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KERALA STATE POLLUTION CONTROL BOARD

Pattom P.O., Thiruvananthapuram – 695 004

PCB/HO/EE3/NGT/673/2018 Date:4.08.2020

From

The Member Secretary
Kerala State Pollution Control Board

To

The Secretary
Ministry of Jal Shakti
Department of water Resources, River Development and Ganga Rejuvenation
Shram Shakti Bhawan
Rafi Marg
New Delhi-110001

Subject: Forwarding of Monthly Progress Report of June 2020 – reg.

Ref: Copy of presentation made on 30.07.2020 in the 4th meeting of CMC held through Video Conferencing regarding 351 polluted river stretches based on the directions of Hon'ble NGT in the matter OA No. 673 of 2018, received through e-mail on 31.07.2020

Sir,

The Monthly Progress Reports of June 2020 regarding all the 21 polluted river stretches in Kerala based on the directions of Hon'ble NGT in the matter OA No. 673 of 2018 were submitted through e-mail on 18.07.2020 to ckenviroengg@gmail.com , ap.singh71@gov.in, ruby.raju@nmcg.nic.in, manish_lko23@yahoo.co.in, Deepesh.cpcb@nic.in and deepesh.valsan@gmail.com.

Now in compliance with the instructions forwarded along with the copy of presentation, which was made on 30.07.2020 in the 4th meeting of CMC held under the Chairmanship of Secretary, DoWR,RD&GR, Ministry of Jal Shakti, received through e-mail on 31.07.2020, as "MPRs are submitted in 40 different files in word and excel

format and State to submit one signed compiled PDF copy of MPR to NMCG," signed compiled PDF copy of MPR is submitted herewith for kind information and necessary action.

Yours faithfully,

Member Secretary

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)

<table>
<tr><th>Sl. No.</th><th>Activity to be monitored</th><th>Timeline</th><th>Submission of Progress by State/UT-Compliance Status</th></tr>
<tr><td>1.</td><td>Ensure 100% treatment of sewage at least in situ remediation</td><td>31.03.2021</td><td>
Total Sewage Generation in Kerala: 3759.28 MLD
Total Sewage Treatment capacity in the state: 124.315 MLD
Total septage treatment capacity in the state: 0.2 MLD
Gap in Sewage Treatment in the state: 3635.24 MLD
Total Sewage Treatment in the state out of installed capacity: 55.04 MLD
No. of functional STPs in the state: 9
No. of functional septage treatment plants in the state: 2

*The sewage generated in the state is treated by septic tank - soak pit system or STP. Individual septic tank - soak pit systems are provided for households and small establishments. Individual STPs are provided for establishments such as flats, hotels, hospitals, etc. There is no open defecation in the state.

Details of existing STPs/Septage treatment plants in the State:
<table>
<tr><th>Sl. No.</th><th>City/Town</th><th>STP location</th><th>Status</th><th>STP Installed capacity</th></tr>
<tr><td>1</td><td>Thiruvananthapuram</td><td>Common Sewage Treatment Plant, Muttathara, Trivandrum Maintained by Kerala Water Authority</td><td>Operational</td><td>107 MLD</td></tr>
</table>
</td></tr>
</table>

				2	Pathanamthitta	Sewage Treatment Plan at Sannidhanam (5MLD) Maintained by Travancore Devaswom Board	Seasonally Operated during festival season	5 MLD	
						Sewage Treatment Plan at Pamba (3.5 MLD) Maintained by Travancore Devaswom Board	Seasonally Operated during festival season	3.5 MLD	
				3	Kottayam	STP for Houseboat (0.09 MLD) at Kumarakom Maintained by District Tourism Promotion Council, Kottayam	Operational	90 KLD	
				4	Ernakulam	Sewage treatment unit, Kerala Water Authority, Elamkulam, Ernakulam(3 MLD)	Operational	4.5MLD	
						STP owned by Greater Cochin Development Authority,Kad avanthra, Kochi (0.45 MLD)	Operational	0.45 MLD	
						Septage Tratment Plant at Brahmapuram Kochi Corporation, Ernakulam	Operational	0.1 MLD	
						Septage Tratment Plant at Wellington Island, Kochi Corporation	Operational	0.1 MLD	

5	Kannur	Sewage treatment Plant at Taliparambu (0.5MLD) Taliparambu Municipality, Kannur	Operational	0.5MLD
6	Thrissur	Sewage treatment Plant at Guruvayur in Thrissur District	Not yet commissioned	3 MLD
7	Malappuram	Sewage treatment Plant- at Malappuram Municipal Bus stand	complying	0.03 MLD
		Sewage treatment Plant- at Tirur (fish market)	complying	0.045 MLD

Details of proposed STPs/FSTPs in the State:

Sl. No.	Plant	Place	Capacity (MLD)	Status of the project	Funding Scheme
1.	STP	Municipal Bus Stand, Tirur	0.050	Obtained technical sanction for DPR, Tendering stage	Suchitwa Mission
2.	STP	Comfort station, Adimaly Grama Panchayat, Idukki	0.06	Obtained technical sanction for DPR, Under construction	Suchitwa Mission
3.	FSTP	Cherthala municipality, Alappuzha	0.250	DPR preparation	Suchitwa Mission
4.	STP	Kannur Corporation	1.0	DPR preparation stage	Amrut
5.	STP	Palakkad Municipality	0.8	DPR preparation stage	Amrut
6.	STP	Thrissur Corporation	5	DPR preparation	Amrut

					stage	
7.	STP	Kozhikode Corporation	13	DPR preparation stage	Amrut
8.	STP	Kochi Corporation Ward 15	1.4	DPR submitted for technical sanction	Amrut
9.	STP	Kochi Corporation Ward 16	1.1	DPR submitted for technical sanction	Amrut
10.	STP	Kochi Corporation Ward 17	1.4	DPR submitted for technical sanction	Amrut
11.	FSTP	Andamukkam, Kollam Corporation	0.1	Obtained technical sanction for DPR, Tendering stage	Amrut
12.	FSTP	Vasoorichira, Kollam Corporation	0.1	Obtained technical sanction for DPR, Tendering stage	Amrut
13.	FSTP	Karikkuzhiela, Kollam Corporation	0.1	Obtained technical sanction for DPR, Tendering stage	Amrut
14.	FSTP	Ramapuram, Thrissur Corporation	0.1	Obtained technical sanction for DPR, Tendering stage	Amrut
15.	FSTP	Yakkara, Palakkad Municipality	0.1	Obtained technical sanction for DPR, Tendering stage	Amrut
16.	FSTP	Chelora, Kannur Corporation	0.1	Obtained technical sanction for DPR, Tendering stage	Amrut
17.	FSTP	Guruvayur Municipality, Thrissur	0.1	Obtained technical sanction for DPR, Tendering stage	Amrut

			<u>Status of Septage Plants under AMRUT in Kerala</u> The details of the Septage Plants envisaged under AMRUT in Kerala are as follows. ❖ **Kollam** – 100 KLD Septage Treatment Plants at Andamukam, Vasoorichira & Karikkuzhi Ela are envisaged in Kollam Corporation. Combined Administrative Sanction was issued for these works for an amount of Rs.12.66Cr. on 22.02.2018. Combined Technical Sanction was issued for the works for an amount of Rs.9.8Cr. on 22.08.2018. Due to public protest, tender procedures of Andamukkam & Karikkuzhi Ela plants are kept on hold by the Corporation & Vassorichira plant has been cancelled by the Municipal Council. ❖ **Thrissur –** 100 KLD Septage Treatment Plant at Ramavarmapuram is envisaged in Thrissur Corporation. Administrative Sanction was issued for the work for an amount of Rs.3.5Cr. on 01.01.2018. Technical Sanction was issued for the work for an amount of Rs.3.1Cr. on 28.06.2018. Selection notice was issued to M/s.Green Eco on 03.01.2020&Agreement is to be signed. ❖ **Guruvayur** – 100 KLD Septage Treatment Plant at Chakkamkandam is envisaged in Guruvayur Municipality. Administrative Sanction was issued for the work for an amount of Rs.4.5Cr. on 31.05.2018. Technical Sanction was issued for the work for an amount of Rs.3.9Cr. on 30.07.2018. Agreement was executed with M/s.Green Bay, Kochi on 11.12.2019. Work has been started. ❖ **Palakkad –** 100 KLD Septage Treatment Plant at Yakkara is envisaged in Palakkad Municipality. Administrative Sanction was issued for the work for an amount of Rs.3.41Cr. on 23.12.2017. Technical Sanction was issued for the work for an amount of Rs.3Cr. on 30.06.2018.Permissive sanction for the land selected is awaited.

