to the revival of Kecheri River, the plastic wastes that have fallen into the river			

				<p>the river have been included in the Job Guarantee Project and removed. 913741 rupees were spent in this work. Garbage that fell due to rain was removed</p>	<p>have been included in the Job Guarantee Project and removed. 913741 rupees were spent in this work. Garbage that fell due to rain was removed in many places.</p>			
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				ed in many places.				
	Greenery development Plantation plan. Plantation on both sides of the river, settling up biodiversity parks on flood plains by removing encroachment	Wadakkanchery Municipality	30-03-2022	Bambo o sapling s were plante d on both sides of the river throug h "Wada kanch erry riversi de affores tation" . 15597 6 rupees were spente	Bambo o sapling s were planted on both sides of the river throug h "Wada kanche rry riversid e afforest ation". 155976 rupees were spente d for this work.			

				d for this work. The garbage in the flood-prone areas has been removed and the flow has been facilitated.	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			Including 2023-24 pr

								oject
E	Fixing Boards	Choondal Grama Panchayat	Completed					Board fixed (including 2021-22 project)
A(a)(iv)	Surveillance to prevent flow of sewage /effluent to river	Choondal Grama Panchayat	Ongoing					Action taken
A(b)	Stoppage of effluent from residential apartment (Shajan's flat) and pig farm into the river	Choondal Grama Panchayat	Action taken					Stop Memo Had been Given to Concerned persons
Long Term Plan (Kecheri river)								
E	Side protection by fixing coir geo nets	Choondal Grama Panchayat	Not started	Not started	Primary action started			
E	Survey process of Kechery river portion belong to Choondal Grama Panchayat to mark the boundary and encroachment	Revenue Department	completed	completed	completed			
E	Laying of survey station	Choondal Grama Panchayat	completed	completed	Completed			

E	Digital mapping and seminar on pollution control	Forestry College, Vellanikkara	31/05/2020	Not started	completed			
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IRRIGATION DEPARTMENT

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

ACTION BY GROUND WATER DEPARTMENT

Sl. No.	Ref para item nos as per NGT Order no.673/2018 dated 20.09.2018	Activity	Progress in the month of January 2023	Progress in the month of February 2023	Progress in the month of March 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 water quality assessment and remedial actions in case of contaminated ground water tube wells/bore wells or hand pumps	Water level data collected from GWD observation wells	Water level data collected from GWD observation wells	Water level data collected from GWD observation wells		
4	B(iv)	For regulating use of ground water for irrigation purpose, adopting good irrigation practices			Awareness class on groundwater resource conservatio		

							n and management conducted for the elected representatives, officials, public and students in Erumapetty GP..		
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No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of January 2023	Progress in the month of February 2023	Progress in the month of march 2023	% works completed	Details of works remaining
C	Punarjani Kecherri river	Choondal Grama Panchayat	Completed					Flood Wastes from the river has been removed and made water flow easily which reduced chances of flood .

C(ii)	Surveying of river side, eviction and planting trees	Choondal Grama Panchayat						Survey completed
C	Side Protection	Choondal Grama Panchayat	Completed					
C	Bio fencing related to river bank protection – water and soil Conservation project ward 3,4,7	MGNRES	Not started					

KECHERI RIVER				
Date of sampling -08.03.2023				
SL. NO	PARAMETER	UNIT	VAD1	VAD2
1	pH	-	8.88	
2	Electrical Conductivity	µs/cm	377	
3	BOD	mg/L	3.68	
4	DO	mg/L	1.86	
5	COD	mg/L	4	
6	TC	CFU/100ml	400	
7	F C	CFU/100ml	300	
8	FSC	CFU/100ml	NIL	
VAD1 - WADAKKANCHERY PUZHA (WADAKKANCHERY BRIDGE), KECHERY				
VAD2 - WADAKKANCHERY PUZHA(CHALIPPADAM ROAD), KECHERY				

*VAD2-Sample not collected due to the unavailability of water

National Mission for Clean Ganga

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

RIVER PUZHAKKAL, THRISSUR

S. No.	Activity to be monitored	Timeline	Submission of progress by State/UT- Compliance status
1	Ensure 100% treatment of sewage at least in-situ remediation	31.12.2022	In progress
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured	31.12.2022	In progress
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning		STP completed initial PCB NOC obtained.
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none">• Specifying accountability of nodal authorities not below the Secretary level• Chief Secretaries may have an accountable person attached in their office for this purpose		1. 360 KLD Sewage Treatment Plant for General Hospital, Thrissur Administrative Sanction has been accorded for this project vide GO (Rt) No. 5/2018/LSGD dated 01/01/2018 for Rs. 3.52Cr. TS accorded for Rs. 3.52Cr from the technical committee constituted for AMRUT sewerage projects. Work has

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

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

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of January 2023	Progress in the month of February 2023	Progress in the month of March 2023	% works completed	Details of works remaining
A(b)	Identification of illegal outlets into the Panchikkal thodu and subsidiary drains	Thrissur Corporation	3 months		0	0	87%	
A(b)	Stoppage of discharge of waste water from the surrounding houses and institutions to the drains which leads to Panchikkal thodu	Thrissur Corporation	6 months	3	5	15	89.5	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						Instructions regarding in compliance with SWM rules 2016 has delivered to

								temple authorit y. Imposed a fine of 10000 rupees for imprope r waste water treatmen t.
E	Desilting of Karakattuchal	Irrigation Department	4 month s	ടി പ്രവൃത്തി ക്കായി 10 ലക്ഷം രൂപയുടെ എസ്റ്റിമേ റ്റ് പ്രൈസ് 3 യിൽ തയ്യാറാ ക്കി പ്രദേശ ത്തിൽ സാമ്പത്ത രികാനുമ	ടി പ്രവൃ ത്തിയ് ക്കായി 10.00 ലക്ഷം രൂപയ ുടെ എസ്റ്റി മേറ്റ് ജുരേ ല 3.0 ൽ തയ്യാറ ാക്കി 15/09/ 2022	ടി പ്രവൃത്തിയ്ക്കാ യി 10.00 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് Price 3.0 ൽ തയ്യാറാക്കി 15/09/2022 ന് ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും ഭരണവും തിരുവനന്തപു രത്തിന് സാമ്പത്തികാന ുമതിയ്ക്കായി		

			<p>തി ലഭിക്കു ന്നതിനാ യി സുപ്രീം ജസ് എഞ്ചിനീ യർ, മൈനർ ഇറിഗേഷ ൻ സെൻട്ര ൽ സർക്കി ൾ എറണാ കുളത്തി നും, സുപ്രീം ജസ് എഞ്ചിനീ യർ, ഇറിഗേഷ ൻ സെൻട്ര ൽ സർക്കി ൾ, ത്യജ്ജുരിന ും സമർപ്പി ച്ചിട്ടുണ്ട്. പ്രവൃത്തി നടപ്പിലാ</p>	<p>ന് ചീഫ് എഞ്ചി നീയർ, ജലഭ സചന വും ഭരണ വും തിരുവ നന്തപ റ്റത്തി ന് സാമ്പ ത്തികാ നുജതി യ്ക്കൊ യി സമർ പ്പിച്ചിട്ട ുണ്ട്</p>	<p>സമർപ്പിച്ചിട്ടുണ്ട് .</p>		
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				കുറഞ്ഞി ന് ഫണ്ട് ലഭ്യമായി യില്ല.				
E	Desilting of Panchikkal thodu	Irrigation Department	4 month s	Work completed	Work completed	Work completed	100	
E	Desilting of Kurinjikkal thuruth	Irrigation Department	4 month s		Estimate submitted for fund			
E	Desilting of Muppuzha(Cleaning and deepening of feeder canal from railway bridge near Vanchikulam to diversion of Karanchira and Enamakkal feeder canal near Nedupuzhakadavu)	Irrigation Department	4 month s	Work comple ted	100% work com plete d	100% work completed	1 0 0	

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. 25 meter 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	195 Nos. Works are proposed for thodu	195 Nos. Works are proposed for	195 Nos. Works are proposed and thodu cleaning works are completed.		

				cleaning works are completed	thodu cleaning works are completed			
Monitoring								
A(a)(iv)	River water quality monitoring	KSPCB	Ongoing; monthly frequency	Analysis report for the month of October submitted	Analysis report for the month of November enclosed herewith			Continuing
A(b)	Inspection & effluent quality monitoring of the Flats, industrial units, service stations, hospitals,hotels etc	KSPCB	Ongoing	Ongoing	Ongoing			Continuing
Long Term Plan								
A(b)	Ensuring installation of treatment facilities for at least 50% of the identified establishments	Thrissur Corporation	18 months					
A(b)	100% completion of treatment facilities for targeted institutions/ buildings	Thrissur Corporation	24 months					

A(b)	Construction of a drain 40 km with covering slabs to avoid the direct disposal of waste in to the open drain	Thrissur Corporation	24 months	35.05 KM of drain work and 5.80 KM of covering slabs completed and More works proposed under annual plan and 48 numbers of work completed.	35.30 KM of drain work and 5.85 KM of covering slabs completed and More works proposed under annual plan 2022-23 and 46 numbers of work completed	37.10 KM of drain work and 6.70 KM of covering slabs completed and More works proposed under annual plan 2022-23.		
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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	35.30 KM of drain work and 5.85 KM of covering slabs completed and More works proposed under annual	37.10 KM of drain work and 6.70 KM of covering slabs completed and More works proposed under annual plan 2022-23.	38 KM of drain work and 6.85 KM of covering slabs completed and More works proposed under annual plan 2022-23.		

				al plan 2022 -23 and 46 num bers of work com plete d				
A(b)	Construction of sewage treatment plant of 100 KLD and 360 KLD at Ramavarmapuram and District Hospital, Thrissur in Amrut Project	Thrissur Corporation	24 months			1) 100KLD Septage Treatment Plant at Ramavarmapuram, Thrissur 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		

						<p>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 terminate the contract under risk and cost of the contractor and also to black list the contractor. It has been also decided by the council to invite limited tender from accredited agencies as per rules. Now the schedule of rate changed from approved estimate. Recasted estimate amounting to Rs. 3.50</p>
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					<p>cr submitted to CE, LSGD for revised Technical sanction.</p> <p>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</p>
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					<p>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. 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</p>
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					<p>tender from accredited agencies as per rules. Now the schedule of rate changed from approved estimate. Corporation Council dtd. 31.08.2022 approved the recasted estimate amounting to Rs. 4.50 cr and the same has been submitted to CE, LSGD for revised technical sanction. SLTC dtd. 22.09.2022 recommended the revision of AS from 3.52 cr. to 4.50 cr. and SHPSC dtd. 27.10.2022 recommended for revised admistrative sanction.</p>
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A(b)	Constructing decentralised sewerage scheme at Vachikulam covering most populated 7 divisions of Thrissur Corporation and more than 10000 houses & institutions	Thrissur Corporation	24 months	Revision estimate as per structural vetting submitted for revised TS at Chief Engineers Office TVM.	Revision estimate as per structural vetting submitted for revised TS at Chief Engineers Office TVM	2.50 MLD : Corporation Council decided to cancel the project in AMR UT -1 and proposed the same in AMR UT 2.0. vid Coun		2.50 MLD : Vide GO(Rt) No. 1926 /2022/LS GD dtd. 08.08.22, the Government constituted a committee consisting of Princ
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						<p>cil resol ution 78- A1 dtd. 08.1 2.20 22. 26th SLTC of AMR UT-1 held on 20.1 2.20 22 and 24.1 2.20 22 appr oved the same and reco</p>	<p>ipal Direc tor, LSGD , Distri ct Colle ctor, Thris sur and missi on direc tor, AMR UT to reass ess the natu re of the prop osed land for</p>
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						<p>mme nded to SHPS C. Agen da for the same place d in 32nd SHPS C of AMR UT – 1 dtd. 23.0 1.20 23. Minu tes awai ted. As per the</p>		<p>the 2.50 MLD STP site insp ectio n and meet ing of the com mitt ee was held on 20.0 8.20 22. The detai ls alon g with the</p>
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						meeting decision on 21.12.2022 Corporation submitted the application for land conversion in front of LLM C.		Principal Director, LSGD's note on the matter were submitted to the Hon'ble Chief Secretary's office on 13.09.2022. Agriculture
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									e depa rtme nt GO(R t) No. 855/ 2022 /AGR /dtd. 27.0 9.20 22 rejec ted the appli catio n dtd: 25.0 9.20 22 of Secr etary , Thris sur
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								Corporation for conversion of land. Revenue Department Letter no. REV-P1/132/2022-REV dtd. 27.09.2022 rejected the application
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								n of Hon. May or for conv ersio n of land. But as per the lette r no. 115/ NCA 2/20 21/A GRI dtd. 18.1 0.20 22 the Secr etary , Agric
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								ultur e Depa rtme nt prop osed to sub mit the lan conv ersio n matt er befo re the Secr etary (Envi ron ment depa rtme nt) for
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								furth er actio n. Revis ed tech nical sanct ion for 64.2 0 cr. obtai ned on 25.1 0.20 22.
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ACTION BY GROUND WATER DEPARTMENT

Sl. No.	Ref para item nos as per NGT Order no.673/2018 dated 20.09.2018	Activity	Progress in the month of January 2023	Progress in the month of February 2023	Progress in the month of march 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 sites selected for the implementation of artificial recharge schemes.	Artificial recharge scheme completed at Civil station compound , Ayyanthole		
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	al-shakthi- Abhiyan central team visited dug well recharge		Awareness class on		

			scheme @ Poomala PHC & coir geo textile work at Kundanthode ,Avanur GP.		groundwater resource conservation and management conducted for the elected representatives , officials, public and students in Avanur GP.		
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ACTION PLAN BY GRAMAPANCHAYATH

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

PUZHAKKAL						
Date of sampling – 08.03.2023						
SL. NO	PARAMETER	UNIT	SBA	KTH	PTU	MP
1	PH		8.11	7.72	7.97	8.17
2	EC	µs/cm	178.6	255.5	150.2	201.7
3	BOD	mg/L	2.91	0.426	2.02	1.86
4	DO	mg/L	8	3.84	6.72	4
5	COD	mg/L	4	4	4	4
6	TC	CFU/100ml	NIL	NIL	200	300
7	F C	CFU/100ml	NIL	NIL	100	200
8	FSC	CFU/100ml	NIL	NIL	NIL	NIL
SBA - NEAR SOBHA CITY, KIZHAKKUMMURI ROAD , PUZHAKKAL KTH - KURINJAKKAL THODU, PUZHAKKAL PTU - PANCHIKKAL THODU, PUZHAKKAL MP - MUPPUZHA, PUZHAKAL						