- **Kozhikode –** Combined project for Sewerage (1 MLD & 2 MLD) & Septage (100KLD) treatment at Medical College is envisaged in Kozhikode Corporation. Administrative Sanction was issued for the work for an amount of Rs.14.12Cr. on 13.11.2017. Technical Sanction was issued for the work for an amount of Rs.14.11Cr. on 30.07.2018. Agreement was executed with M/s.Green Eco – LCGC joint venture on 09.01.2020. Work has been started.
- **Kannur** - 100 KLD Septage Treatment Plant at Chelora is envisaged in Kannur Corporation. Administrative Sanction was issued for the work for an amount of Rs.3.42Cr. on 23.12.2017. Technical Sanction was issued for the work for an amount of Rs.3.1Cr. on 28.06.2018. Agreement was executed with M/s.Green Eco on 09.01.2020.Work to be started.
- Alappuzha–10 KLD Mobile Septage Units (2 nos.) are envisaged in Alappuzha Municipality. Administrative Sanction was issued for the work for an amount of Rs.0.80Cr. on 30.03.2019.

AMRUT - SEPTAGE PLANTS

Category	Number of Plants	Cost (Rs. Cr.)	AMRUT City
Work started	1	4.50	Guruvayoor-1no.
Agreement executed but not started	1	3.42	Kannur-1no.
Awarded but Agreement not executed	1	3.50	Thrissur-1no.
Tendered but not awarded	2	7.63	Palakkad-1no. & Kollam-1no.
To be retendered	1	4.22	Kollam-1no.

			TS not issued	2	0.80	Alappuzha-2nos.
			To be cancelled	1	4.22	Kollam-1no.
			Total	**9**	**28.29**	
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STP s must be ensured	Progressing	Progressing			
2.	Timeline for completing all steps of action plans including completion of setting up STPs and their commissioning	31.03.2021	Progressing			
5.	Chief		*Vide G.O.(Rt)No.93/2020/WRD dated 28.01.2020 Government of Kerala nominated Deputy			

	Secretaries may set up appropriate monitoring mechanism at State level Specifying accountability of nodal authorities not below the Secretary level Chief Secretaries may have an accountable person attached in their office for this purpose	Completed	Secretary (Projects),Water Resource Department as the nodal authority, Government of Kerala for monitoring the compliance of the directions in the order on fortnightly basis and to maintain record of progress and to act as an accountable person to the Chief Secretary for the purpose. *Vide G.O.(Rt)No.223/2020/WRD dated 12.03.2020 Government of Kerala appointed a monitoring committee comprising of Additional Chief Secretary, Water Resources Department as Chairperson and Principal Secretary, LSGD, Principal Secretary, Environment, Secretary, Water Resources Department and Staff officer to Chief Secretary as nodal officers & members.
	Monitoring at State level must take place	Fortnightly	Review on progress of action plans is being done at district and state level

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)

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		Sewage Generation -128 MLD Sewage Treated - 80 MLD Existing CSTP Capacity-107MLD Other Individual STP-3.57 MLD Progress on Expanding the sewage networks submitted by KWA attached as Annexure I
	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 • Specifying accountability of nodal authorities not below the Secretary level • Chief Secretaries may have an		

	accountable person attached in their office for this purpose.		
	• Monitoring at State level must take place	Fortnightly Commencing 21.12.2019	
6	Progress report may be furnished by the State/UTs to • Secretary,Ministry of Jal Shakti • Member Secretary,CPCB	Monthly (preferably before 20th of every month)	

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 insitu treatment. (II) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline	Completed Dec-2020 Completed	11 Polluting Drains were identified Sewage Generation -128 MLD Sewage Treated - 80 MLD in 107 MLD CSTP Other Individual STPs-3.57 MLD • 5 MLD sewage treatment plant at Medical College-40% completed-Delay due to Covid lockdown • Pumping lines from the terminal pumping station Kuriyathi, to be connected directly to STP at Muttathara- • Rehabilitation/upgradation of Thaliyal and Aranoor Sewerage Pumphouse by rehabilitation of existing well, construction of new

			well and grit chamber, installation of new pump sets Thaliyal- 50% completed Arannoor-25% Completed
		Sept 2020 Dec 2020	
		Dec 2020	• DG sets in all lift and pumping stations – (To avoid over flow into Drains due to power failure) (Mudavanmughal,Kuriyathi,) (Pattoor, Kannammola,Plamoodu,Murinjapalam)
		Dec 2020	• Reconnect sewer at Rajaji Nagar, stop outflow of sewage into Amayizhanchanthodu,control stormwater entry into sewer to avoid overflow in Thampanoorarea. Sewage generated inRajaji Nagar shall bediverted to main sewerline. Sewagegenerated in Thoppil area shall be diverted main sewerline-Work awarded. Work revised by rerouting the pipeline through main road in front of KSRTC terminal at Thampanoor
		Sept 2020	• Divert the sewer line from the School compound of Government Karamana High School(90% completed) - Work was delayed due to

		March 2021

	(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.		There is no existing CETP in polluted stretch. No CETP proposed as there are no industries identified in polluted stretch.
	(iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline		As per Progress report submitted by Trivandrum corporation Solid waste generated-353.51 TPD Solid waste treated -349 TPD Gap- 4.51 TPD Progress report submitted by TVM Corporation attached as Annexure II
	(v)Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;		Water quality of stations in polluted stretch attached
	(vi)Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste		• The Two Bridges in the polluted Stretch (Maruthoorkadav and

	and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.		Thiruvallom) which were susceptible to waste dumping into the river was provided with fencing of adequate height. • Bio medical waste in Hospitals. Clinics and Laboratories are disposed via Centralised CBMWT of IMAGE
	(vii)Ground water regulation		Not reported
	(viii) Adopting good irrigation practices,		• Development package for Parvathy Puthanar-(Amnt in action plan-Rs 15000 Lakhs)-Work is being implemented by Kerala water ways & Infrastructure Ltd. Periodic maintenance of Akkulam Vallakadavu stretch (6 km) was being carried out till the area was declared as a containment zone. In addition, to obtain funding for Phase –I work, DPR for Rs. 52.33 Cr was submitted to KIIFB.
	(ix) Protection and management of food plain Zones (FPZ),		• Karimadom Tank improvements ,desilting, sheet piling under preparation and providing fencing(Amnt in action plan-Rs 450 Lakhs) -Estimate under preparation –implemented by irrigation department • Development of Karamana River basin-(Amnt in action plan-Rs 913 Lakhs)-12 out of 16 works

			completed, details are given in Annexure III. implemented by irrigation department
	(x) Rain water harvesting,		Nor reported any progress
	(xi) Maintaining minimum Environmental flow of river	31.03.2021	• Desilting and development of Amayizhenjan thodu-(Amnt in action plan-Rs 2500 Lakhs) - Tendered- opening date 21.7.2020- implemented by irrigation department • Improvements to Thekkenekkara canal and desilting(Amnt in action plan-Rs 500 Lakhs)-Estimate submitted for sanction- implemented by irrigation department
	(xii) Plantation on both sides of the river		Nor reported any progress
	(xiii) Setting up biodiversity parks on flood plains by removing encroachment		Bio- diversity park at Karamana II phase - walkway ,gate, fencing, lightening etc-96% completed-Work in Progress.-Implemented by irrigation dept

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OA. No. 673/2018 – The only action pertaining to Kerala Water Authority is regarding Action Plan for Karamana River

Status report as on 12.07.2020 is as follows.

No.	Activity	Cost Rs. Cr.	Source of fund	Time line	Present Status	Expected date of completion	Remarks
a.	Pumping lines from the terminal pumping station Kuriyathi, to be connected directly to STP at Muttathara	3.375	AMRUT	May 2019	Work completed and commissioned.	Completed	Completed
b.	Rehabilitation/upgradation of Thaliyal and Aranoor Sewerage Pumphouse by rehabilitation of existing well, construction of new well and grit chamber, installation of new pump sets	2.37	Plan scheme	May 2020	Thaliyal- 50%	September 2020	Well completed. Grit chamber work in progress. Work held up due to Covid lockdown
					Arannoor- 25%	December 2020	Rehabilitation of one well completed. Work held up due to monsoon and Covid lock down
c.	5 MLD sewage treatment plant at Medical College	19.2	AMRUT	May 2020	Progress - 40%	December 2020	Delay due to Covid lockdown
d.	Installation of adequate pumps in Mudavanmughal and Enchakkal pumping stations	0.23	Plan scheme	March 2020	High offers received on tender. 42.83 % & 46.67 % above respectively and both single tenders	Depends on decision of tender	Tender under process. No offers were received on previous several tenders and extensions.
e.	DG sets in all lift and pumping stations – (Mudavanmughal, ,	0.92	Plan scheme	May 2020	Single offer received for 2 bids.	December 2020	i)Tender @ 10.64% above for

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	Kuriyathi,) (Pattoor, Kannammola, Plamoodu,Murinjapalam)						Mudavanmughal and Kuriathy under process ii)Tender for Pattoor, Kannanmoola, Plamoodu and Murinjapalam has been sanctioned.
f.	Reconnect sewer at Rajaji Nagar, stop outflow of sewage into Amayizhanchan thodu, control stormwater entry into sewer to avoid overflow in Thampanoor area. Sewage generated in Rajaji Nagar shall be diverted to main sewerline. Sewage generated in Thoppil area shall be diverted main sewerline	0.10 Revised estimate 0.38 Cr	Maintenance	Dec 2019	Work awarded. Work revised by rerouting the pipeline through main road in front of KSRTC terminal at Thampanoor.	December 2020	Foot path cutting requested from M/s KRFB. Estimate not yet received.
g.	Divert the sewer line from the School compound of Government Karamana High School	0.42	Plan Scheme	May 2020	90 % completed	September 2020	Work was delayed due to Covid lock down
h.	Rehabilitation by laying new lines increasing size of undersized main and reconstruction by dilapidated manholes for the last 3 years Total works in progress (67No.) Works in tendering (12 No.)	16.71 3.43	Plan Scheme/ AMRUT	May 2020	Works completed – 47 No. (Rs. 9.28 cr.) In progress – 20 No. (Rs. 7.43 cr.) Tendered/To be tendered – 12 No. (Rs. 3.43 cr.)	March 2021	Out of 12 works to be arranged 3 works approved by KWA Board and awaiting sanction from AMRUT, one work to be placed in Board and for 8 works

							to be arranged
i.	Extension of sewer network wherever technically feasible in new areas of existing blocks In progress(21 No.) Tendering(8 No.)	 15.83 9.26	Plan scheme / AMRUT	May 2020	Works completed - 15 No. (Rs. 2.82 cr.) In progress – 6 No. (Rs. 13.01 cr.) Tendered/To be tendered – 8 No. (Rs. 9.26 cr.)	March 2021	Out of 8 works to be arranged 3 works approved by KWA Board and awaiting sanction from AMRUT,and 4 works need Land acquisition.
j.	Around 155 houses in Kurukuvilakom, Kannettumukku shall be provided with septic treatment system.	To be estimated			Not technically feasible to connect to existing sewer system. Septic tanks may be provided by Corporation.		
k.	Procurement of sewer cleaning machines and equipment maintenance	3.17	Plan Scheme	May 2020	No response to repeated tender.		
l.	Establishment of six additional blocks in uncovered areas In Progress (11 nos.) Tendering (9 nos)	 91.14 21.78	JNNURM & AMRUT	May 2020	Works completed - 1 No. (Rs. 2.28 cr.) In progress – 10 No. (Rs. 88.86 cr.) Tendered/To be tendered – 9 No. (Rs. 21.78 cr.)	May 2021	Works slowed due to Covid and monsoon

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S No	Long term measures proposed	Implementing agency	Amount Required(Rs.in Crore)	Time line	Present Status
a.	Extension of sewerage system to Block F to G coastal belt	Kerala Water Authority	200	Three years after getting AS.	A DER for engaging consultant prepared.
b.	Extension of sewerage system to Block H toR	Kerala Water Authority	700		
c.	Extension of sewerage system to Newly added areas of corporationviz, Kazhakootam, Sreekaryam,Kudappanakunnu, Vattiyoorkavu & Vizhinjam	Kerala Water Authority	300		
d.	Providing sewerage system in Block A to E	Kerala Water Authority	100		
e.	Rehabilitation of existing network and pump house in block A to E	Kerala Water Authority	100		
f.	Procurements of equipment for maintenance sewerage system	Kerala Water Authority	10		
g.	Additional STP requirement	Kerala Water Authority	60		
h.	**Total Amount required**		**1,470**		

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

Karamana River Action Plan

Sl. No.	Activity	Implementing Agency	Unit	No. of units	Cost in Rs. Cr.	Source of fund	Time for completion	Status
2.2.1	Slaughter house and poultry waste	Thiruvananthapuram Corporation	Rendering plant	1	9.6	Central, State and ULB Share	March 2021	**Slaughter House**- Work awarded to KEL Agreement executed duration-1 year. **Poultry waste**- TMC starts collecting poultry waste coming under jurisdiction of 25 HI Office from 1st November 2019 on pilot basis with online tracking of vehicles. Entire functioning of system is managed by green Trivandrum Software and its link is provided in corporation website. The entire poultry waste generated in whole Corporation area is collected and supplied to rendering plant in Aluva and Tamil Nadu.
2.2.2	Sanitation facility and Treatment of waste water in the markets of Pangode, Kumarichanda, Kannettu mukku	Thiruvananthapuram Corporation	Treatment plant Portable aerobic bins	2 4	0.3	Plan fund	March 2021	**Kumarichanda**: STP Plant (Bio membrane bioreactor Technology- 10KLD) is installed and applied for consent to operate to KSPCB. **Pangode**: Steps were taken to clean existing septic tank and an estimate amount of 40lakhs prepared for establishing modern ETP and council decided to include in plan 2021. Prepared DPC approved project –Rennovation of pangode fish market ETP-25KLD.
2.2.3	Provide facility for the treatment of sewage, sullage and garbage	Thiruvananthapuram Corporation	Aero bins at various places (28) Proposed sites					Garbage: Regarding Solid Waste Management in Poonthura Colony

Karamana River Action Plan

Sl. No.	Activity	Implementing Agency	Unit	No. of units	Cost in Rs. Cr.	Source of fund	Time for completion	Status
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2.2.2	Sanitation facility and Treatment of waste water in the markets of Pangode, Kumarichanda, Kannettu mukku	Thiruvananthapuram Corporation	Treatment plant Portable aerobic bins	2 4	0.3	Plan fund	March 2021	**Kumarichanda**: STP Plant (Bio membrane bioreactor Technology- 10KLD) is installed and applied for consent to operate to KSPCB. **Pangode**: Steps were taken to clean existing septic tank and an estimate amount of 40lakhs prepared for establishing modern ETP and council decided to include in plan 2021. Prepared DPC approved project –Rennovation of pangode fish market ETP-25KLD.
2.2.3	Provide facility for the treatment of sewage, sullage and garbage	Thiruvananthapuram Corporation	Aero bins at various places (28) Proposed sites					Garbage: Regarding Solid Waste Management in Poonthura Colony

generate in the poonthura slum area between Karamana river and sea			Moonnat humukku 2. Poonthura-HI Office 3. Cheriyan muttam-Poonthura 4. Bcemapally Compound 5. Tsunami Colony 6. Mother Theresa Colony 7. Kumari Chantha 8. Poonthura Marker 9. Moonnat tumukku bridge	28	3.36	Plan Scheme	March	door to door collection started and wet waste is treated in Aerobic bin and dry waste to RRC. Regarding treatment of sullage, land availability is a problem to establish a common treatment facility. So sucking tanker will be provided free of cost and will be carried to STP plant at Muttathara for safe disposal.