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

RIVER BHARATHAPUZHA, PALAKKAD – APRIL 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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(viii) Adopting good irrigation practices	No specific proposal	Not Applicable
(ix) Protection and management of food plain Zones (FPZ)	March 2021	A more comprehensive DPR by Irrigation Department and submitted for approval of State Government
(x) Rain water harvesting	No specific proposal	Not Applicable
(xi) Maintaining minimum Environmental flow of river	March 2021	A more comprehensive DPR by Irrigation Department and submitted for approval of State Government
(xii) Plantation on both sides of the river	No specific proposal	Not applicable
(xiii) Setting up biodiversity parks on flood plains by removing encroachment	No specific proposal	Not applicable

ACTION PLAN FOR RIVER BHARATHAPUZHA, KERALA

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of March 2023	Progress in the month of April 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 March 2023	Water quality monitoring in Bharathapuzha at Pattambi and two additional points were completed until April 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 APRIL 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)	4/4/2023					
		1	1	:	2	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	10.8m ³ /s					
12	Major polluting source	Industrial effluent		MSW	PW	None ✓	Other
13	Uses of water in downstream	Irrigation		Drinking water source ✓		Fishing	Domestic
		Organized water source		Cultivation		Bathing Ghat	Others

Sl.No	Determinants	Values
1	Temperature, 0C	31
2	Dissolved Oxygen, mg/l	6.8
3	pH	7.07
4	Conductivity, μmhos/cm	233.7
5	BOD, mg/l	2.66
6	Nitrate-N, mg/l	0.3
7	Turbidity, NTU	BDL
8	Phenolphthalein Alkalinity, mg/l	BDL
9	Total Alkalinity, mg/l	75
10	Chloride, mg/l	27.98
11	COD, mg/l	7.98
12	TKN, mg/l	0.008
13	Ammoniacal-N, mg/l	BDL
14	Hardness as CaCO ₃ , mg/l	85
15	Calcium as CaCO ₃ , mg/l	58
16	Magnesium as CaCO ₃ , mg/l	27
17	Sulphate, mg/l	5.4621
18	Calcium (Ca ²⁺), mg/l	23.2
19	Magnesium (Mg ²⁺), mg/l	6.5
20	Sodium, mg/l	15.91
21	Total Dissolved Solids, mg/l	145
22	Total Fixed Solids, mg/l	91.35
23	Total Suspended Solids, mg/l	BDL
24	Phosphate, mg/l	0.1792
25	Boron, mg/l	BDL
26	Potassium, mg/l	2.81
27	Fluoride, mg/l	0.209
28	Total Coliform, MPN/100 ml	600
29	Fecal Coliform, MPN/100 ml	300
30	Fecal Streptococcus, MPN/100 ml	60
31	% SODIUM	28.07
32	SAR	0.75

**POLLUTED RIVER STRETCH MONITORING PROGRAMME
(DATA SHEET APRIL 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)	4/4/2023									
3	Weather	Cloudy			Clear ✓			Windy		Raining	
4	Approximate depth of main stream	< 50 cm			50 – 100 cm			>100 cm ✓		Flood	
5	Color & Intensity	Clear ✓			Turbid			Green		Brown	
		1 = Light			2 = Moderate ✓			3 = High			
6	Odour	None ✓			Fishy			H ₂ S		Other	
7	Floating Matter	Floating Algae			Floating sludge			Oil & Grease		Water Hyacinth	
8	Visible effluent discharges in proximity	Industrial			Municipal sewage			None ✓			
9	Human activities around the station	Cattle wading			Tourism spot			Fishing	Bathing ✓		Other
10	Location details	U/s of town or industrial area			D/s of town or industrial area ✓			Pilgrim center/Bathing Ghat/Water intake		None	
11	Flow rate	220.8 m ³ /s									
12	Major polluting source	Industrial effluent			MSW	PW	None ✓		Other		
13	Uses of water in downstream	Irrigation			Drinking water source ✓			Fishing	Domestic		
		Organized water source			Cultivation		Bathing Ghat		Others		

Sl.No	Determinants	Values
1	Temperature, 0C	31
2	Dissolved Oxygen, mg/l	6.53
3	pH	7.17
4	Conductivity, μmhos/cm	262
5	BOD, mg/l	2.06
6	Nitrate-N, mg/l	0.3
7	Turbidity, NTU	BDL
8	Phenolphthalein Alkalinity, mg/l	BDL
9	Total Alkalinity, mg/l	88
10	Chloride, mg/l	27.98
11	COD, mg/l	6.18
12	TKN, mg/l	0.006
13	Ammoniacal-N, mg/l	BDL
14	Hardness as CaCO ₃ , mg/l	95
15	Calcium as CaCO ₃ , mg/l	60
16	Magnesium as CaCO ₃ , mg/l	35
17	Sulphate, mg/l	8.3173
18	Calcium (Ca ²⁺), mg/l	24
19	Magnesium (Mg ²⁺), mg/l	8.5
20	Sodium, mg/l	18
21	Total Dissolved Solids, mg/l	167
22	Total Fixed Solids, mg/l	108.55
23	Total Suspended Solids, mg/l	BDL
24	Phosphate, mg/l	0.128
25	Boron, mg/l	BDL
26	Potassium, mg/l	3
27	Fluoride, mg/l	0.178
28	Total Coliform, MPN/100 ml	200

**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- APRIL 2023

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

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

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

ACTION PLAN FOR RIVER BHAVANI, KERALA

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of March 2023	Progress in the month April 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 March 2023	Water quality monitoring in Bhavani at Elachivazhi and three additional points were completed until April 2023	Implemented. Will continue up to the full implementation of the action plan.	Implemented.

**POLLUTED RIVER STRETCH MONITORING PROGRAMME
(DATA SHEET APRIL 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)	4/7/2023									
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	05.86 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	6.73
3	pH	7.06
4	Conductivity, µmhos/cm	165
5	BOD, mg/l	1.35
6	Nitrate-N, mg/l	0.4479
7	Turbidity, NTU	BDL
8	Phenolphthalein Alkalinity, mg/l	BDL
9	Total Alkalinity, mg/l	64
10	Chloride, mg/l	13.99
11	COD, mg/l	4.05
12	TKN, mg/l	0.002
13	Ammoniacal-N, mg/l	BDL
14	Hardness as CaCO ₃ , mg/l	71
15	Calcium as CaCO ₃ , mg/l	55
16	Magnesium as CaCO ₃ , mg/l	16
17	Sulphate, mg/l	1.6138
18	Calcium (Ca ²⁺), mg/l	22
19	Magnesium (Mg ²⁺), mg/l	3.8
20	Sodium, mg/l	8
21	Total Dissolved Solids, mg/l	100
22	Total Fixed Solids, mg/l	63
23	Total Suspended Solids, mg/l	BDL
24	Phosphate, mg/l	BDL
25	Boron, mg/l	BDL
26	Potassium, mg/l	1
27	Fluoride, mg/l	0.162
28	Total Coliform, MPN/100 ml	300
29	Fecal Coliform, MPN/100 ml	200
30	Fecal Streptococcus, MPN/100 ml	20
31	% SODIUM	19.39
32	SAR	0.41

**POLLUTED RIVER STRETCH MONITORING PROGRAMME
(DATA SHEET APRIL 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)	4/7/2023											
		0	1	:	4	5							
3	Weather	Cloudy			Clear ✓			Windy			Raining		
4	Approximate depth of main stream	< 50 cm			50 – 100 cm ✓			>100 cm			Flood		
5	Color & Intensity	Clear ✓			Turbid			Green			Brown		
		1 = Light ✓			2 = Moderate			3 = High					
6	Odour	None ✓			Fishy			H ₂ S			Other		
7	Floating Matter	Floating Algae			Floating sludge			Oil & Grease			Water Hyacinth		
8	Visible effluent discharges in proximity	Industrial			Municipal sewage			None ✓					
9	Human activities around the station	Cattle wading ✓			Tourism spot			Fishing		Bathing ✓		Other	
10	Location details	U/s of town or			D/s of town or			Pilgrim center/Bathing		None ✓			
11	Flow rate	7.14m 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	6.66
3	pH	7.16
4	Conductivity, µmhos/cm	197.3
5	BOD, mg/l	1.33
6	Nitrate-N, mg/l	0.5518
7	Turbidity, NTU	BDL
8	Phenolphthalein Alkalinity, mg/l	BDL
9	Total Alkalinity, mg/l	85
10	Chloride, mg/l	11.99
11	COD, mg/l	3.99
12	TKN, mg/l	BDL
13	Ammoniacal-N, mg/l	BDL
14	Hardness as CaCO ₃ , mg/l	90
15	Calcium as CaCO ₃ , mg/l	65
16	Magnesium as CaCO ₃ , mg/l	27
17	Sulphate, mg/l	2.2345
18	Calcium (Ca ²⁺), mg/l	26
19	Magnesium (Mg ²⁺), mg/l	6.56
20	Sodium, mg/l	7
21	Total Dissolved Solids, mg/l	110
22	Total Fixed Solids, mg/l	75.9
23	Total Suspended Solids, mg/l	BDL
24	Phosphate, mg/l	0.0128
25	Boron, mg/l	BDL
26	Potassium, mg/l	1
27	Fluoride, mg/l	0.198
28	Total Coliform, MPN/100 ml	400
29	Fecal Coliform, MPN/100 ml	200
30	Fecal Streptococcus, MPN/100 ml	40
31	% SODIUM	14.02
32	SAR	0.32

**POLLUTED RIVER STRETCH MONITORING PROGRAMME
(DATA SHEET APRIL 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)	4/7/2023 0 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	16.32 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	30
2	Dissolved Oxygen, mg/l	6.66
3	pH	7.22
4	Conductivity, µmhos/cm	240.9
5	BOD, mg/l	1.36
6	Nitrate-N, mg/l	0.45
7	Turbidity, NTU	BDL
8	Phenolphthalein Alkalinity, mg/l	BDL
9	Total Alkalinity, mg/l	99
10	Chloride, mg/l	18.99
11	COD, mg/l	4.08
12	TKN, mg/l	0.003
13	Ammoniacal-N, mg/l	BDL
14	Hardness as CaCO ₃ , mg/l	112
15	Calcium as CaCO ₃ , mg/l	69
16	Magnesium as CaCO ₃ , mg/l	43
17	Sulphate, mg/l	3.8
18	Calcium (Ca ²⁺), mg/l	27.6
19	Magnesium (Mg ²⁺), mg/l	10.4
20	Sodium, mg/l	8
21	Total Dissolved Solids, mg/l	140
22	Total Fixed Solids, mg/l	91
23	Total Suspended Solids, mg/l	BDL
24	Phosphate, mg/l	0.352
25	Boron, mg/l	BDL
26	Potassium, mg/l	2
27	Fluoride, mg/l	0.189
28	Total Coliform, MPN/100 ml	Absent
29	Fecal Coliform, MPN/100 ml	Absent
30	Fecal Streptococcus, MPN/100 ml	Absent
31	% SODIUM	13.18
32	SAR	0.33

**NATIONAL WATER QUALITY MONITORING PROGRAMME
(NWMP -6 DATA- APRIL - 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)	4/7/2023									
		0	2	:	1	5					
3	Weather	Cloudy		Clear ✓			Windy		Raining		
4	Approximate depth of main stream	< 50 cm		50 – 100 cm			>100 cm ✓		Flood		
5	Color & Intensity	Clear ✓		Turbid			Green		Brown		
		1 = Light ✓		2 = Moderate			3 = High				
6	Odour	None ✓		Fishy			H 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	10.85m ³ /s									
12	Major polluting source	Industrial effluent		MSW	PW	None ✓		Other			
13	Uses of water in downstream	Irrigation ✓		Drinking water source ✓			Fishing	Domestic			
		Organized water source		Cultivation	Bathing Ghat		Others				

Sl.No	Determinant	Value
1	Temperature, °C	30
2	Dissolved Oxygen, mg/l	7.4
3	pH	8.06
4	Conductivity, µmhos/cm	238
5	BOD, mg/l	1.33
6	Nitrate-N, mg/l	0.3
7	Turbidity, NTU	BDL
8	Phenolphthalein Alkalinity, as CaCO ₃ mg/l	BDL
9	Total Alkalinity, as CaCO ₃ mg/l	104
10	Chloride, mg/l	17.99
11	COD, mg/l	4
12	TKN, mg/l	0.003
13	Ammoniacal-N, mg/l	BDL
14	Hardness, as CaCO ₃ mg/l	105
15	Calcium, as CaCO ₃ mg/l	60
16	Magnesium as CaCO ₃ , mg/l	45
17	Sulphate, mg/l	1.95
18	Calcium (Ca ²⁺), mg/l	24
19	Magnesium (Mg ²⁺), mg/l	10.9
20	Sodium, mg/l	10
21	Total Dissolved Solids, mg/l	140
22	Total Fixed Solids, mg/l	79.8
23	Total Suspended Solids, mg/l	BDL
24	Phosphate, mg/l	0.0192
25	Boron, mg/l	BDL
26	Potassium, mg/l	2
27	Fluoride, mg/l	0.21
28	Total Coliform, MPN/100 ml	300
29	Fecal Coliform, MPN/100 ml	100
30	Fecal streptococci, MPN/100 ml	20
31	% Sodium	16.81
32	SAR	0.42