			23. Mannanthala Market 24. Santhi Nagar Residents association 25. Alanthara Kattayil 26. Ulloor Market 27. Museum RKV Road 28. New Nalantha Road					
2.2.4	The discharge of waste water from the surrounding houses to the pond at Jagathy is to be stopped	Thiruvanant hapuram Corporation Kerala Water Authority	Pond desilting Issued notices to the houschold Project is prepared for desilting the pond		0.50	Plan fund	March	Notice issued to households is to stop discharge of waste water to pond. KWA so far not identified site to set up STP
2.2.5	Around 155	Thiruvanant						Door to door collection facility is

	Houses in Kurukuvilakom, Kannettumukku shall be provided with septic and treatment system	hapuram						provided. Health Supervisor and Jagathi circle Health Inspector is authorised to issue notice on the basis of site inspection. Notice were issued to households to provide septic tank
2.2.5	Identification of illegal outlets into storm water drains and fine shall be imposed on such units	Thiruvanant hapuram Corporation	Fine imposed and prosecution initiated		15.04lakhs Fine collected			
2.2.6	Biodegradable waste (DPR)	Thiruvanant hapuram Corporation	Bio-Composter	50,000	9	Central, State and ULB Share		The components in the DPR are approved by the DPC. Tender proceedings are initiated. Regarding Three layers Bio-composter Bin (for wet waste management in houses) supply order issued and installation of fifty Thousand kitchen bin units is ongoing. DPR Sanctioned amount of State and Central share had released rupees 13,45,43,500 (partial).
2.2.7	Biodegradable waste (DPR)	Thiruvanant hapuram	Thumboormuzhi aerobic bins	154	11.97	Central, State and ULB Share	May 2020	Agreement Executed and will be commencing soon.
2.2.8	Biodegradable waste (DPR)	Thiruvanant hapuram Corporation	Community biogas	12	2.04	Central, State and	May 2020	Awaiting TS from Suchithwa Mission

			23. Mannanthala Market 24. Santhi Nagar Residents association 25. Alantharа Kattayil 26. Ulloor Market 27. Museum RKV Road 28. New Nalantha Road					
2.2.4	The discharge of waste water from the surrounding houses to the pond at Jagathy is to be stopped	Thiruvanantapuram Corporation Kerala Water Authority	Pond desilting Issued notices to the household Project is prepared for desilting the pond		0.50	Plan fund	March	Notice issued to households is to stop discharge of waste water to pond. KWA so far not identified site to set up STP
2.2.5	Around 155	Thiruvanant						Door to door collection facility is

						ULB Share		
2.2.9	Biodegradable waste (DPR)	Thiruvanant hapuram Corporation	Organic Waste Converter	1	0.4	Central, State and ULB Share	May 2020	May be dropped
2.2.10	Biodegradable waste (DPR)	Thiruvanant hapuram	Portable biogas	200	0.21	Central, State and ULB Share		Dropped
2.2.11	Biodegradable Waste (DPR)	Thiruvanant hapuram Corporation	Portable aero bins	100	1.50	Central, State and ULB Share		Tendered- Issued supply order
2.2.12	Biodegradable waste (DPR)	Thiruvanant hapuram Corporation	Ring Compost	500	1.25	Central, State and ULB Share		Tender process going on.
2.2.13	Biodegradable waste (DPR)	Thiruvanant hapuram Corporation	Segregation bins	1,00, 000	4	Central, State and ULB Share		Tendered and placed before Purchase Committee. (Deducted by SBM), Included in DPR revision.
2.2.14	Biodegradable waste (DPR)	Thiruvanant hapuram Corporation	RRC	7	7	Central, State and ULB Share		Agreement Executed and will be commencing soon.

2.2.15	Biodegradable waste (DPR)	Thiruvanant hapuram Corporation	Plastic Recycling Unit	1	1.36	Central, State and ULB Share		Decided to expand to RRC for plastic pre processing
2.2.16	Biodegradable waste (DPR)	Thiruvanant hapuram Corporation	Mobile MRF	5	1.3	Central, State and ULB Share		Design finalised and Tender process going on.
2.2.17	Biodegradable waste (DPR)	Thiruvanant hapuram Corporation	Electronic Weigh bridge	1	0.1	Central, State and ULB Share		For EOI verification forwarded to PWD mechanical division.
2.2.18	Biodegradable waste (DPR)	Thiruvanant hapuram Corporation	Solar electrical cart	25	0.5	Central, State and ULB Share		Specification are finalised, Tender process started
2.2.19	Biodegradable waste (DPR)	Thiruvanant hapuram Corporation	Swaps Shops	4	0.2	Central, State and ULB Share		Quotation Agreement not Executed
2.2.20	Biodegradable waste (DPR)	Thiruvanant hapuram Corporation	PET bottle crushing	15	0.05	Central, State and ULB Share		May be dropped.
2.2.21	Biodegradable waste (DPR)	Thiruvanant hapuram Corporation	Community level unit Napkin destroyer	102	0.35	Central, State and ULB Share		EOI Invited

2.2.22	(DPR)	Thiruvananthapuram Corporation	Animal Crematorium at Kattela	1	1	Central, State and ULB Share	May 2020	TS Awaiting
2.2.23		Thiruvananthapuram Corporation	Urban Gardening		0.5	"	"	Cancelled
2.2.24		Thiruvananthapuram Corporation	Upgradation of present facilities	42	1.86	"	"	TS received tender process started
2.2.25		Thiruvananthapuram Corporation	Capacity Building & IEC		0.7			Process on going
2.2.26	(DPR)	Thiruvananthapuram Corporation	Viability gap Fund		0.92			VGF 1st phase issued to Harithakarmasena
2.2.27	Prevent entry of Stormwater into sewer line along with KWA	Thiruvananthapuram Corporation	KWA is authorised to prepare and implement proper sewerage lines under Amrut scheme		154	AMRUT	May 202	Closed monitoring is done by health Squad and all Health Inspectors are directed to issue notice and prosecution.
2.2.28	Take steps to prevent the solid wastes in sewer line as reported by KWA	Thiruvananthapuram Corporation	Squad and Fines Special squad is formed at corporation level. Health Inspectors are authorisized for regularly monitoring and preventing the				May 2020	Employees were placed at various spots during night to prevent dumping of Solid Waste in drains. And fines are being charged. Regarding to waste throwing to public place Corporation collected and amount of Rs 413736/- as fine from 01.01.2020.

Dr.A.SASI KUMAR
Health Officer
Municipal Corporation Thiruvananthapuram
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Monthly Progress Report For River Rejuvenation Committee for National Green Mission

Sl No	Activity to be monitored	Timeline	Submission of Progress by State/UT-Compliance Status	Remarks
6.1	Progress Report may be comprised of details along with completion timelines on			
Viii	Adopting good Irrigation practices		Please refer the note shown below	
ix	Protection and management of flood Plain Zones(FPZ)			
xi	Maintaining minimum environmental flow of river			

NOTE: 5 Components proposed in Karamana action plan for restoring Karamana River basin. The details are given below

Sl. No	Activity	Implementing agency	Amount in Action Plan(in Lakhs)	Timeline	Remarks
1	Development package for ParvathyPuthanar	KWIL	15000		Work is being implemented by Kerala water ways & Infrastructure Ltd.Periodic maintenance of AkkulamVallakadavu stretch (6 km) was being carried out till the area was declared as a containment zone. In addition,to obtain funding for Phase –I work, DPR for Rs. 52.33 Cr was

					submitted to KIIFB.
2	Desilting and Development of Amayizhanjanthodu	Irrigation	2500	31/03/21	Work Tendered- and opening date 21.7.2020
3	Improvements to Thekkenekara canal and desilting	Irrigation	500		Estimate submitted for sanction
4	Karimadom Tank improvements ,desilting, sheet piling under preparation and providing fencing	Irrigation	450		Estimate under preparation
5	Development of Karamana River basin	Irrigation	913	31/03/21	12 out of 16 works completed, details are given in below table

Development of Karamana Basin

16 works were arranged/ completed for the development of KaramaRiver using KRSM Fund. The details of works are as shown below. Additionalworks for pollution abatement will be proposed based on requirements.

Sl No	Activities	Status of project	Amount in lakhs	Remarks
1	Renovation of Maruthankuzhy weir and allied works in Killi River	work completed	24	
2	pollution mitigation measures by way of gated flushing arrangement (gated weir) at Myladikkadavu	work completed	22.5	
3	Providing and fixing GI chain link fencing on both sides of various bridges upstream and downstream along Killi River from Pallathukadavu to Jagathy	work completed	70	
4	Providng and fixing GI chain link facilities both sides of bridges from Parachira to Vazhayila	Work completed	81	
5	Scientific Management Project- Pilot Project- Pollution Abatement of ThiruvallomThodu (Branch Karamana River) ThiruvallomSreeParasuramaSwamy Temple	work completed	50	
6	Scientific Management Project- Pilot Project- (KRSM Project) An integrated solid waste Management at Balikadavu of	work completed	47.5	

	ThiruvallomThodu and beautification of the surroundings of Balikadavu			
7	An integrated solid waste management at Balikadavu of Thiruvallomthodu branch of Karamana River including a Bio- gas plant	work completed	88	
8	Scientific Management Project- Pilot Project- (KRSM Project) Bio diversity park and allied protective works on Karamana River bank	work completed	70	
9	Scientific Management Project- Pilot Project- (KRSM Project) Providing GI chain link fencing on both sides of bridge across Karamana River at various locations	work completed	80	
10	An integrated solid waste management construction of bio diversity park along the right bank of Karamana River d/s of Karamana bridge.	Work completed	50	
11	Chain linked fencing on either side of ThiruvallomThodu - 450 x 2mts.	95%	55	Work in progress
12	Bio- diversity park at Karamana II phase - walkway ,gate, fencing, lightening etc.	96%	65	Work in progress
13	Dhobighat in Karamana River at Kaladi	Work completed	15	
14	Check dam in Karamana River at Kaladi	52% completed	65	Work in progress
15	Maintenance of bund road on the left side of Karaman NH road bridge to Azhankal Junction.	Work completed	120	
16	KRSM-Pilot project two years maintenance of existing fencing on bridges across Karamana River	50% completed	10	Work in progress

Sd/-

Executive Engineer

STATE WATER MONITORING PROGRAMME (SWMP) 2020

Analysis Report for the month of JUNE-2020

Name of River	KARAMANA					
Date and Time of Sample collection	6/17/2020					
Method of analysis						
Sl no.	**Parameters**	**SAMPLE ID**					
		Peppara	**Aruvikkara**	**Mangatukadavu**	**Pallathukadavu**	**Thiruvallom**	**Moonnattumukku**
1	Temperature,degree celsius	27	26	27	27	26	26
2	pH	6.4	6.4	6.6	6.5	6.7	6.4
3	Turbidity,NTU	4.8	6.8	7.2	7.1	10.6	6.6
4	Electrical Conductivity,	53	55	80	136	282	289
5	DO,mg/l	6.3	7	4.8	2.1	2.5	0.4
6	BOD,mg/l	0.7	0.8	1.9	5.4	6	8.4
7	NH3N,mg/l	BDL	BDL	BDL	BDL	BDL	BDL
8	Nitrate,mg/l	BDL	BDL	BDL	BDL	BDL	1.8
9	Chloride,mg/l	8	8	12	16	36	42
10	Phosphate,mg/l	BDL	BDL	BDL	BDL	BDL	BDL
11	Total Alkalinity,mg/l	14	14	17	41	86	75
12	Total Hardness,mg/l	14	17	27	50	96	90
13	Calcium,mg/l	10	13	23	38	62	63
14	Magnesium,mg/l	4	4	4	12	34	27
15	Sodium,mg/l	4.2	4.5	6.3	8.6	18.7	26
16	Potassium,mg/l	1.5	1.6	1.5	3.1	6.1	6.8
17	Boron,mg/l	0	0	0	0	0	0
18	SAR	0.283597	0.279615	0.318502	0.311181	0.473438	0.689737
19	TC,cfu/100ml	200	500	1500	1700	4200	12000
20	FC,cfu/100ml	100	100	700	500	900	4800
21	Faecal Streptococci	ND	ND	ND	ND	ND	ND

National Mission for Clean Ganga- PAMBA RIVER (MANNAR_THAKAZHY)

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

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 hospital/hotel in the area established & are operating ETP regularly and it is monitored by the Board.
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		STP not required. Action is being taken for installation of screening, septic tank & disinfection systems for storm water drains in Mannar & Parumala town.
3	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning		Not complied as it is in preliminary stage.
4	Chief Secretaries may set up appropriate monitoring mechanism at state level • Specifying accountability of nodal authorities not below the Secretary level		Not applicable. District Level Technical Committee formed and is monitoring regularly.

	• Chief Secretaries may have an accountable person attached in their office for this purpose.		
5	• Monitoring at State level must take place		
6	Progress report may be furnished by the State/UTs to • Secretary,Ministry of Jal Shakti • Member Secretary,CPCB	Monthly (preferably before 20th of every month)	
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 insitu treatment. (II) <u>Status of STPs, I&D</u>		Revised Action Plan already submitted. No sewerage

	and sewerage networks Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline		system. STP is not required as the towns on the banks of the polluted stretches are very small.
	(III) Status of CETPs Details of Existing CETP and ETP Infrastructure,Gap Analysis, Proposed along with completion timeline, No. of industries and complying status.		NA
	(iv) Status of Solid Waste Management & Details of Processing Facilities Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline		Rendering Plant coming up at nearby Thiruvalla Town. MCF facility for plastic waste formed. Steps have been taken for establishing Thumboormoozhy type aerobic facility & for providing individual waste processing facilities.
	(v) Latest water quality of polluted river, its tributaries, drains with		Attached

	flow details and ground water quality in the catchment of polluted river;		
	(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.		Rendering Plant coming up at nearby Thiruvalla Town. This will help to reduce tendency of dumping slaughter house waste in water bodies.
	(vii) Ground water regulation		Not much problem in the area.
	(viii) Adopting good irrigation practices,		-do-
	(ix) Protection and management of food plain Zones (FPZ),		-do-
	(x) Rain water harvesting,		-do-
	(xi) Maintaining minimum Environmental flow of river		-do-
	(xii) Plantation on both sides of the river		Proposal submitted by Irrigation Dept waiting approval.