**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 march 22 ,2023</p> <p>(I) Identified 3 drains on 10/12/2018 at the hajiya pally stretch.</p> <p>(ii) Malappuram municipality – 30 KLD. Consent application is submitted for the revamping activities . Action plan prepared through KWA</p> <p>(iii) NIL</p> <p>(iv) Activities progressing with decentralised source level treatment method and 2506 devices are distributed. New Project approved for 6000 Ring compost unit. Further steps doing for TS&E-Tender</p> <p>(v) Attached Analysis Report for the month of March 2023. More activities are progressing under the “ Thelineer Ozhukum Navakeralam “scheme</p> <p>(vi) Actions being initiated to prevent illegal waste dumping. Bio-Medical Waste collecting through IMAGE .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</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>recyclers and rejects, to KEIL through Clean Kerala Company.</p> <p>(vii) NA</p> <p>(viii) Complying</p> <p>(ix) NA</p> <p>(x) Complying</p> <p>(xi) Complying</p> <p>(xii) NA</p> <p>(xiii) NA</p>
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1.6	The discharge of waste water from the surrounding houses to the Valiyathodu - Blocking of discharge of liquid waste	Malappuram Municipality	completed	completed	completed	completed	completed	completed
1.7	Identification of illegal outlets into storm water drains and fine imposed on such units.	Malappuram Municipality	ongoing	completed	completed	completed	completed	completed
1.8	Biodegradable waste Bio gas plants- 186 Bio bins – 908 Bucket compost – 1445 Tumburmuzhi Aerobic bins - 4 Submitted proposal for 8000 ring compost systems	Malappuram Municipality	In progress	In progress	In progress	In progress	completed	Completed
1.9	Non biodegradable waste MCF & Plastic shredding and Bailing Echo Kiosk	Malappuram Municipality	Completed March 2020	Completed In progress	Completed In progress	Completed 40 mini MCF project submitted to DPC	Completed In progress	Completed Waiting for approval

1.10	Identification and monitoring of illegal activities/ CC TV Network installation	Malappuram Municipality	Ongoing	In progress	In progress	In progress	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 January2023	Progress in the month of February 2023	Progress in the month of march2023	% works Complete	Details of works remaining
2.1	River water quality Monitoring- Thirurangadi, Hajarjipally 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 January 2023	Progress in the month of January 2023	Progress in the month of march2023	% 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><i>No action included in the approved plan to be performed by Ground Water Department</i></p>	<p><i>No action included in the approved action plan to be performed by Ground Water Department</i></p>	<p><i>No action included in the approved action plan to be performed by Ground Water Department</i></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><i>No action included in the approved action plan to be performed by Ground Water Department</i></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><i>No action included in the approved action plan to be performed by Ground Water Department</i></p>				

3.4	<p>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.)</p>	<p>Ground water Department</p>		<p><i>No action included in the approved action plan to be performed by Ground Water Department</i></p>				
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**Format for Submission of Monthly Progress Report by States/UTs
(Hon'ble NGT in the matter of OA No.673/2018 dated 06.12.2019)**

RIVER TIRUR, MALAPPURAM

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

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <ul style="list-style-type: none"> (i) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment. (ii) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infra structure, Gap Analysis, Proposed along with completion timeline 	<p>Last updated report submitted was on March22,2023</p> <ul style="list-style-type: none"> (i)Identified 17 drains out of which 9 were additionally identified on 11.07.2019 (ii)<u>Tirur Fish Market STP</u>– 45 KLD- Not working condition. . Accordingly conducted site inspection by Board on 19.10.2022 to evaluate progress, No progress found. Since about 3 years repeated directions are being issued for time bound renovation of fish market STP.Aproject implementation handed over to IRTC.An estimate amount 4433000 received.The work will be awarded after getting TS from State Suchitwa Mission. (ii)<u>Tirur municipal Bus Stand STP</u>-50 KLD –Present status- All equipments are installed and three phase electrical connection obtained.Sewer line work and road work under progressing.Trial run will be conducted at the end of this month iii)NIL
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<p>(iii) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p> <p>(vii) Ground water regulation</p> <p>(viii) Adopting good irrigation practices,</p> <p>(ix) Protection and management of food plain Zones (FPZ),</p>	<p>(iv) De centralised treatment facilities, Disposal using sanitary landfills, composting operations, MRF, MCF etc. Slaughter house- completed civil work. Electrical installation works started.</p> <p>(v) Attached as Annexure II-Analysis report during the month of March 2023</p> <p>(vi) Actions are being initiated to prevent illegal waste dumping. BMW are being disposed scientifically through IMAGE. Municipality have MRF, MCF facilities</p> <p>(vii) NA</p> <p>(viii) Complying</p> <p>(ix) NA</p> <p>(x) Complying</p> <p>(xi) Complying</p> <p>(xii) NA</p>
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- (x) Rain water harvesting,
- (xi) Maintaining minimum Environmental flow of river
- (xii) Plantation on both sides of the river
- (xiii) Setting up biodiversity parks on flood plains by removing encroachment

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

ACTION PLAN FOR RIVER TIRUR, KERALA

1. IRRIGATION DEPARTMENT								
1.								
No.	Activity	Implementing agency	Time line	Progress during month of January 2023	Progress during month of February 2023	Progress during month of march2023	% works completed	Details of works remaining
1.1.1	Strengthening the right side bund of Tirur- Ponnani Puzha at Porur, ward no. I Tirur Municipality	Irrigation Department	6 Months		No progress	Nil		These two works are combined and estimate submitted for an amount of Rs 28.6Lakhs. No sanctions are approved till date..(price id-2021/4249/IA). Presently the estimate prepared in Price new Version and the estimate amounts to Rs 30.10 Lakhs and submitted in the Priority list.(GENERAL-National Green Tribunal-Rejuvenation of polluted rivers-

							Tirur- Ponnanippuzha- General Civi work,Price Id :IRR/1A/EST/4907/ 2022_5_1_1).	
1.1. 2	Cleaning and development of old Ponnani Thodu at Thazhepalam	Irrigation Department	6 Months			Nil		
1.1. 3	Repair and Rehabilitation of Koottayi Regulator cum Bridge across Tirur Ponnani Puzha in Mangalam Grama Panchayath in Malappuram Dist	Irrigation Department	18 Months	Civil work 0% and mechanical works 10%	Civil work 5% Mechanical works 90%	Investigation work on going	8%	Completion of Ring bund,Bailing out of water,Apron Extension and repair ,Cut off wall formation. Installation of new shutters with hoisting arrangements and related mechanical works.
2.TIRUR MUNICIPALITY								
No.	Activity	Implementing agency	Time line	Progress during month of January 2023	Progress during month of February 2023	Progress during month of march2023	% works completed	Details of works remaining

2.1	Provide septic tank for nearest houses	Tirur Municipality	Dec 2019	completed	completed	completed	100	NIL
2.2	Establishment of Solid waste Treatment Plant Thumboor Muzhi Model Aerobic Bin	Tirur Municipality	March 2020	completed	completed	completed	100	NIL
2.3	Establishment of Non Degradable waste treatment Plant, Resource Recovery facility, Plastic Shredding Unit Segregation shed	Tirur Municipality	March 2020	completed	completed	Completed	100	NIL
2.4	Slaughter House	Tirur Municipality	December 2020	Civil work and mechanical work on going	Civil work and mechanical work on going	Electrification work on going	90%	In progress
2.5	Fencing on Bridgeside Thalakkadathur Bridge	Tirur Municipality	December 2020	completed	completed	completed	100	NIL
2.6	Installation of CCTV Camera near the river Bank Thalakkadathur Bridge	Tirur Municipality	May 2020	Completed	completed	completed	100	NIL
2.7	Planting of Bamboo seedlings on the river bank (Thazhepalam)	Tirur Municipality	June 2020	Completed	completed	completed	100	NIL

2.8	Renovation of Effluent treatment plant at fish Market. AMC Granted ETP with Aerobic System	Tirur Municipality	June 2019	Technical sanction has not been received from suchitwa mission	No progress. As State suchitwa mission does not give sanction for new DPR of the STP plant. Hence join meeting is proposed for preparing the technical report of the status of existing STP units with IRTC members.	No progress.	No progress	(See minutes)
2.9	Setting up of STP at Private Bus stand	Tirur Municipality	June 2020	In progress. Trail run will be conducted 31 th of this month	In progress. Trial run will be conducted at the end of this month.	In progress	99.9%	In progress (See minutes)
2.10	Setting up of a new drain after demolishing the old one. The old one was the	Tirur Municipality	June 2020	Completed	Completed	Completed	100	Completed

	hub of the waste water outlet of the shops and other establishments. The proposed drain is constructing in the middle of the road so as to avoid intrusion of pipes from outside							
2.11	Identification of illegal outlets in to storm water drain sand fine shall be imposed on such units	Tirur Municipality					Fine imposing mechanism going on	NIL

3.KERALA STATE POLLUTION CONTROL BOARD

No.	Activity	Implementing agency	Time line	Progress in the month of January 2023	Progress in the month of February 2023	Progress in the month of march2023	% works completed	Details of works remaining
3.1	River water quality Monitoring- Thalakadathur National Water Quality Programme(NWMP)	KSPCB	Ongoing; Monthly frequency					Ongoing monthly frequency
3.2	River water quality Monitoring State Water monitoring programme (SWMP)	KSPCB	Ongoing; Seasonal					Ongoing seasonal
3.3	Inspection and effluent quality monitoring of the flats, Industrial units, Service stations, hospitals, auditorium, hotels in Municipal area		Ongoing; Interval; Red - 1 months					Ongoing

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

No.	Activity	Implementing agency	Time line	Progress in the month of January 2023	Progress in the month of February 2023	Progress in the month of march2023	% works completed	Details of works remaining
4.1	Protection of Tirur Ponnani River	Thalakkad Grama Panchayath handover fund to District Panchayath	31.03.2020	Completed	Completed	Completed	100	NIL
4.2	Installation of CC TV camera on YetterikadavuKunjulikkadavuMangattiri Bridge, Aikkanchiri Bridge, Paravanna Bridge	Vetom - KS SECURITY SYSTEM	Spill over due to lack of fund	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	70% protection of wall completed	Nearing completion Landscaping work remainig as per estimate
4.5	Fencing on bridge side Thalakkadathur	Cheriyamundam Grama Panchayath	March 2020	completed	completed	completed	100	NIL

5.GROUND WATER DEPARTMENT

No.	Activity	Implementing agency	Time line	Progress in the month of January 2023	Progress in the month of February 2023	Progress in the month of March 2023	% works completed	Details of works remaining
5.1.	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks (Earlier status: As per Groundwater resources of Kerala, 2017 estimate a total number of 2 blocks (Tirur and Kuttippuram) comes under the Tirur river basin. These two blocks are semi-critical blocks and the stage of groundwater extraction ranges from 77.75 % to 77.92%)	Ground water Department Therefore, to regulate ground water resources in this area, no permission is granted for packaged drinking water industries or any other water induced industries	NA	No permits issued	No permits issued	No permits issued NO ACTION INCLUDE UNDER THIS PLAN BY GROUND WATER DEPARTMENT	NA	NA
5.2	Ground water recharging / rain water harvesting (Earlier status: The average pre -monsoon groundwater level ranges from 6.14mbgl - 8.49 mbgl.)	NA	NA		NO ACTION INCLUDED UNDER THIS PLAN BY GROUND WATER DEPARTMENT	NO ACTION INCLUDE UNDER THIS PLAN BY GROUND WATER DEPARTMENT	NA	NA
5.3	Periodic ground water 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	Ground water Department			NO ACTION INCLUDED UNDER THIS PLAN BY GROUND WATER DEPARTMENT	NO ACTION INCLUDE UNDER THIS PLAN BY	NA	NA

	(Earlier status: The total irrigation draft in the area ranges from 49.14 - 870.97 ha.m.)	No Data Available. No Updation after GEC 2017. (Report not published)				GROUND WATER DEPARTMENT		
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6.REVENUE DEPARTMENT

No	Activity	Implementing agency	Timeline	Progress January 2023	Progress February 2023	Progress march2023	% 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
MARCH 2023**

SI NO	Name of point	PARAMETERS				
		P ^H	DO (mg/l)	BOD (mg/l)	COD (mg/l)	FC (cfu/100ml)
1	Drain near Tirur Railway station	Dried				
2	Thazhepalam drain	7.5	6.6	2.2	8	85
3	Naduvilangadi drain (old ponnani thodu)	Dried				
4	Annassery drain	Dried				
5	Canal at CV Land	Dried				
6	Canal at Mangalam thuruth	7.5	4	1.3	5	220
7	Canal at Pullooni	7.7	4.5	1.6	6	150
8	Drain near Mangattiri bridge	Dried				
9	Drain near Ettirikkadavu bridge	7.7	4.0	0.8	2.4	75
10	Epothingal	7.3	2.0	0.8	3.2	20
11	Asarikkadav	Dried				
12	Kandanath kadav	7.5	2.7	1.9	7.6	100
13	Pancharamoola	Dried				
14	Kakadav	7.7	4.6	1.2	4.8	125
15	Kanathkadav	7.4	3.1	1.3	5	185
16	Drain near tirur railway station	7.3	3.5	1.3	5.2	140
17	Payyanangadi(kadayithodu)	Dried				

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

<i>Sl.No</i>	Name of point	PARAMETERS				
		P ^H	DO (mg/l)	BOD(mg/l)	COD (mg/l)	FC (cfu/100ml)
<i>1</i>	Valiyangadi drain	Dried				
<i>2</i>	Valiyangadi bypass drain	Dried				
<i>3</i>	Valiyathod drain	Dried				
<i>4</i>	Hajiyarpally	7.6	8.9	2.6	7.8	90

Kerala State Pollution Control Board, District Office, Kozhikode

NATIONAL MISSION FOR CLEAN GANGA

Format for submission of monthly progress report by state/UTs

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

For the month of March 2023– Kallai polluted river stretch

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

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

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

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

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

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

ACTION PLAN FOR RIVER KALLAYI, KERALA

Kozhikode Corporation									
No.	Activity	Implementing agency	Time line	Progress in the month of DECEMBER 2022	Progress in the month of JANUARY 2022	Progress in the month of FEBRUARY 2023	Progress in the month of MARCH 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	5 notices issued	6 notices issued	2 notices issued	2 notices issued	Ongoing work	ongoing
2	Waste to energy project proposed at Njeliyamparamba	KSIDC	30.06.2021	On going	On going	On going	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 house hold wastes 300 ring compost and 150 biogas plant installed	Kozhikode Corporation	30.06.2019	Work Completed	Work Completed	Work Completed	Work completed	Work completed	
5	Setting up of rendering treatment plant for chicken stall wastes Installed in Thamarasserypanchayath. Now waste is collected from 170 units	Fresh cut agency	on trial run	Completed	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 (13 MLD) 7.1 At Kothi bridge-6 MLD plant proposed 7.2 At Avikkal -7 MLD plant proposed	Kozhikode Corporation	31.03.2020	Due to public protest , the work has been temporarily stopped on 28.04.2022	7 MLD-The case in the munsiff court ,the hearing was completed the final judgement was pronounced in favour of	7 MLD-The case in the munsiff court ,the hearing was completed the final judgement was pronounced in favour of	7 MLD-The case in the munsiff court ,the hearing was completed the final judgement was pronounced	6 MLD- Total station survey completed, construction of Fencing is complete	Construction of 6 & 7 MLT STPs and 98 KMS sewer line.

					the protesters .hence the work can be restarted after resolving the court case.	the protesters .hence the work can be restarted after resolving the court case.	in favour of the protesters .hence the work can be restarted after resolving the court case.	d..	
8	Cleaning of Canoli canal	Kozhikode Corporation	20.07.2019	completed	completed	completed	completed	100%	Completed
9	Purchasing of Solar Boat for Canoli canal cleaning	Kozhikode Corporation	31.03.2020	Project dropped	Project dropped	Project dropped	Project dropped		
10	Installation of CCTV Camera for the Identification and monitoring of illegal activities	Kozhikode Corporation	31.03.2020	Project dropped	Project dropped	Project dropped	Project dropped	Project Dropped	
11	Establishment of Mobile Septage Units	Kozhikode Corporation	31.03.2020	Project Dropped	Project Dropped	Project dropped	Project dropped		

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

15	Construction of drains at Y.M.RC Ayyankar colony	Kozhikode Corporation	31.03.2020	Work has been stopped. Contractor asked higher rate for the items which exceeds more than 25% than the tendered quantity. Details have been submitted to Kozhikode Council for approval. Same has been approved and forwarded to AMRUT SLTC for final approval. Next SLTC	Estimate scrutiny in progress at CE LSGD's office for TS approval	Estimate scrutiny in progress at CE LSGD's office for TS approval	Estimate scrutiny in progress at CE LSGD's office for TS approval	60 %	963m drainage construction remaining
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				meeting is scheduled on 20/06/2022					
16	Implementation of STP at Kottooli (13.5 MLD)	Kozhikode Corporation		Now stay order has been lifted. Additional fund is required					
17	Treatment facility for waste water in Central market	Kozhikode Corporation	EOI Process Ongoing						
18	Establishment of comfort stations	Kozhikode Corporation			50%	50%	50%	50%	COMPLETED ON MARCH 2023
19	Provide facility for MRF,RRF, Super MRF 3 units existing 19.1 Njeliyanparamb 19.2 Industrial estate 19.3 Mayor bhavanjayanthinagar colony	Suchitwa Mission	Project in progress	30%	30%	30%	30%	70%	

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

Perumanna Grama Panchayath

No	Activity	Implementing agency	Time line	Progress in the month of DECEMBER 2022	Progress in the month of JANUARY 2023	Progress in the month of FEBRUARY 2023	Progress in the month of MARCH 2023	% works completed	Details of works remaining
1	Outlets into storm water drain and issue notice	Perumanna G P, kozhikode	Continues process	7 notice issued	No notice issued			Inspection conducted regularly	
2	Establishment of six aerobic compost units in panchayat	Perumanna G P Kozhikode through MGNREGS	Dec-21	Completed	Completed	100%	100%	100% work completed	5 units will be started if public place is available
3	Collection and segregation of solid waste in the river	Perumanna G P	Continues process in every year		74%	74%		74 % work completed	
4	Setting up of residential treatment plant for chicken stall waste	Perumanna G P	Continues process	Resolution passed by Panchayat board to execute an agreement with Fresh cut,thamara ssery,kkd	Resolution passed by Panchayat board to execute an agreement with Fresh cut,thamar assery,kkd	Resolution passed by Panchayat board to execute an agreement with Fresh cut,thamar assery,kkd	Resolution passed by Panchayat board to execute an agreement with Fresh cut,thamar assery,kkd	91%	
5	Setting up of 360 soak pit plant in all houses near the river area and panchayat	Perumanna G P MGNREGS	Dec-21	119 nos completed	119 nos completed	119 nos completed	119 nos completed	Remainin g work has been suspended as lack of personal days for current year	

6	implimentation of 360 compost unit near river side and panchayat	Perumanna G P MGNREGS	Dec-21	126 nos completed	126 nos completed	126 nos completed	126 nos completed	Remainin g work has been suspended as lack of personal days for current year	
7	Implementation of water flow project (aluvangalthazhamper umbattaelamanapadam, valiyapadam. mampuzhthodenaveekarana project no 260/2021 project cost 16.67 lakhs) . it is a joint venture project by grama, block and jilla panchayat	Perumanna G P, Kozhikode block panchayat, Kozhikode jilla panchayat	Dec-21	Completed	Completed	Completed	Completed	Technical sanction obtained .tender procedure completed .including in 2021-22 plan as spillover project.	Tender has been done
8	Cleaning of mampuzha river (project name :mampuzha water flow restoration, project no 01/2018-19	Distric panchayat Kozhikode	2018-19	Completed by panchayat	Completed by panchayat	Completed by panchayat	Completed by panchayat	25 lakhs transferred to district panchayat	Work is ongoing by district panchayat ,kozhikode

9	Establishment of 18 nos of mini MCF in different wards including payyadimetal where the river is flowing	Perumanna G P MGNREGS	Dec-21	11 Nos completed	11 Nos completed	11 Nos completed	11 Nos completed	11 Nos 100%	7 units not started
10	Collection of plastic waste from the river	Perumanna G P	Continuous process	Three times completed	Three times completed	Three times completed	Three times completed	N A	Process will be done every year

Peruvayal Grama Panchayath

No	Activity	Implementing agency	Time line	Progress in the month of DECEMBER 2022	Progress in the month of JANUARY 2023	Progress in the month of FEBRUARY 2023	Progress in the month of MARCH 2023	% works completed	Details of works remaining
1	Outlet in storm water drain and issued notice	Peruvayal G P	Continuous process	5 notice issued	5 notice issued	5 notice issued	notice issued	On going	
2	Establishment of 5b units anaerobic composed unit in panchayat.	Peruvayal G P through MGNREGS	4/2021 TO 03/2021	work will commence on third week of november 2022	work will commence on third week of november 2022			NA	

3	Setting up of reentering plant for chicken solid waste	Peruvayal G P	Continuous process	Started soon	Started soon	Started soon	Started soon	100%	
4	Setting up of 379 soak pit plant in all houses	Peruvayal G P	04/2020 to 03/2021	On going	On going	on going	on going	Nil	170 will be finished within march 2021
5	Cleaning of mambuzha river (project name mambuzha renovation) project no : 190/2017-18	District panchayat Kozhikode	2017-18	Completed by Panchayat h	Completed by Panchayat h	completed by panchayat h	completed by panchayat h	25 lakhs transferred to district panchayat	Ongoing
6	Establishment of 8 numbers of mini9 MCF	Peruvayal G P through MGNREGS	4/2020 TO 2021	6 mini MCF completed	6 mini MCF Completed	6 mini MCF Completed	6 mini MCF Completed	80%	4 will started immediately
7	Collection of plastic waste from the river	Peruvayal G P	Continuous process	3 times collected	3 times collected	3 times collected	3 times collected	100%	Continuous process
8	Collection and segregation of solid waste in the river	Peruvayal G P	Continuous process	3 times collected	3 times collected	3times collected	3times collected		Continuous process
9	Establishment of Bio gas plant	Peruvayal G P	2020-21	26 numbers completed	26 numbers completed	26 number completed	26 number completed	70%	Work will be completed by the end of february 2023

10	Well recharge	Peruvayal G P through MGNREGS	2020-21	78 numbers completed	78 number completed	78 number completed	78 number completed	82%	Work will be completed by the end of february 2023
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MavoorGp									
No	Activity	Implementing agency	Time line	Progress in the month Of DECEMBER 2022	Progress in the month of JANUARY 2023	Progress in the month of FEBRUARY 2023	Progress in the month of MARCH 2023	% Work completed	Details of work remaining
1	MCF	MavoorGp	31.03.2019	Completed and functioning	Completed and functioning	Completed and functioning	Completed and functioning	100%	Nil
2	Fish market construction	MavoorGp	31.03.2019	Completed and functioning	Completed and functioning	Completed and functioning	Completed and functioning	100%	Nil
3	Ring compost	MavoorGp	31.03.2019	Completed and functioning	Completed and functioning	Completed and functioning	Completed and functioning	100%	NIL(190 units)
4	Tree plantation in river side	MGNREGS	Completed	Completed	Completed	Completed	Completed	100%	NIL(3500 units)
5	Compost pit	MGNREGS	Completed	Completed	Completed	completed	completed	100%	NIL(1000 units)
6	Well recharge	MGNREGS	31.03.21	Estimate prepared	TENDER PROCESS	TENDER PROCESS	TENDER PROCESS		2 units (Buds school, Ayurveda dispensary)
7	Bucket compost	MavoorGp	31.03.21	completed	completed	completed	completed	100%	502 units

8	Collection of non biodegradable waste	MavoorGp	Througho ut the year	Ongoing	Ongoing	Ongoing	Ongoing		
9	Transportation of waste material to refinement unit	Clean kerala company	2022-23	Ongoing	Ongoing	Ongoing	Ongoing		
10	Cleaning of Cherupuzha (Kuniyakadav to Thenghilakadav)	Mavoor G P	2022-23	Completed	Completed	Completed	Completed	100%	1500 Meter
11	ValayannorThodu Cleaning	MGNREGS	2022-23	Estimate under preparation	TENDER PROCESS	TENDER PROCESS	TENDER PROCESS		115 meter
12	AryankodeKalchiraThodu Cleaning	MGNREGS	2022-23	Estimate under preparation	TENDER PROCESS	TENDER PROCESS	TENDER PROCESS		115 meter
13	Drainage cleaning in Mavoor Town	Mavoor GP	2022-23	Estimate under preparation	TENDER PROCESS	PROJECT DROPPED	PROJECT DROPPED		
14	Ring compost	Mavoor GP	2022-23	Project approved	Project approved	Project approved	Project approved		

OLAVANNA GRAMAPANCHAYAT

No	ACTIVITY	IMPLIMENTING AGENCY	TIMELINE	PROGRESS IN THE MONTH OF DECEMBER 2022	PROGRESSING THE MONTH OF JANUARY 2023	PROGRESSING THE MONTH OF FEBRUARY 2023	PROGRESSING THE MONTH OF MARCH 2023	% WORKS COMPLETED	DETAILS OF REMAINING WORK
1	Collection of plastic waste from the river	Olavannagrama panchayat	Continous process	4 times collected	4 times collected	4 times collected	Ongoing	80%	Process continuing
2	Collection of segregation of solid waste in the river	Olavannagrama panchayat	Continous process	5 times collected	5 times collected	5 times collected	On going	100%	Process continuing
3	Establishment of Mini MCF in all wards	Olavannagrama panchayat through MGNREGS	4/2020 To 3/2021	2 Mini MCF Completed	2 Mini MCF Completed	4 Mini MCF Completed	4 Mini MCF ONGOING		Remaining will started immediately
4	Cleaning of Mambuzha river	Olavannagrama panchayat	Continous process					81%	Process continuing
5	Well recharge	Olavannagrama panchayat through MGNREGS	4/2022 To 3/2023	8 No's completed	8 No's completed	8 No's completed	8 No's completed		Work will be completed by the end of March 2023
6	Setting up of compost pit in houses	Olavannagrama panchayat through MGNREGS	4/2022 To 3/2023	48 No's completed	48 No's completed	48 No's completed	48 No's completed	15%	Work will be completed by the end of March 2024

7	Action taken against dumping of waste into river	Olavannagrama panchayat	Continous process				Not reported	84%	Continuing
8	Collection of non biodegradable waste	Haritharmasena	Throughout the year				Not reported		Continuing

Irrigation Department

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of January 2023	Progress in the month of February 2023	Progress in the month of March2023	% works completed	Details of works remaining
1	Desilting of Kallayi river from Kaduppini to Kothiin Kozhikode Corporation	Irrigation department	31.03.21	Tender for desilting of Kallai submitted to Govt. for approval				
2	Provide fencing on the sides of the Bridge	Irrigation department	31.03.21	DPR was submitted to SE,INC ,KKD on 16.10.2019 for Rs 773.05 lakhs and 43.05 for fencing of 5 bridges ,revised DPR submitted				

				to Superintending Engineer for rs 47.2 lakhs vide letter number D1/GL/NGT/2019 dated 28.01.2023		
3	Dredging, Desilting & removal of weeds from E K Canal (11.2 km)	Irrigation department	31.07.19	Work entrusted to Kerala water ways & infrastructure Ltd (KWIL)		
4	Bio Park in Kozhikode District	Irrigation department		Land for the proposed bio park is to be demarcated by the Revenue Authorities after necessary boundary survey and subsequent bio cover works are to be done by Social Forestry Department		
5	Flood Prone Mapping in Kozhikode District	Irrigation department		Action to be taken by the hydrology wing of irrigation department as this needs data collection, scientific analysis and modeling		

Kerala State Pollution Control Board

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of January 2023	Progress in the month of February 2023	Progress in the month of March 2023	% works completed	Details of works remaining
1	River water quality monitoring- KallayiriverNational Water Quality Monitoring Programme(NWMP)	KSPCB	Ongoing; monthly frequency					
2	River water quality monitoring– Kallayi rivers State Water Monitoring Programme, KSPCB fund (SWMP)	KSPCB	Ongoing. Seasonal monitoring– pre- monsoon, monsoon, post- monsoon					
3	Inspection and effluent quality monitoring of the flats, industrial units, service stations, hospitals, hotels etc . in Malappuram Municipal area	KSPCB	Ongoing Interval: Red–					

			1month. Orange – 3 months. Green – 6 months.					
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Suchitwa Mission								
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of NO January 2023	Progress in the month of February 2023	Progress in the month of March2023	% works completed	Details of works remaining
1	Board displaying messages against dumping to be placed in river banks	Suchitwa Mission	15.07.19					