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

ALEXANDER GEORGE

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Environmental Engineer

WATER QUALITY DATA OF POLLUTED RIVER STRETCHES, JANUARY - 2020
DISTRICT OFFICE, PATHANAMTHITTA

Date of Sampling: 17.01.2020

Sl.No	PARAMETERS	THAKAZHY	EDATHUA	MANNAR
1	Temperature ,ºC	32	31	29
2	pH	7.0	6.8	6.5
3	Turbidity ,NTU	2.1	1.6	7.9
4	Electrical Conductivity ,µ/cm	102.7	61.87	92.44
5	DO, mg/L	5.1	3.1	4.4
6	BOD, mg/L	1.0	1.2	1.9
7	NH_3N, mg/L	0.199	0.341	0.185
8	Nitrate , mg/L	0.922	0.132	0.536
9	Chloride mg/L,	18	12	14
10	Phosphate , mg/L	BDL	BDL	BDL
11	Total Alkalinity, mg/L	17	9.0	11
12	Total Hardness, mg/L	28	24	28
13	Calcium , mg/L	16	14	16
14	Magnesium, mg/L	12	10	12
15	Sodium, mg/L	7.93	6.84	5.8
16	Pottassium , mg/L	1.83	1.34	0.69
17	Boron , mg/L	-	-	-
18	SAR	0.65	0.61	0.48067
19	TC , CFU/100mL	4800	3500	730
20	FC, CFU/100mL	3850	2900	520
21	FS CFU/100mL ,	Nil	NIL	NIL

WATER QUALITY DATA OF POLLUTED RIVER STRETCHES FEBRUARY - 2020
DISTRICT OFFICE, PATHANAMTHITTA

Date of Sampling: 17.02.2020

Sl.No	PARAMETERS	THAKAZHY	EDATHUA	MANNAR
1	Temperature ,ºC	27	28	30
2	pH	6.4	6.5	6.6
3	Turbidity ,NTU	2.8	2.9	5.4
4	Electrical Conductivity ,µ/cm	104.65	53.37	81.99
5	DO, mg/L	4.9	4.3	4.9
6	BOD, mg/L	1.1	1.2	1.6
7	NH_3N, mg/L	0.933	0.621	BDL
8	Nitrate , mg/L	0.361	0.813	0.398
9	Chloride mg/L,	16	10	12
10	Phosphate , mg/L	BDL	BDL	BDL
11	Total Alkalinity, mg/L	12	10	10
12	Total Hardness, mg/L	32	26	26
13	Calcium , mg/L	22	14	14
14	Magnesium, mg/L	10	12	12
15	Sodium, mg/L	7.21	5.62	4.4
16	Pottassium , mg/L	1.941	0.996	0.53
17	Boron , mg/L	-	-	-
18	SAR	0.55	0.48	0.37517
19	TC , CFU/100mL	800	900	510
20	FC, CFU/100mL	300	400	190
21	FS CFU/100mL ,	NIL	10	NIL

WATER QUALITY DATA OF POLLUTED RIVER STRETCHES MARCH - 2020
DISTRICT OFFICE, PATHANAMTHITTA

Date of Sampling: 17.03.2020

Sl.No	PARAMETERS	THAKAZHY	EDATHUA	MANNAR
1	Temperature ,ºC	26	26	31
2	pH	6.5	6.4	6.3
3	Turbidity ,NTU	2.3	2.1	4.4
4	Electrical Conductivity ,µ/cm	98.54	59.61	72
5	DO, mg/L	5.7	5.9	4.8
6	BOD, mg/L	1.0	1.3	1.5
7	NH_3N, mg/L	0.0391	BDL	BDL
8	Nitrate , mg/L	0.183	0.0711	0.298
9	Chloride mg/L,	14	10	10
10	Phosphate , mg/L	BDL	BDL	BDL
11	Total Alkalinity, mg/L	11	11	11
12	Total Hardness, mg/L	28	24	22
13	Calcium , mg/L	16	14	14
14	Magnesium, mg/L	12	10	8
15	Sodium, mg/L	6.99	4.38	4.2
16	Pottassium , mg/L	0.718	0.611	0.412
17	Boron , mg/L	-	-	-
18	SAR	0.574	0.388	0.38932
19	TC , CFU/100mL	700	810	420
20	FC, CFU/100mL	300	370	210
21	FS CFU/100mL ,	NIL	Nil	NIL

WATER QUALITY DATA OF POLLUTED RIVER STRETCHES APRIL - 2020
DISTRICT OFFICE, PATHANAMTHITTA

Date of Sampling: 11.04.2020

Sl.No	PARAMETERS	THAKAZHY	EDATHUA	MANNAR
1	Temperature ,ºC	30	30	28
2	pH	7	6.9	6.7
3	Turbidity ,NTU	3.9	2.4	3.5
4	Electrical Conductivity ,µ/cm	60.4	64.32	52
5	DO, mg/L	6.7	6.1	6.3
6	BOD, mg/L	0.5	0.9	0.7
7	NH_3N, mg/L	BDL	BDL	BDL
8	Nitrate , mg/L	BDL	BDL	BDL
9	Chloride mg/L,	10	12	8
10	Phosphate , mg/L	BDL	BDL	BDL
11	Total Alkalinity, mg/L	10	10	9
12	Total Hardness, mg/L	24	20	16
13	Calcium , mg/L	18	12	12
14	Magnesium, mg/L	6	8	4
15	Sodium, mg/L	3.9	5.93	3.1
16	Pottassium , mg/L	0.299	0.063	0.215
17	Boron , mg/L	-	-	-
18	SAR	0.346	0.58	0.33695
19	TC , CFU/100mL	210	420	280
20	FC, CFU/100mL	60	120	90
21	FS CFU/100mL ,	NIL	NIL	NIL

WATER QUALITY DATA OF POLLUTED RIVER STRETCHES MAY - 2020
DISTRICT OFFICE, PATHANAMTHITTA

Date of Sampling: 12.05.2020

Sl.No	PARAMETERS	THAKAZHY	EDATHUA	MANNAR
1	Temperature ,ºC	29	29	29
2	pH	6.7	6.5	6.5
3	Turbidity ,NTU	4.3	2.3	3.8
4	Electrical Conductivity ,µ/cm	68	59.53	57.3
5	DO, mg/L	6.1	6.3	5.7
6	BOD, mg/L	0.9	0.8	1.1
7	NH_3N, mg/L	BDL	BDL	BDL
8	Nitrate , mg/L	BDL	BDL	BDL
9	Chloride mg/L,	14	8	10
10	Phosphate , mg/L	BDL	BDL	BDL
11	Total Alkalinity, mg/L	10	10	10
12	Total Hardness, mg/L	28	24	20
13	Calcium , mg/L	18	16	12
14	Magnesium, mg/L	10	8	8
15	Sodium, mg/L	4.9	4.31	3.8
16	Pottassium , mg/L	0.323	0.98	0.291
17	Boron , mg/L	-	-	-
18	SAR	0.4026	0.38	0.36943
19	TC , CFU/100mL	190	480	220
20	FC, CFU/100mL	40	140	70
21	FS CFU/100mL ,	NIL	NIL	NIL

National Mission for Clean Ganga

Format for Submission of Monthly Progress Report by States/UTs

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

MANIMALA

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	31.03.2021	NA
5	Chief Secretaries may set up appropriate monitoring mechanism at state level • Specifying accountability of nodal authorities not below the Secretary level • Chief Secretaries may have an accountable person attached in their office for this purpose.		NA
	• Monitoring at State level must take place		NA
6	Progress report may be furnished by the State/UTs to • Secretary,Ministry of Jal Shakti • Member Secretary,CPCB	Monthly (preferably before 20th of every month)	NA

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 insitu treatment.	2019-2020	Drains contributing to river pollution were Identified- The dains are seasonal and water quality is above the required limit, no insitu treatment is required
	(II) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline	2020-2021	Proposal for setting up an FSTP in Chengannur is initiated.
	(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.	-	Since the area does not contain any industry and so not require any CETP, this action point is revised.
	(iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline	-	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
	(v)Latest water quality ofpolluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;	2019-2020	Water quality analysis results of the stretch up to June 2020 is enclosed
	(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.	2019-2021	Awareness campaign to be initiated
	(vii)Ground water regulation	2020-2021	No ground water pollution is noted in the area so action yet to be initiated
	(viii) Adopting good irrigation practices,	2020-2021	adopted

	(ix) Protection and management of food plain Zones (FPZ),	2020-2021	Action will be initiated
	(x) Rain water harvesting,	2020-2021	Action will be initiated
	(xi)Maintaining minimum Environmental flow of river	2020-2021	Action will be initiated
	(xii) Plantation on both sides of the river	2020-2021	Action will be initiated
	(xiii) Setting up biodiversity parks on flood plains by removing encroachment	2020-2021	Action will be initiated

* The time lines provided above are based on the verbal communication with river rejuvenation comity irrigation and LSGI department members of Alappuzha district. Since the work has to be carried out in Pathanamthitta district, the commitments have been received from adjoining local bodies and respective departments in that district to comply with this time line and action plan.