Action Plan by Ground Water Department

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

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

Action plan by irrigation Department

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of January 2023	Progress in the month of February 2023	Progress in the month of March 2023	% works completed	Details of works remaining
E	Dredging and desilting	Irrigation Dept	3 years			Sub mit ted Go vt for app rov al		
E	E-flow (by micro water shed management)	Irrigation Dept	3 years			Acti on to be take n by Hyd rolo gy wing		

E	Flood plain zone (protection and management)	Irrigation Dept	3 years			Action to be taken by Hydrology wing		
E	Greenery development (plant in trees on thebanks)	Irrigation Dept	3 years					

Kerala State Pollution Control Board, District Office, Kozhikode

NATIONAL MISSION FOR CLEAN GANGA

Format for submission of monthly progress report by state/UTs

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

For the month of March 2023–Kuttiady polluted river stretch

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

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

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

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

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

<p>(v) latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river</p> <p>(vi) preventing dumping of waste and scientific waste management including bio-medical waste plastic waste and decentralizing waste processing, including waste generated from hotels, ashrams, etc.</p>	<p>03/2021</p> <p>31/10/2024</p>	<p><u>ChakkittaparaPanchaya</u> <u>th</u> House Hold plastic waste collected as per the guidelines of SuchithwaMission .</p> <p><u>Payyoli</u> <u>Municipality</u> One temporary MCF exist & 18 mini MCF under construction.Construction of permanent MCF going on. To be complete by September 2022</p> <p><u>ThurayurGramaPanc</u> <u>hayath</u> House hold plastic waste collected as the guideline of Suchitwa mission</p> <p><u>KuttyadiGramaPanchay</u> <u>ath</u> Report attached</p> <p>Water quality monitoring result for the month of August 2022 is attached as Annexure-4</p> <p><u>ChakkittaparaPanchaya</u> <u>th</u> No details available</p> <p>Same as Item no. 5.1(v) Biomedical waste from Hospital,labs ,clinics collected through image, plastic waste disposal through recyclers.Individual solid waste processing facilities like bio gas plant, bio bins in high</p>

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

<p>(ix) protection and management of flood plain zones(FPZ),</p>	<p>31/10/2024</p>	<p>NIL</p>
<p>(x) Rain waterharvesting</p>	<p>Work in progress</p> <p>31/10/2024</p> <p>03/2021</p>	<p><u>Velompanchayath</u> 22527 rain water pit , well recharge – 1500 houses</p> <p><u>Kavilumparapanchaya</u> <u>th</u>well recharge – 160 houses</p> <p><u>Maruhtonkarapancha</u> <u>yath</u>Well recharge-work completed</p> <p><u>Cheruvanoorpanchaya</u> <u>th</u>Well Recharge – Project in progress</p> <p><u>ThurayurGramapanc</u> <u>hayath</u> Project for well water and well recharge is in progress as per the action plan of MGNREGS</p> <p><u>ChakkittaparaPanchayat</u> <u>h</u> Project for well water pit and well recharge adopted</p> <p><u>KuttyadiGramapanchay</u> <u>ath</u> Project for rain water pit and well recharge adopted</p>
<p>(xi) Maintaining minimum environmental flowof river</p>	<p>31/10/2024</p>	<p><u>Kavilumparapanchaya</u> <u>th</u> Adopted steps to remove sands and rock dumped durig rain flood</p> <p><u>Maruhtonkarapancha</u> <u>yah</u></p>

		03/2021	<p>74 works ongoing under MGNREGS(RWH, soil Conservation). <u>Kavilumparapanchayath</u> 5 works ongoing under MGNREGS for protection of river sides <u>ChakkittaparaPanchayath</u> River Originating area, Noticed environment flow <u>PayyoliMunicipality</u>Rejuvenation/cleaning of Naivaranithodu by removing slit and other solid wastes-Work in Progress <u>ThurayurGramapanchayath</u> River originating area , Noticed environmental <u>KuttyadiGramapanchayath</u> Rain water storage pits provided to house. <u>ChakkittaparaPanchayath</u> Bamboo planting will be done in MGNREGS <u>ThurayurGramapanchayath</u> Bamboo planting will be done only by the direction of governing council <u>KuttyadiGramapanchayath</u> Bamboo and Ramacham planted on the banks of kuttiadi river</p>
(xii) Plantation on bothsides of theriver		03/2021	

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

ACTION PLAN FOR RIVER KUTTIYADI, KERALA

KuttyadiGramapanchayath									
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2022	Progress in the month of JANUARY 2023	Progress in the month FEBRUARY 2023of	Progress in the month of March 2023	% works completed	Details of works remaining
D	Geo textiles at river bed	MGNREGS	31.03.2018	100%	100%	100%	100%	100%	Completed
E	Harithasahayastapan a agreement	KuttyadiGramapanchayath	31.03.2020	Completed	Completed	Completed	Completed	100%	Agreement signed with south side Resource Management
C(ii)	Removal of Non bio degradable waste	KuttyadiGramapanchayath	31.03.2020	Completed	Completed	100%	100%	100%	Completed
C(ii)	Clean green kuttyadi	KuttyadiGramapanchayath	31.03.2020	100%	100%	100%	100%	100%	Plastic collection from home Completed
A(b)	Community toilet	Suchitwa mission	31.03.2020					100%	Completed

C(ii)	MRF	Block panchayath	31.03.2020	Nil	Nil	Ni	Ni	Nil	Completed
C(ii)	MCF	KuttyadiGramapanchayath	31.03.2019			Extending of MCF		100%	Mcf REPAIRING ONGOING
A(b)	Sanitary latrine	KuttyadiGramapanchayath	31.03.2019	50%	50%	99%		99%	1%
B(ii)	Well recharging	MGNREG	31.03.2019	Nil	Nil	Nil	Nil	Nil	Nil
E	Camera surveillance	KuttyadiGramapanchayath	completed					100%	completed
E	Rejuvenation of Kuttyadi river	MGNREGS	31.03.2020	50%	50%	100%	100%	100%	completed
C(ii)	Disposal of non degradable bio waste	KuttyadiGramapanchayath	31.03.2020	99%	99%	100%	100%	100%	completed
E	Clean Village	KuttyadiGramapanchayath	31.03.2020	99%	99%	100%	100%	100%	completed
C(ii)	MRF	Block Panchayat	31.03.2020	Na	Na	Na	Na	100%	completed
C(ii)	MCF	KuttyadiGramapanchayath	31.03.2020	100%	100%	100%	100%	100%	completed
C(ii)	Retrofitting	KuttyadiGramapanchayath	31.03.2020	100%	100%	100%	100%	100%	Nil

VelamGramaPanchayath

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month DECEMBER 2022	Progress in the month of JANUARY 2023	Progress in the month of FEBRUARY 2023	Progress in the month of march 2023	% works completed	Details of works remaining
C(ii)	Govardhian Biogas plant	Velam GP	31.03.2020		100	100	COMPLETED	100	completed
C(ii)	MCF	Suchitwa mission	31.03.2020		100	100	COMPLETED	100	completed
C(ii)	Biogas plant 50 No.s	Suchitwa mission	31.03.2020						
B(ii)	Well recharge 1500 houses	MGNREGS	31.03.2020		50	50	50	50	Nil
	Installation of Biogas plant for individual beneficiaries	Socio Economic unit Foundation	31.12.2019		5 nos	5 nos	5nos		0
C(ii)	Installation of Ring compost	Socio Economic unit Foundation	31.12.2019		14	14	221		0
C(ii)	Making compostpit	MGNREGS	31.0.2020	5	19	19	25		20

Maruthomkara Grama Panchayath

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of DECEMBER 2022	Progress in the month of JANUARY 2023	Progress in the month of FEBRUARY 2023	Progress in the month of March 2023	% works completed	Details of works remaining
C(ii)	MRF	Block panchayath	2019-2020	Completed	Completed	Completed	Completed	100%	Completed
C(ii)	Biogas plant	Maruthomkara GP	2019-2020	completed	Completed	Completed	Completed	100%	Completed
B(ii)	Well recharge	Maruthomkara GP	2019-2020	completed	Completed	Completed	Completed	100%	Completed
A(b)	Sanitary complex	Maruthomkara GP	2019-2020	completed	Completed	Completed	Completed	100%	Concrete Completed
E	Harithasahayath apana agreement	Maruthomkara GP	2019-2020	completed	Completed	Completed	Completed	100%	Completed
	Biobin for home	Maruthomkara GP	2021-2022	Completed	Completed	Completed	Completed	100%	
	Nidival River Cleaning	Maruthomkara GP	2021-2022	Completed	Completed	Completed	Completed	100%	
C(ii)	Biogas plant	Maruthomkara GP	31.03.2020			28 completed	28 completed		
A(b)	Sanitary Complex	Maruthomkara GP	31.03.2020						

PerambraGrama Panchayat

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of DECEMBER 2022	Progress in the month of JANUARY 2023	Progress in the month of FEBRUARY 2023	Progress in the month of March 2023	% works completed	Details of works remaining
E	Harithasahaya sthapan agreement	Perambra gramapanchayat	31.03.2020	HSS identified	HSS identified	HSS identified	HSS identified		
C(ii)	Solid waste removal	Perambra gramapanchayat	31.03.2020	completed	completed	completed	completed	completed	Fortnight collection of non biodegradable waste from houses is being continued
C(ii)	Zero waste Perambra	Perambra gramapanchayat	31.03.2020	Completed	Completed	Completed	Completed	100%	
A(b)	Publictoilet	Perambra gramapanchayat	31.07.2019	Commissioned	Commissioned	Commissioned	Commissioned	100%	
C(ii)	MCF	Perambra gramapanchayat	31.10.2019	Commissioned	Commissioned	Commissioned	Commissioned	95%	Electrification tender

Kavilumpara Grama Panchayath

No. (as per Action Plan).	Activity	Implementing agency	Time line	Progress in the month of DECEMBER 2022	Progress in the month of JANUARY 2023	Progress in the month of FEBRUARY 2023	Progress in the month of March 2023	% works completed	Details of works remaining
E	Harithasahayasthan agreement	Kavilumpara GP	30.03.2023	Completed	Completed	Completed	completed	100% Completed	NA
C(ii)	Collection of non-biodegradable waste	Kavilumpara GP	30.03.2023	Collected	Collected	Collected	Collected	100 % Completed	
C(ii)	MCF	Kavilumpara GP	30.03.2023	Completed	Completed	Completed	Completed	100% Completed	NA
B(ii)	Well recharge	MGNREGS	30.03.2023	RECEIVED 5 APPLICATIONS ACCORDED	nil	nil	nil	NIL	Work Started
D	River cleaning	Kavilumpara GP	30.03.2023	NA	NA	NA	NA	100%	

Chakkittapara Grama Panchayath

No.(as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of DECEMBER 2022	Progress in the month of JANUARY 2023	Progress in the month of FEBRUARY 2023	Progress in the month Of March 2023	% works completed	Details of works remaining
D	Removal of pebbles dumped if any	MGNREGS	31.03.2020	Nil	Nil	Nil	Nil		Nil
E	Harithasahayastapana agreement	Chakkittapara Grama Panchayath	31.03.2020	Completed	Completed	Completed	Completed	100%	Nil
C(ii)	Removal of Non bio degradable waste	Chakkittapara Grama Panchayath	31.03.2020	Completed	Completed	Completed	Completed	100%	Nil
A(b)	Community toilet	Suchitwa mission	31.03.2020					100%	Nil
C(ii)	MCF	Chakkittapara Grama Panchayath	31.03.2020					100%	Nil
A(b)	Sanitary latrine	Chakkittapara Grama Panchayath	31.03.2020	86.6%	86.6%	86.6%	86.6%	86.6%	
B(ii)	Well recharging	MGNREG	31.03.2020	38.4%	38.6%	50%	50%	38.6%	

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

CheruvannurGramapanchayath

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of January 2023	Progress in the month of FEBRUARY 2023	Progress in the month of March 2023	% works completed	Details of works remaining
E	HarithaSahayaSthapana agreement	Cheruvannur GP	31.03.2020	Completed	Completed	Completed	100%	Nil
C(ii)	Collection of plastic waste	Cheruvannur GP	31.03.2019	Completed	Completed	Completed	100 %	Nil
A(b)	Repairing of households toilets	Cheruvannur GP	31.03.2020	Completed	Completed	Completed	100%	Nil

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

Koorachund Grama Panchayat

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of DECEMBER 2022	Progress in the month of JANUARY 2023	Progress in the month of FEBRUARY 2023	Progress in the month of March 2023	% works completed	Details of works remaining
	Setting up of MCF	Koorachund GP	31/06/2022	ongoing	Ongoing	Ongoing	Ongoing	95%	Ongoing
	Collection of non degradable waste	Koorachund GP harithakarmasena	Throughout the year	collected	collected	collected	collected	100%	Ongoing
	Transportation of waste material	Green worms	Throughout the year	ongoing	ongoing	ongoing	ongoing	90%	Ongoing
896	Renewal/constructi on of public toilet Take a Break	Koorachund GP MGNREGS	31/09/2022	ongoing	ongoing	ongoing	ongoing	90%	Ongoing
859	Brook cleaning	Koorachund GP MGNREGS	31/05/2022	ongoing	ongoing	ongoing	ongoing	80%	Ongoing
1211	Setting up of mini MCF	Koorachund GP MGNREGS	31/09/2022	ongoing	ongoing	ongoing	ongoing	65%	Ongoing
199	Well recharge	Koorachund GP MGNREGS	Throughout the year					65%	Ongoing
	Cleaning of AthiyodithoduTheleineerozhukumNava keralam	Koorachund GP MGNREGS	31/05/2022	ongoing	Ongoing	Ongoing	Ongoing	100%	completed

Thiruvallur Grama Panchayat

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of DECEMBER 2022	Progress in the month of JANUARY 2023	Progress in the month Of FEBRUARY 2023	Progress in the month Of March 2023	% works completed	Details of works remaining
1	drainage cleaning	Thiruvallur GP	2020-21	Completed	Completed	Completed	Completed	100%	Nil
2	harithasahayasthabana agreement	Thiruvallur GP	2020-21	Completed	Completed	Completed	Completed	100%	Nil
3	Removal of non bio degradable waste	Thiruvallur GP	2020-21	Completed	Completed	Completed	Completed	100%	Nil
4	Community toilet	suchitwamission	2020-21	nil	Nil	Nil	Nil		
5	MCF	Thiruvallur GP	2020-21	started	Started	Started	Started		Due to social assault work temporarily stopped.MCF functioning in a rental building
6	non recyclable inorganic waste hand over to clean kerala company	Thiruvallur GP	2020-21	Nil	Nil	Nil	Nil		Negotiation on progress

7	Waste management project to veterinary hospital	Thiruvallur GP	2020-21	nil	Nil	Nil	Nil		Letter send to AE ,LSGD for preparing deep burial pit
8	Renovation of various canals	Thiruvallur GP	2020-21	Completed	Completed	Completed	Completed	100%	Nil
9	Toilet to schools, anganvadies and bus stand	Thiruvallur GP	2020-21	Started.	Started.	Started	Started		Work completed up to lintel level bus stand building construction project started

Thurayur Grama Panchayat

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of DECEMBER 2022	Progress in the month of JANUARY 2023	Progress in the month of FEBRUARY 2023	Progress in the month of March 2023	% works completed	Details of works remaining
	Removal of pebbles dumped if any	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	Harithasahayasthabana agreement	Thurayur GP	31.03.2020	Completed	Completed	Completed	Completed	100%	Nil
	Removal of non bio degradable waste	Thurayur GP	31.03.2020	Completed	Completed	Completed	Completed	100%	Nil
	Community toilet	SUCHITWA MISSION	31.03.2020	Nil	Completed	Completed	Completed	100%	Nil
	MCF	Thurayur GP	31.03.2020	Completed	Completed	Completed	Completed	100%	Nil
(b)	Sanitary latrine	Thurayur GP	31.03.2020	Nil	Nil	Nil	Nil	Nil	
li)	Well recharge	MGNREGS	31.03.2020	Nil	Nil	Nil	Nil	Nil	
	Rejuvenation of kuttiadi river	MGNREGS	31.03.2020	Nil	Nil	Nil	Nil	Nil	
	Disposal of non degradable bio waste	Thurayur GP	31.03.2020	80%	90%	90%		90%	Collection directly from houses
	Clean village	Thurayur GP	31.03.2020	Nil	Nil	Nil	Nil		
li)	MCF	Thurayur GP	31.03.2020					partial	Basement

			1						completed
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Maniyur Grama Panchayat

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of DECEMBER 2022	Progress in the month of JANUARY 2023	Progress in the month of FEBRUARY 2023	Progress in the month of March 2023	% works completed	Details of works remaining
15	innovation of canals	MGNREGS	2020-21	15 canals innovation completed	15 canals innovation completed	15 canals innovation completed	15 canals innovation completed	100%	Nil
68	innovation of streams	MGNREGS	2020-21	17 streams innovation completed	17 streams innovation completed	17 streams innovation completed	17 streams innovation completed	100%	51
2	innovation of streams	Maniyur GP	2020-21	2 streams innovation completed	2 streams innovation completed	2 streams innovation completed	2 streams innovation completed	100%	Nil
21	building up of mini MCF	MGNREGS	2020-21	Work of 9 mini MCF completed	Work of 9 mini MCF completed	Work of 9 mini MCF completed	Work of 9 mini MCF completed	43%	12
21 wards	collection of non-bio degradable waste	Harithakarmasena Maniyur GP	2022-23	Plastic waste in five wards was removed in April month 2022	Plastic waste in five wards was removed in April month 2022	Plastic waste in five wards was removed in April month 2022	Plastic waste in five wards was removed in April month 2022	38%	Plastic waste in 16 wards
	Well recharge	MGNREGS	2020-21					86%	24%

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

CHANGAROTH GRAMAPANCHAYATH

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of DECEMBER 2022	Progress in the month of JANUARY 2023	Progress in the month of FEBRUARY 2023	Progress in the month of March 2023	% Works completed	Details of works remaining
C(ii)	Setting up of MCF	Changaroth GP	Sep-19	Completed	Started procedure acquire land from irrigation department	Started procedure acquire land from irrigation department	Started procedure acquire land from irrigation department	Completed	Completed
C(ii)	Collection of non-biodegradable waste	Haritha karma sena	throughout the year	275kg	275kg	275kg	275 kg	-	-

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

PAYYOLI MUNICIPALITY

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of DECEMBER 2022	Progress in the month of JANUARY 2023	Progress in the month of FEBRUARY 2023	Progress in the month of March 2023	% works completed	Details of works remaining
	Included in the watershed area based development master plan.A municipal level committee formed for monitoring	Payyolimunicipality,Irrigation department	31.12.2021	Preparing the estimate	Preparing the estimate	Preparing the estimate	Preparing the estimate	NA	Work in progress

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

Irrigation Department

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of JANUARY 2023	Progress in the month of FEBRUAR Y 2023	Progress in the month of March 2023	% works complete d	Details of works remaining
E	Salt water Extrusion - Construction of RCB upstream of Perincherikadavu across Kuttiady river (Gulikapuzha) in Kozhikode District	Irrigation Dept	July 31 2022					
C(ii)	Fencing the sides of Bridges to prevent dumping of wastes - 5 no's	Irrigation Dept	July 31 2022					

Kerala State Pollution Control Board

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of NOVEMBER 2022	Progress in the month of DECEMBER 2022	Progress in the month of JANUARY 2023	% works completed	Details of works remaining
1	River water quality monitoring- KUTTIYADI river National Water Quality Monitoring Programme(NWMP)	KSPCB	Ongoing; monthly frequency		ongoing	Ongoing;		
2	River water quality monitoring- Kuttiyadi rivers State Water Monitoring Programme, KSPCB fund (SWMP)	KSPCB	Ongoing. Seasonal monitoring- pre- monsoon, monsoon, post- monsoon		ongoing	ONGOING		
3	Inspection and effluent quality monitoring of the flats, industrial units, service stations, hospitals, hotels etc . in KUTTIYADI area	KSPCB	Ongoing Interval: Red- 1 month. Orange - 3 months. Green - 6 months.		Inspection conducted pig farm	Inspection conducted pig farm		

Note - As per analysis report the fecal coliform high and it is observed that it is due to the illegal outlets . inspection was conducted in the pig farm situated in Chakkittapara gramapanchayath and it is found that from the unit there is one pipe is connected to river side . Show cause notice was issued to the unit.Necessary follow up will be done from this office .The inspection conducted on 14/122022 by Board officials found

The solid waste as well as C And D waste could be seen near sampling point puzhayoram, A drain with water flow could be found at the upstream sampling point Gulikapuzha. Waste water from a residential building named Rifa apartment near sampling point 8 (KSRTC) mixing with river water at upstream



KERALA STATE POLLUTION CONTROL BOARD

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

Regional Office, Kochi

REGIONAL OFFICE, KOCHI

3rd Floor, Central Building, Park Road, Fort Kochi - 682 002



ANALYSIS REPORT OF RIVER WATER

Report No.	K R O R 4 6 2 2 / 1 to 5	Date:	1 7 0 4 2 0 2 3
Date of Sample Collection	0 6 0 3 2 0 2 3	Date of receipt of the sample	0 8 0 3 2 0 2 3
Sampled by:	RL KKD	Time	Hours: 0 1 : 0 0
Sampling Method	APHA1060B,3	Sample ID	KL1, KL2, KL3, KL5, & KL6
Sample container	PC 25 L	Sample Lab Code	KROS-4622/1-5
Source:	KALLAI RIVER WATER	Ref. letter No.	PCB/KO/03/Refined/river/water/03/ KL 1, KL2, KL3, KL5
Specific sampling location:	GIVEN BELOW	Received from:	EE,DO,KKD
Sample preservation:	Ice box	Period of analysis:	08.03.2023-31.03.2023
		No. of samples	5
		Analysed by:	NO/CVM/CNR
		Method:	Standard Methods for the examination of Water and Wastewater, APHA AWWA WEF (22 nd Ed.)

Sl no	Parameters	Unit	Method No.	SAMPLE ID				
				KL 1	KL 2	KL 3	KL 5	KL 6
1	pH	-	APHA 4500-H ₊ J	6.93	7.36	7.49	7.88	7.6
2	CONDUCTIVITY	µmhos/cm	APHA 2550B	28220	33110	35640	54100	57090
3	BOD	mg/L	5310B (Part 44)	19.2	7	4.8	4.4	3
4	DISSOLVED OXYGEN	mg/L	APHA 4500-O ₂ C	5.6	4.13	1.93	3.93	5.07
5	TOTAL COLIFORM	CFU/100ml	APHA 9222B	3100	4000	6000	30000	160
6	FECAL COLIFORM	CFU/100ml	APHA 9222B	1900	31000	4000	29000	120
7	FECAL STREPTOCOCCUS	CFU/100ml	APHA 9230 C	240	560	240	640	20
8	TEMPERATURE	°C	APHA 2550B	30	30	30	29	29

TEST METHOD variation: None

Remarks: LOD-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 .

AE 1 OK 6 9 3

Signature: 17/4/2023 Scientist in charge

88 17/4/23

255 (2) 17/4/23



KERALA STATE POLLUTION CONTROL BOARD

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

REGIONAL OFFICE, KOTTIKODE

3RD FLOOR, KATTIKODE ROAD, KOTTIKODE, TRAVANCORE - 686 011

Handwritten date: 30/03/23
Circular stamp: Kerala State Pollution Control Board

ANALYSIS REPORT OF RIVER WATER

Report No.	K R O S 4 6 3 5 / 1 to 8	Date:	3 0 0 3 2 0 2 3
Date of Sample Collection	2 1 0 3 2 0 2 3	Date of receipt of the sample	2 1 0 3 2 0 2 3
Sampled by:	RE, KKD	Time	Hours: 1 7 : 0 0
Sampling Method	APHA1060B.a	Sample ID	DS1, DS2, DS3, DS4, DS5, DS6, DS7, DS8
Sample container	PO 2.5 L	Sample Lab Code	KROS:4635/1-8
Source:	KUTTYADI RIVER WATER	Ref.letter No.	KROS/1060B/1060B/2023, Date: 21.03.2023
Specific sampling location:	GIVEN BEI, DM	Received from:	EE, DG, KKD
Sample preservation:	Ice box	Period of analysis:	21.03.2023-29.03.2023
		No. of samples	8
		Analysed by:	MJ/CVR/CNR
		Method: Standard Methods for the examination of Water and Wastewater, APHA AWWA WEF (22 nd Ed.)	

Sl no	Parameters	unit	Method No.	SAMPLE ID							
				DS1	DS2	DS3	DS4	DS5	DS6	DS7	DS8
1	pH	-	APHA 4500-H+2	6.26	6.6	6.75	6.83	6.76	6.71	7.4	7.18
2	CONDUCTIVITY	µmhos/cm	APHA 2510B	58.14	44.24	37.55	25.09	28.78	51.25	100.2	55.91
3	BOD	mg/L	1530.25 (Part 44)	0.53	0.93	0.67	0.33	0.73	0.8	0.8	0.73
4	DISSOLVED OXYGEN	mg/L	APHA 4500-O/C	8.4	7.4	6.2	7.47	8.2	5.6	7.53	6.4
5	TOTAL COLIFORM,	CFU/100ml	APHA 9222B	2300	4200	7700	3700	780	1100	5100	1500
6	FECAL COLIFORM	CFU/100ml	APHA 9222D	1700	2800	4100	1800	500	800	2600	1100
7	FECAL STREPTOCOCCUS	CFU/100ml	APHA 9230 C	70	270	110	50	10	40	200	20
8	TEMPERATURE	°C	APHA 2550B	26	29	29	27	29	27	27	30

Test method variation: None

Remarks: LOD-Lower Detection Limit, RDL-Robust Detection Limit

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

BEI

DA 643

Handwritten signature and date: 30/3/2023

Scientist in charge

Handwritten notes: 30/3/23, 625(a), 31/03/23

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		
	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 KAVVAI, KERALA

Action Plan of LocalBody								
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of April 2022	Progress in the month of May 2022	Progress in the month of June 2022	% works completed	Details of works remaining
A (b)	Sanitation Facility Septage treatment facility shall be provided by Local Bodies in various places.	Payyannur municipality						
C(ii)	Biodegradable waste disposal Bio bins (2061) Pit Compost (10992) Bio gas Plant (687)	Payyannur Municipality	2022					
A(b)	Non biodegradable Waste Disposal MCF and RRF	Payyannur Municipality	2022					
E	Awareness Youth, Asha workers and other stake holders and Haritha sahaya Samithi	Payyannur Municipality	Ongoing project					
E	Installation of CCTV cameras at major points	Kankol	2019					
C(ii)	Biodegradable waste disposal Bio bins, Pit Compost, Bio gas	Kankol	Ongoing					

	Plant(2460 Nos)							
A(b)	Non biodegradable Waste Disposal MCF	Kankol	Ongoing project					
E	Awareness Youth, Asha workers and other stake holders	Kankol	Once in a month					
A (b)	Sanitation Facility in markets	Ramanthali GP	2020					
A(b)	Non Biodegradable waste disposal MCF	Ramanthali GP	2020					
A (b)	Drain Cleaning and side protection	Ramanthali GP	2022					
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 April 2022	Progress in the month of May 2022	Progress in the month of June 2022	Progress in the month of October 2021	Details of works remaining
E	Desilting and rejuvenation of NarangaThodu in Payyannur Municipality	Irrigation Department	2020					

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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 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 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 publicplaces.