Analysis Result of Kalloopara-2020

Parameters	Unit	MONTHS						
		JAN	FEB	MAR	APR	MAY	JUN	JULY
PH	-	6.8	6.9	6.9	7.1	6.6	6.8	6.7
Conductivity	µS/cm	227	246	258	242	295	199	254.24
Turbidity	NTU	0.9	0.9	0.9	0.9	1.1	0.9	1
DO	mg/l	8.1	8.8	6.9	7.8	7.6	7.2	6.9
BOD	mg/l	2.9	3.1	2.7	3.0	3.2	1.8	1.2
COD	mg/l	8.0	12.0	16.0	8.0	16.0	4.0	4
Chloride	mg/l	40.0	50.0	50.0	50.0	60.0	30.0	60
Sulphate	mg/l	9.8	9.9	10.4	9.6	6.3	3.8	1.74
Phosphate	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nitrate Nitrogen	mg/l	0.15	0.18	0.19	0.01	0.09	0.24	0.173
Amm. Nitrogen	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Alkalinity	mg/l	40.0	50.0	50.0	60.0	40.0	60.0	50
T.Hardness	mg/l	40.0	60.0	70.0	70.0	70.0	60.0	80
Ca. Hardness	mg/l	20.0	30.0	40.0	40.0	40.0	40.0	40
Mg. Hardness	mg/l	20.0	30.0	30.0	30.0	30.0	20.0	40
T D S	mg/l	132.4	161.4	182.6	171.6	174.8	136.3	148.2
T F S	mg/l	81.60	93.21	95.82	91.74	96.40	93.42	97.42
Fluoride	mg/l	0.80	0.80	0.80	0.8	0.90	0.52	0.572
Sodium	mg/l	25.1	26.4	27.0	25.06	22.1	17.3	19.6
Potasssium	mg/l	7.2	7.5	7.7	6.4	5.3	2.8	4.2
TSS	mg/l	44.20	46.23	42.80	43.68	47.62	44.60	46.78
Tcoli	No/100ml	500	900	700	500	200	200	500
Fcoli	No/100ml	300	400	300	200	100	100	200
Boron	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
TKN	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Analysis Result ofThondra -2020

Parameters	Unit	MONTHS						
		JAN	FEB	MAR	APR	MAY	JUN	JULY
PH	-	6.8	6.8	6.8	6.9	6.5	6.9	6.8
Conductivity	µS/cm	217	237.06	280	248	260	202	286.7
Turbidity	NTU	0.8	0.9	0.9	0.7	0.9	0.8	0.9
DO	mg/l	6.1	7.6	8.2	6.9	6.4	6.8	7.2
BOD	mg/l	1.4	2.6	2.1	1.9	1.6	1.8	0.9
COD	mg/l	12.0	20	16.0	16.0	8.0	4.0	8
Chloride	mg/l	40.0	60	70.0	40.0	50.0	40.0	70
Sulphate	mg/l	10.2	10.24	11.0	10.3	8.0	3.2	1.86
Phosphate	mg/l	BDL	BDL	0.1	BDL	BDL	BDL	BDL
Nitrate Nitrogen	mg/l	0.13	0.1363	0.14	0.01	0.02	0.17	0.182
Amm. Nitrogen	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Alkalinity	mg/l	40.0	50	60.0	70.0	50.0	70.0	40
T.Hardness	mg/l	40.0	70	90.0	70.0	60.0	80.0	90
Ca. Hardness	mg/l	20.0	30	50.0	40.0	30.0	30.0	50
Mg. Hardness	mg/l	20.0	40	40.0	30.0	30.0	50.0	40
T D S	mg/l	138.6	167.2	198.4	170.2	173.6	142.4	176.4
T F S	mg/l	107.60	114.82	126.36	108.20	112.40	106.32	110.2
Fluoride	mg/l	0.80	0.8	0.80	0.80	0.90	0.69	0.524
Sodium	mg/l	54.4	27.84	28.5	25.8	24.6	16.7	18.7
Potasssium	mg/l	5.8	6.2	6.8	5.1	4.9	3.2	3.8
TSS	mg/l	31.80	43.2	45.80	42.82	34.20	31.60	36.4
Tcoli	No/100ml	700	1000	1500	800	200	300	400
Fcoli	No/100ml	400	500	800	300	100	200	400
Boron	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
TKN	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

RIVER - CHITHRAPPUZHA

Submission of Monthly Progress Report-June 2020 by States/UTs

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

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.
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		Not reported any progress by Thripunithura Municipality
3	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning		Not reported any progress by Thripunithura Municipality
4	Chief Secretaries may set up appropriate monitoring mechanism at state level • Specifying accountability of nodal authorities not below the Secretary level • Chief Secretaries may have an accountable person attached in their office for this purpose.		
5	• Monitoring at State level must take place		District level committee monitoring regularly

6	Progress report may be furnished by the State/UTs to • Secretary,Ministry of Jal Shakti • Member Secretary,CPCB	Monthly (preferably before 20th of every month)	
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 insitu treatment.		KSPCB and Thrippunithura Municipality Officials had conducted a joint inspection on 25/6/2020 for identifying units(Apartments/ service stations etc) without proper pollution control measures situated in banks of Konothupuzha (major stream joining Chithrappuzha); Instructions were given to provide proper pollution control measures and rectifying defects in treatment plants in units; Several inspections were conducted by KSPCB officials and collected samples from major points of Konothupuzha on 30.06.2020, 02.07.2020 and 03.07.2020

	(II) Status of STPs, I&D and sewerage networks Details of Existing Infrastructure,Gap Analysis,proposed along with completion timeline		Submitted
	(III) Status of CETPs Details of Existing CETP and ETP Infrastructure,Gap Analysis, Proposed along with completion timeline, No. of industries and complying status.		Submitted
	(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;		Attached (Annexure-I)

	(vi)Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from several establishments		Monitoring on going; Instruction was given to local bodies by KSPCB to install Surveillance cameras on major waste dumping places; Instruction was also given by KSPCB to constitute a ward level committee for conducting day/night surveillance with the help of police
	(vii)Ground water regulation		On going by Ground Water Department
	(viii) Adopting good irrigation practices		Enclosed as Annexure-II (by Irrigation Dept w.r.t action plan); Rejuvenation works of River Konothupuzha is on going by Irrigation Dept and Thrippunithura Municipality
	(ix)Protection and management of flood plain Zones (FPZ),		Not reported any progress by

			Irrigation Department
	(x)Rain water harvesting		Insisting for major units by KSPCB as consent condition
	(xi)Maintaining minimum Environmental flow of river		Not reported any progress by Irrigation Department
	(xii) Plantation on both sides of the river		Not reported any progress by Irrigation Department and Thripunithura Municipality
	(xiii) Setting up biodiversity parks on flood plains by removing encroachment		Not reported any progress by Revenue Department, Irrigation Department and Thripunithura Municipality

ANNEXURE-I(KSPCB)

Analysis Report(JUNE 2020)