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		
	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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(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 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 April 2022	Progress in the month of May 2022	Progress in the month of June 2022	% works completed	Details of works remaining
Udayagiri GP								
A (b)	Sanitation Facility	Udaya giri GP	03/2020					
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					
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					
C (ii)	Biodegradable waste disposal		03/2022					
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)	Identific ation of illegal outlets in to drains and stoppage of the same	Pariyaram Panchayat	09/2019					
Madayi GP								
A (b)	Sanitation Facility	Local Body	2022					
C (ii)	Biodegradable waste disposal	Ward Sanitation Committee of Local body	Bio bins, pit compost -2022 Thumpoormuzhi = 2020					
C (ii)	Non bio degradable Waste Disposal	Haritha Karma sena	On going project					

E	Awareness	Youth, Asha workers and other stake holders	On going project					
A (b)	Identification of illegal outlets in to drains and stoppage of the same	Local Body	2022					
Thalipparamba Municipality								
A (b)	Sanitation Facility	Municipality						
C (ii)	Biodegradable waste disposal							
C (ii)	Non bio degradable Waste Disposal	Haritha Karma sena						
E	Awareness	Youth, Asha workers and other stake holders	Once in a month					
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 April 2022	Progress in the month of May 2022	Progress in the month of June 2022	% works completed	Details of works remaining
1	Providing fencing on Kuppam bridge (NH) across Kuppam river at Thalipparamba in Thalipparamba Municipality	Irrigation department	2021					
2	Providing Fencing on Pazhayangadi Bridge across Kuppam River at Pazhayangadi	Irrigation Department	2021					
3	Regualting activites in flood plain zone, protection and management of flood plain zone	Irrigation Department	3 years					
4	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					

5	Issues relating to E- flow, maintaining minimum environmental flow of river(by having watershed management provisions)	Irrigation Department	3 years					
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Combined ActionPlan

	Proposed action	Agency	Timeline	Progress in the month of April 2022	Progress in the month of May 2022	Progress in the month of June 2022	% works completed	Details of works remaining
1	Provide toilets 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 Suchitwa Mission, Revenue department	Proposed Construction Of new community Toilet at satellite points on the bank of river					
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 be provided	Municipalities and local bodies	One project year					
6	Providing proper waste handling facility. For wastewater and solid wastes	Local body	One project year					
7	Rendering plant for poultry wastes	Local body	As per their project and					

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

Action Plan by Ground WaterDepartment

Sl.No	Ref para no:48 as per NGT order 673/2018 dated:20.09.2018	Activity	Progress in the month of April 2022	Progress in the month of May 2022	Progress in the month of June 2022	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over expolited as critical zones/blocks					
2	B(ii)	Ground water recharging / rain water harvesting					

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

National Mission for Clean Ganga

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

RIVER PERUVAMBA, KANNUR

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		

	<ul style="list-style-type: none">• Member Secretary,CPCB		
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<p>6.1</p>	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(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 January 2021	Progress in the month of February 2021	% 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 implementati on in progress
C(ii)	Non biodegradable Waste Disposal MCF and RRF	PayyannurMunicipality	Ongoin g				1	MCF & RRF in function
E	Awareness Youth, Asha workers	PayyannurMunicipality	Ongoin g	90%	90%	90%	ongoi ng	ongoing

	and other stake holders and HarithasahayaSamithi		project					
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 stakeholders	Kankol Alappadamba GP	–	Once in a month					
A(b)	Sanitation Facility No markets and houses on the bank	Ramanthali GP			Available	Available	Available	80%	
C(ii)	Non Biodegradable waste disposal MCF and sending to RRF	Ramanthali GP		2020	no	Yes	yes	80%	
E	Drain Cleaning and Side protection	Ramanthali GP		2022	Done	Done	Done	70%	
E	Awareness Youth, Asha workers and other stakeholders	Ramanthali GP		2022	Done	Done	Done	80%	
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	Ring Compost- 100 Compost Pit – 0 Biogas Plant –	Ring Compost- 290 Compost Pit – 0 Biogas Plant –	100%	

				Plant-10	0	0		
	Action Plan by Irrigation Department							
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of December 2020	Progress in the month of January 2021	Progress in the month of February 2021	% works completed	Details of works remaining
E	Providing fencing on Perumbabridge (NH) across Perumbariver at Payyannur in Payyannur Municipality	Irrigation department	2021					
E	Desilting and reconstruction of salt water exclusion cross bar across perumbathodu in Payyannur Municipality MI Class II Plan fund	Irrigation Department	2021					
E	Desilting and repair of salt water exclusion cross bar across	Irrigation Department	2020					

	Koykottuvayal thodu inKunhimangalam Panchayath 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	3 years					
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					

E	Issues relating to E-flow, maintaining minimum environmental flow of river (by having watershed management provisions) By Micro watershed management for a period of 2 years with a fund of 0.25 Crore from the available fund	Irrigation Department	2 years					
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 February 2021	% 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	All local bodies, SuchitwaMission						

	Proposed construction of newcommunity Toilet at satellite points on the bank of river	, 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 facilityis provided.	PollutionControlBoar d, Health authority						
5	Household waste Adequate number of Kitchen bins shall beprovided	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 e) surveyed area and also in the catchment of the river i) Verify whether consent to operate of the Board exists	Pollution Control Board	Six months					
10	Sanitation survey should be done Sanitation survey is to be conducted for 100m on either side of the other parts of polluted stretch if any located nearby	Pollution Control Board	Six months					
11	Awareness for residence	Suchitwa Mission/	Once in a					

	association	LSGD/Corporation	month					
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ACTION BY GROUND WATER DEPARTMENT

Sl. No.	Ref para item nos as per NGT Order no.673/2018 dated 20.09.2018	Activity	Progress in the month of December 2020	Progress in the month of January 2021	Progress in the month of February 2021	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks (Earlier Status : As per Groundwater resources of Kerala, 2017 estimate a total number of 2 blocks (Neeleswaram and Payyannur) comes under the Peruvamba river basin. All the blocks in the river stretch are safe with stage of groundwater extraction ranges from 34.85% to 69.52%)					
2	B(ii)	Ground water recharging / rain water harvesting (Earlier Status :The average pre -monsoon groundwater level ranges 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		
	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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(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 April 2022	Progress in the month of May 2022	Progress in the month of June 2022	% works completed	Details of works remaining
A (b)	Sanitation Facility	Pariyaram GP	03/2020					
C (ii)	Biodegradable waste disposal	Pariyaram GP	03/2022					
C (ii)	Non bio degradable Waste Disposal	Pariyaram GP	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	Madayi GP	09/2019					
A (b)	Sanitation Facility	Madayi GP	2022					
C (ii)	Biodegradable waste disposal	Ward Sanitation Committee of Local Body	2022					
E	Awareness	Youth, Asha workers and other stake holders	On going					

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 Soakpit
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 waste disposal.

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 April 2022	Progress in the month of May 2022	Progress in the month of June 2022	% works completed	Details of works remaining
C (ii)	Providing fencing on Ramapurambridge across Ramapuramriver at Madayi GP	Irrigation department	2021					
E	Desilting and repair of salt water exclusion cross bar at Ramapuram in cheruthazham GP	Irrigation Department	2020					
E	Regualtingactivites in flood plain zone, protection and management of flood plain zone	Irrigation Department	-3 years	-			-	
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					
E	Issues relating to E-flow, maintaining minimum environmental flow of river(by having watershed management provisions)	Irrigation Department	2 years					

Combined Action Plan

	Proposed action	Agency	Timeline	Progress in the month of April 2022	Progress in the month of May 2022	Progress in the month of June 2022	% works completed	Details of works remaining
A (b)	Provide toilets 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 Suchitwa Mission, Revenue department	Proposed Construction Of new community Toilet at satellite points on the bank of river					
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 in their respective wards. Aerocomposting and Material Collection Facility should be given in all wards near the river bank.	Pollution Control Board , Health department	Check they have board consent and sanitation facility is provided					
C (ii)	Adequate number of kitchen bins shall be provided	Municipalities and local bodies	Six months					

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

Action Plan by Ground Water Department

Sl.No	Ref para no:48 as per NGT order 673/2018 dated:20.09.2018	Activity	Progress in the month of April 2022	Progress in the month of May 2022	Progress in the month of June 2022	% works completed	Details of works remaining
1	B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks					
2	B(ii)	Ground water recharging / rain water harvesting					
3	B(iii)	Periodic ground waste quality assessment and remedial actions in case of contaminated ground water tube wells/bore wells or hand pumps					
4	B(iv)	For regulating use of ground water for irrigation purpose, adopting good irrigation practices					

25/04/23

POLLUTED RIVER STRETCH WATER QUALITY MONITORING PROGRAMME March 2023

Station Name		KAVVAVI RIVER/RIVER			
Type of Water body		ISAI, ISA2, PO SA			
Completed by		KERALA STATE POLLUTION CONTROL BOARD			
Agency		KERALA STATE POLLUTION CONTROL BOARD			
Date and time of sample taken	18-03-2023	18-03-2023	18-03-2023	06-03-2023	
Sl.No	Determinants	Kankol	Karkuzhithodu	Thattarakadavu Bridge	Kuttiyol palam
1	Temperature, 0C	30	30	31	29
2	Dissolved Oxygen, mg/l	4.6	4.2	6.1	3.27
3	pH	6.7	8.11	7.15	6
4	Conductivity, μ mhos/cm	254	265	54100	121.7
5	BOD, mg/l	2.2	2.86	3.4	2.27
6	Turbidity, NTU	1.8	3.1	2.2	1.6
7	Total Alkalinity, mg/l	14	22	80	25
8	Chloride, mg/l	46	28	22600	31
9	Ammoniacal-N, mg/l	0.321	0.0256	0.8582	BDL
10	Hardness as CaCO ₃ , mg/l	28	22	7600	23
11	Calcium as CaCO ₃ , mg/l	24	14	3900	15
12	Magnesium as CaCO ₃ , mg/l	4	8	3700	8
13	Sulphate, mg/l	56.3	58.063	121.56	BDL
14	Phosphate, mg/l	0.0816	BDL	BDL	BDL
15	Fluoride, mg/l	1.1	0.4	0.66	0.46
16	Total Coliform, MPN/100 ml	400	780	560	700
17	Fecal Coliform, MPN/100 ml	200	600	480	300

5-04-2023

Axeesha K M
Assistant Scientist

Kerala State Pollution Control Board
District Office, Kannur-570002

POLLUTED RIVER STRETCH WATER QUALITY MONITORING PROGRAMME March 2023

Station Name		PERUMBA RIVER			
Type of Water body		RIVER			
Completed by		JSA1,JSA2,PGSA			
Agency		KERALA STATE POLLUTION CONTROL BOARD KANNUR			
Date of sample taken		24.3.2023	24.3.2023	13-03-2023	18-03-2023
SIN	Determinants	KACHERKADVU	MATAHAMAGALAM	CHANDAPURA	KANDAKALI
1	Temperature, 0C	30	29	30	31
2	Dissolved Oxygen, mg/l	6.22	6.1	2.27	5.26
3	pH	6.31	6.31	5.3	7.21
4	Conductivity, μ mhos/cm	148.2	137.5	91.9	46200
5	BOD, mg/l	1.24	1.1	1.8	2.34
6	Turbidity, NTU	2.1	2.2	5.1	2.6
7	Total Alkalinity, mg/l	22	19	36	88
8	Chloride, mg/l	19	18	13	22000
9	Ammoniacal-N, mg/l	0.0623	0.0662	0.343	0.8581
10	Hardness as CaCO ₃ , mg/l	18	20	19	8200
11	Calcium as CaCO ₃ , mg/l	6	14	16	6600
12	Magnesium as CaCO ₃ , mg/l	12	6	3	1600
13	Sulphate, mg/l	11.63	11.82	BDL	362.5
14	Phosphate, mg/l	0.026	0.082	BDL	BDL
15	Fluoride, mg/l	BDL	BDL	2.16	0.84
16	Total Coliform, MPN/100 ml	520	680	300	800
17	Fecal Coliform, MPN/100 ml	320	260	100	620

Shubh
25/03/23

Aravind

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

POLLUTED RIVER STRETCH WATER QUALITY MONITORING PROGRAMME March 2023

RAMAPURAM RIVER

RIVER

JSAI,JSAS2,PGSA

KERALA STATE POLLUTION CONTROL BOARD KANNUR

Station Name	Kerala State Pollution Control Board Kannur				
Type of Water body	River				
Completed by	JSAI,JSAS2,PGSA				
Agency	Kerala State Pollution Control Board Kannur				
Date of sample	17-03-2023	17-03-2023	06-03-2023	17-03-2023	
SL.No	Determinants	KAPUCAL	ATHIYADAM	RAMAPURAM	VAYALAPRA
1	Temperature, (0C	30	30	30	31
2	Dissolved Oxygen, mg/l	4.8	5.5	3.73	4.62
3	pH	5.82	6.21	6.3	8.11
4	Conductivity, µmhos/cm	158.3	236.4	36900	46200
5	BOD, mg/l	2.2	2.26	3	3.8
6	Turbidity, NTU	0.1	3.2	3.1	2.1
7	Total Alkalinity, mg/l	32	38	77	76
8	Chloride, mg/l	24	31	10200	16000
9	Ammoniacal-N, mg/l	0.1211	0.062	0.4242	0.4421
10	Hardness as CaCO ₃ , mg/l	26	25	3500	6800
11	Calcium as CaCO ₃ , mg/l	19	17	2900	4800
12	Magnesium as CaCO ₃ , mg/l	7	8	600	4000
13	Sulphate, mg/l	23.62	28.66	101.2	229.32
14	Phosphate, mg/l	BDL	BDL	BDL	BDL
15	Fluoride, mg/l	BDL	BDL	0.1016	BDL
16	Total Coliform, MPN/100 ml	400	880	800	800
17	Fecal Coliform, MPN/100 ml	200	420	400	420

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05/04/2023

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

POLLUTED RIVER STRETCH WATER QUALITY MONITORING PROGRAMME March 2023

KUPPAM RIVER
RIVER
JSA1, JSA2, PGSA

KERALA STATE POLLUTION CONTROL BOARD KANNUR

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	21-03-2023	21-03-2023	06-03-2023	21-03-2023	21-03-2023	21-03-2023	21-02-2023
Sl.No	Determinants						
1	Temperature, 0C	32	31	31	30	30	30
2	Dissolved Oxygen, mg/l	5.24	5.66	4.4	5.32	5.26	6.22
3	pH	6.08	6.82	6.5	6.66	6.32	7.62
4	Conductivity, μ mhos/cm	44900	41300	38000	40200	40600	38100
5	BOD, mg/l	3.68	2.86	1.87	2.82	2.22	1.86
6	Turbidity, NTU	1.8	1.4	3.1	2.2	2.3	2.1
7	Total Alkalinity, mg/l	82	77	41	52	762	52
8	Chloride, mg/l	18000	16000	14800	14400	14000	11000
9	Ammoniacal-N, mg/l	0.8281	0.7721	0.972	0.062	0.0566	0.868
10	Hardness as CaCO ₃ , mg/l	4800	3100	3800	4600	2800	2000
11	Calcium as CaCO ₃ , mg/l	2800	1800	1800	2600	1500	1600
12	Magnesium as CaCO ₃ , mg/l	2000	1300	2000	2000	1300	1400
13	Sulphate, mg/l	325.6	382.47	228.5	120.6	181.32	152.69
14	Phosphate, mg/l	BDL	BDL	0.1872	BDL	BDL	BDL
15	Fluoride, mg/l	BDL	BDL	0.93	BDL	BDL	BDL
16	Total Coliform, MPN/100 ml	400	720	900	800	750	680
17	Fecal Coliform, MPN/100 ml	200	420	400	560	480	450


 Assistant Scientist
 Kerala State Pollution Control Board
 District Office, Kannur-670004

1.Kavvayi

Sl.no	Drain	BOD on March 2023	Remarks
1	Kotti thodu	No water	Waste disposal from side by shops, Hotels, nearby mosque,Black colour sludge .
2	School ground thodu	No water	
3	Kalikadapuram thodu	No water	
4	Koorikadavu	No water	Drain covered with mud ,plastic wastes
5	Uliyathu kadavu	5.2	Plastic waste seen , black color water with h ₂ s smell. No change in water from last month
6	Kallatu kadavu	No Water	Small amount of water which cannot be fetched
7	Muttathu kadavu	4.2	Plastic waste seen.
8	Vadipram thodu	Small amount of water which cannot be fetched	One side is full of plastic waste , Small amount of water which cannot be fetched

2.Peruvamba

	Drain	BOD on March 2023	Remarks
1	Naranga thodu	4.8	High amount of Plastic waste ,no water .
2	Perumba thodu	4.2	Plastic waste was noticed, water with smell, nearby shopping complex shops are dumping waste.

3	Valliohmethodu	4.2	Water with Plastic waste.
4	Panapuzha thodu	No Water	
5	Poomkottu Chal	1.38	Plastic waste seen side wise road.
6	Manjangottu Thode	No Water	
7	Kannelanthodu	No Water	
8	Appithodu	No Water	
9	Mavullapoyil thodu	No Water	Plastic waste,
10	Kollali thodu	No water	Small amount of water
11	Kannada thodu	No Water	
12	Koyakkotu thodu Thokadu	No Water	
13	Cherottuvayal thodu	No water	
14	Kayyil arakulam thodu Kunjimagalam puzha	3.96	
15	Tatlanvayal thodu	No water	

3. Ramapuram thodu

Sl.no	Drain	BOD on March 2023	Remark
1	Kapugal thodu	A little water cannot fetch	

2	Chembali kundu	4.28	Plastic waste and floating bottles are noticed.
3	Kulapram kundan thodu Kavilavalapu thodu	3.32	
4	Aduthila thodu	No water	
5	Ottayi thodu	No Water	
6	Moolakadavu	No Water, Black Sludge	Oil presence in water, decayed organic materials are seen ,

4.Kuppam

Sl.no	Drain	BOD on March 2023	Remarks
1	Karuvanchal	1.82	
2	Karthikapuram	No water	Plastic waste was noticed
3	Near Udayagiri Bridge	1.1	
4	Mukkada Thodu	No Water	
5	Moonamkunnu Thodu	1.2	
6	Kuttaparamba-Neduvodu Thodu	No Water	Plastic waste, are floating in water and the thodu is full of plastic wastes coming from upstream and so
7	D/S of Alakode Hospital	No water	Bridge construction going on

8	Pathayachira	1.6	Turbid water present with high Plastic waste.
9	Near the houses on bank of main River (@ Pariyaram GP)	3.22	
10	Near House Boat @ Pariyaram GP	2.28	
11	Kavinmunabu	No Water	
12	Manja Thodu	2.46	
13	Sulthan Thodu	2.59	Floating waste is seen, plastic and intestinal waste of animals are floating.
14	Cheru thodu	No water	Full of Black sludge, and plastic and dry log ,highly polluted thodu

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 Progress Report may be comprised of details along with completion timelines on:

- (I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.
- (II) Status of STPs, I&D and sewerage networks Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline
- (III) Status of CETPs
Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status
- (iv) Status of Solid Waste Management & Details of Processing Facilities
Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline
- (v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;
- (vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic

	<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 APRIL 2023
RIVER MOGRAL, KASARGOD

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of February 2023	Progress in the month of March 2023	Progress in the month of April 2023	% works completed	Details of works remaining
C	Material collection facility	Mogral Puthur Grama Panchayath	March 2020	Completed	Completed	Report not submitted	100 %	NA
C	Waste collection including vehicle hire charge to collect waste.	Mogral Puthur Grama Panchayath	March 2020	NIL	NIL	Report not submitted	0 %	
E	Installation of camera	Mogral Puthur Grama Panchayath	June 2020	NA	NA	Report not submitted	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	Report not submitted	100 %	NA

C(ii)	Haritha Karmasena Activity/ Collecting Non Bio degradable materials including Plastics from households	Mogral Puthur Grama Panchayath	On-going	Started	Started	Report not submitted	75%	
C(iii)	Bamboo Capital Bamboo Planting- aiming water conservation and raising water levels thus preventing solid erosion, waste dumping in public places	Mogral Puthur Grama Panchayath	On-going	Completed	Completed	Report not submitted	100 %	NA
E	River cleaning	Mogral Puthur Grama Panchayath	2019	Completed	Completed	Report not submitted	100 %	NA
C(iii)	Bamboo Plantation of Madhur	Madhur grama Panchayath	2019	Report not submitted	18500 being maintained by NREGA	18500 being maintained by NREGA	100 %	NIL
C(ii)	Viability Gap Funding for Haritha Karmasena	Madhur grama Panchayath	2019	Report not submitted	Total Amount Rs 250000/- Expenditure RS 75000/-	Total Amount Rs 250000/- Expenditure RS 249965/-	72.9%	NIL
C(ii)	Material recovery facility centre	Madhur grama	2019	Report not submitted	Completed	Completed	100%	Completed

		Panchayath		submitted				
C(ii)	Construction of Plastic Shredding Machine building	Madhur grama Panchayath	2019	Report not submitted	Completed	Completed	100 %	Completed
C(ii)	Purchase of Plastic shredding machine	Madhur grama Panchayath	2019	Report not submitted	Completed		-	Yet to float tender
C	Tying of net on both sides of the bridge	Irrigation Department	2019-2020	DPR submitted to Chief Engineer (Price ID: 2019/10715/IA) for approval. Present status reported to Superintending Engineer, Minor Irrigation Circle, Kozhikode on 20.07.2021	DPR submitted to Chief Engineer (Price ID: 2019/10715/IA) for approval. Present status reported to Superintending Engineer, Minor Irrigation Circle, Kozhikode on 20.07.2021	DPR submitted to Chief Engineer (Price ID: 2019/10715/IA) for approval. You are hereby 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	DPR submitted to Chief Engineer (Price ID:2019/10715/IA) for approval.	Work still under process.

						that NH department itself undertakes and executes the said works in connection with the upgradation of NH 66		
A(a)	Water quality monitoring	KSPCB	Being done regularly					

Sd/-

Environmental Engineer

National Mission for Clean Ganga

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

RIVER UPPALA, KASARGOD

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

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

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of February 2023	Progress in the month of March 2023	Progress in the month of April 2023	% works completed	Details of works remaining
C(ii)	Material collection facility. Operation	Mangalpady Grama Panchayath	2019	NIL	Not submitted the report	NA	50%	After monsoon work will complete
C	Waste management including purchase of vehicle to collect waste.	Mangalpady Grama Panchayath/ Green Space Private company	2019- 2020	Project taken for promoting Haritha karma sena activities	Not submitted the report	Rented Vehicle	-	New projects will plan for the protection of river Uppala.
E	Installation of camera	Mangalpady Grama Panchayath	March 2020	Project got wetting Survey done by Keltron, Work order sent to Keltron	Not submitted the report	Work completed		Project will be completed within 31.03.2023
C	Electrification of material collection facility	Manjeshwaram Grama Panchayat	2019-2020	Electrified	Electrified	Electrified	100%	Completed
C	Transportation of collected waste	Manjeshwaram Grama Panchayat	March 2020	waste transported	waste transported	460 Kg waste transported		Work yet to be completed.

E	Installation of camera	Manjeshwaram Grama Panchayat	March 2020	New Project formulated to Install 6 CC Cameras, project amount deposited to Keltron and work started by Keltron	New Project formulated to Install 6 CC Cameras, project amount deposited to Keltron and work started by Keltron	New Project formulated to Install 6 CC Cameras, project amount deposited to Keltron and work started by Keltron		Tendered
C	Tying of net on both sides of the bridge	Irrigation Department	2019-2020	DPR submitted to Chief Engineer (Price ID: 2019/10825/IA) for approval. Present status reported to Superintending Engineer, Minor Irrigation Circle, Kozhikode on 20.07.2021	DPR submitted to Chief Engineer (Price ID: 2019/10825/IA) for approval. Present status reported to Superintending Engineer, Minor Irrigation Circle, Kozhikode on 20.07.2021	DPR submitted to Chief Engineer (Price ID: 2019/10825/IA) for approval. You are here by 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		Work still under process.

						NH 66		
E	Continuous vigil on waste dumping on roads	Police Department	100% Completed					
A(a)	Water quality monitoring	KSPCB	Being done regularly					

Sd/-

Environmental Engineer

MOGRAL RIVER - MOGRAL BRIDGE (Existing NWMP Station)			
Sampling Point		Mogral Bridge	
NWMP Station Code		2304	
Latitude		12°33'36.5"N	
Longitude		74°57'21.0"E	
Date of Sampling		20.04.2023	
Nature and flow of the river		Medium flow, water level decreased	
Sl.No	Parameters	Unit	Mogral Bridge
1	Temperature	°C	29
2	pH	-	7.65
3	Conductivity	µmhos/cm	61700
4	Turbidity	NTU	0.3
5	BOD	mg/l	2.1
6	Dissolved Oxygen	mg/l	5.6
7	Total Coliforms	cfu/100ml	740
8	Feacal Coliforms	cfu/100ml	236
9	Feacal Streptococcus	cfu/100ml	80
10	Chlorides	mg/l	20600
11	Total Alkalinity	mg/l	108
12	Total Hardness	mg/l	7200
13	Calcium Hardness	mg/l	5500
14	Magnesium Hardness	mg/l	1700
15	Calcium	mg/l	2200
16	Magnesium	mg/l	413.1
17	Total Dissolved Solids	mg/l	36800
18	Sodium	mg/l	11231
19	Potassium	mg/l	337

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		20.04.2023	
Nature and flow of the river		Water level decreased, Medium flow	
Sl.No	Parameters	Unit	Puzhakkara
1	Temperature	°C	29
2	pH	-	7.51
3	Conductivity	µmhos/cm	14800
4	Turbidity	NTU	0.8
5	BOD	mg/l	1.9
6	Dissolved Oxygen	mg/l	5.2
7	Total Coliforms	cfu/100ml	140
8	Feacal Coliforms	cfu/100ml	60
9	Feacal Streptococcus	cfu/100ml	10
10	Chlorides	mg/l	4700
11	Total Alkalinity	mg/l	38
12	Total Hardness	mg/l	2000
13	Calcium Hardness	mg/l	1200
14	Magnesium Hardness	mg/l	800
15	Calcium	mg/l	480
16	Magnesium	mg/l	194.40
17	Total Dissolved Solids	mg/l	8810
18	Sodium	mg/l	2490
19	Potassium	mg/l	85

Sd/-
Assistant Scientist

UPPALA RIVER - UPPALA BRIDGE (Existing NWMP Station)			
Sampling Point		Uppala Bridge	
NWMP Station Code		2306	
Latitude		12°41'41.7"N	
Longitude		74°54'16.9"E	
Date of Sampling		20.04.2023	
Nature and flow of the river		Moderate flow, water level decreased	
Sl.No	Parameters	Unit	Uppala Bridge
1	Temperature	° C	29
2	pH	-	7.41
3	Conductivity	µmhos/cm	62400
4	Turbidity	NTU	0.2
5	BOD	mg/l	2
6	Dissolved Oxygen	mg/l	5.5
7	Total Coliforms	cfu/100ml	890
8	Feacal Coliforms	cfu/100ml	392
9	Feacal Streptococcus	cfu/100ml	90
10	Chlorides	mg/l	20600
11	Total Alkalinity	mg/l	93
12	Total Hardness	mg/l	9100
13	Calcium Hardness	mg/l	7600
14	Magnesium Hardness	mg/l	1500
15	Calcium	mg/l	3040
16	Magnesium	mg/l	364.5
17	Total Dissolved Solids	mg/l	37200
18	Sodium	mg/l	10650
19	Potassium	mg/l	240

UPPALA RIVER - UPPALA RIVER NEAR BHAGAVATHI TEMPLE (Bhagavathi Gate) - (Proposed NWMP Station)			
Sampling Point		Uppala River Near Bhagavathi Temple (Bhagavathi Gate)	
Distance from existing NWMP Station		878.66 m	
Latitude		12°41'20.1"N	
Longitude		74°54'34.0"E	
Date of Sampling		20.04.2023	
Nature and flow of the river		Water level decreased, moderate flow	
Sl.No	Parameters	Unit	Uppala River Near Bhagavathi Temple
1	Temperature	° C	29
2	pH	-	7.43
3	Conductivity	µmhos/cm	28700
4	Turbidity	NTU	1
5	BOD	mg/l	1.3
6	Dissolved Oxygen	mg/l	5.5
7	Total Coliforms	cfu/100ml	410
8	Feacal Coliforms	cfu/100ml	208
9	Feacal Streptococcus	cfu/100ml	40
10	Chlorides	mg/l	9200
11	Total Alkalinity	mg/l	25
12	Total Hardness	mg/l	3200
13	Calcium Hardness	mg/l	1800
14	Magnesium Hardness	mg/l	1400
15	Calcium	mg/l	720
16	Magnesium	mg/l	340.2
17	Total Dissolved Solids	mg/l	17520
18	Sodium	mg/l	5100
19	Potassium	mg/l	168

Sd/-
Assistant Scientist