Sl. No.	Parameters	Irumpanam
1	Temperature, ^{0}C	29
2	pH	6.6
3	Conductivity, µmhos/cm	288
4	Turbidity, NTU	14.9
5	Total Alkalinity, as CaCO3	39
6	Chloride, mg/l	44
7	COD, mg/l	12
8	TKN, mg/l	2.13
9	Ammoniacal-N, mg/l	1.50
10	Hardness, as CaCO3 mg/l	65
11	Calcium, as CaCO3 mg/l	30
12	Magnesium as CaCO3, mg/l	35
13	Sulphate, mg/l	26.61
14	Sodium, mg/l	31.83
15	Total Dissolved Solids, mg/l	195
16	Total Fixed Solids, mg/l	170
17	Total Suspended Solids, mg/l	25
18	Phosphate, mg/l	1.39
19	Boron, mg/l	0.05
20	Potassium, mg/l	4
21	BOD, mg/l	3.2
22	Fluoride, mg/l	0.64
23	Dissolved Oxygen, mg/l	0.7
24	Nitrate-N, mg/l	3.43
25	Total Coliform, MPN/100 ml	5400
26	Fecal Coliform, MPN/100 ml	2700
27	Fecal Streptococci	220

Analysis Report(MAY2020)

Sl. No.	Parameters	Irumpanam
1	Temperature, ^{0}C	28
2	pH	6.9
3	Conductivity, µmhos/cm	289
4	Turbidity, NTU	5.3
5	Total Alkalinity, as CaCO3	30
6	Chloride, mg/l	48
7	COD, mg/l	4
8	TKN, mg/l	0.14
9	Ammoniacal-N, mg/l	0.05
10	Hardness, as CaCO3 mg/l	35
11	Calcium, as CaCO3 mg/l	10
12	Magnesium as CaCO3, mg/l	25
13	Sulphate, mg/l	17.5
14	Sodium, mg/l	28.85
15	Total Dissolved Solids, mg/l	152
16	Total Fixed Solids, mg/l	136
17	Total Suspended Solids, mg/l	35
18	Phosphate, mg/l	0
19	Boron, mg/l	0.07
20	Potassium, mg/l	2.67
21	BOD, mg/l	0.8
22	Fluoride, mg/l	0.43
23	Dissolved Oxygen, mg/l	6.1
24	Nitrate-N, mg/l	0.69
25	Total Coliform, MPN/100 ml	3800
26	Fecal Coliform, MPN/100 ml	2800
27	Fecal Streptococci	170

Analysis Report(APRIL 2020)

Sl. No.	Parameters	Irumpanam
1	Temperature, ^{0}C	29
2	pH	7
3	Conductivity, µmhos/cm	1238
4	Turbidity, NTU	4.1
5	Total Alkalinity, as CaCO3	43
6	Chloride, mg/l	250
7	COD, mg/l	12
8	TKN, mg/l	0.52
9	Ammoniacal-N, mg/l	0
10	Hardness, as CaCO3 mg/l	300
11	Calcium, as CaCO3 mg/l	120
12	Magnesium as CaCO3, mg/l	180
13	Sulphate, mg/l	180
14	Sodium, mg/l	142
15	Total Dissolved Solids, mg/l	850
16	Total Fixed Solids, mg/l	660
17	Total Suspended Solids, mg/l	55
18	Phosphate, mg/l	0.74
19	Boron, mg/l	0.41
20	Potassium, mg/l	15.5
21	BOD, mg/l	3
22	Fluoride, mg/l	0.71
23	Dissolved Oxygen, mg/l	4.7
24	Nitrate-N, mg/l	0.04
25	Total Coliform, MPN/100 ml	1500
26	Fecal Coliform, MPN/100 ml	480
27	Fecal Streptococci	100

ANNEXURE-II(Irrigation Department)

Irrigation Section Champakkara - Works Included in Chithrappuzha Action plan				
SL No.	Name of work	Price ID	Amount in Lakhs	Present Status
	Short Term Works			
1	NGT- IWT Works - Desilting of Chithrapuzha River near Kochin Refinery from Mamala bridge to Chithrapuzha bridge in Ernakulam District - Reach I	2020/618/IA	49.18	Work Tendered
2	NGT - IWT Work - Desilting of Chithrapuzha River from Chithrapuzha bridge to Railway bridge in Ernakulam District - Reach II	2020/735/IA	77.20	Estimate submitted to CE
3	NGT - IWT Work- Desilting of Chithrapuzha River from Railway bridge to Kozhichira bund in Ernakulam District- - Reach III	2020/740/IA	88.95	Estimate submitted to CE
	Long Term works			
4	NGT- IWT Works - Soil Investigation works for the construction of Walk way along Chithrapuzha River from Mamala to Champakkara cana	2020/1243/IA	17.74	Estimate submitted to CE
	Total		233.07	
These estimates are prepared for implementing the action plan prepared based on National Green Tribunal OA No. 673/2018				

CHITHRAPUZHA

Analysis Report(JUNE 2020)

Sl. No.	Parameters	Irumpanam
1	Temperature, ^{0}C	29
2	pH	6.6
3	Conductivity, µmhos/cm	288
4	Turbidity, NTU	14.9
5	Total Alkalinity, as CaCO3	39
6	Chloride, mg/l	44
7	COD, mg/l	12
8	TKN, mg/l	2.13
9	Ammoniacal-N, mg/l	1.50
10	Hardness, as CaCO3 mg/l	65
11	Calcium, as CaCO3 mg/l	30
12	Magnesium as CaCO3, mg/l	35
13	Sulphate, mg/l	26.61
14	Sodium, mg/l	31.83
15	Total Dissolved Solids, mg/l	195
16	Total Fixed Solids, mg/l	170
17	Total Suspended Solids, mg/l	25
18	Phosphate, mg/l	1.39
19	Boron, mg/l	0.05
20	Potassium, mg/l	4
21	BOD, mg/l	3.2
22	Fluoride, mg/l	0.64
23	Dissolved Oxygen, mg/l	0.7
24	Nitrate-N, mg/l	3.43
25	Total Coliform, MPN/100 ml	5400
26	Fecal Coliform, MPN/100 ml	2700
27	Fecal Streptococci	220

RIVER - KADAMBRAYAR

Submission of Monthly Progress Report-June 2020 by States/UTs

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

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.
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	3 years(final)	Not reported any progress by Thrikkakkara Municipality
3	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning	-do-	-do-
4	Chief Secretaries may set up appropriate monitoring mechanism at state level • Specifying accountability of nodal authorities not below the Secretary level • Chief Secretaries may have an accountable person attached in their office for this purpose.		
5	• Monitoring at State level must take place		District level committee monitoring regularly

6	Progress report may be furnished by the State/UTs to • Secretary,Ministry of Jal Shakti • Member Secretary,CPCB	Monthly (preferably before 20th of every month)	
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 insitu treatment.		Ongoing
	(II) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure,Gap Analysis,proposed along with completion timeline		submitted
	(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.		Due to COVID-19 situation,Common CETP of CSEZ could not be completed as per the scheduled dated 31.05.2020; The authorities informed that CETP will be commissioned by Nov 2020

	(iv) <u>Status of Solid Waste Management& Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline		To allot land for installing rendering plant for slaughter house and poultry wastes, Government procedures are on going; Aerobic bins, bio- composter, portable bio gas, ring compost, Sanitary Napkin Destroyer are proposed to install by Thrikkakkara Municipality; Wet solid wastes collected and treated at Brahmapuram Plant
	(v)Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;		Attached (Annexure-I)
	(vi)Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from establishments		Monitoring on going; Instruction was given to local bodies by KSPCB to install Surveillance cameras on major waste dumping places; Instruction was also given by KSPCB to constitute a ward level committee

			for conducting day/night surveillance with the help of police
	(vii)Ground water regulation		On going by Ground Water Department
	(viii) Adopting good irrigation practices		Enclosed as Annexure-II (by Irrigation Dept w.r.t action plan); As per the letter dated 14.07.2020, cleaning work of drains/streams joining kadambrayar is on going by Thrikkakkara Municipality
	(ix)Protection and management of food plain Zones (FPZ),		Protection and management of food plain Zones are included in revised action plan by Irrigation Department
	(x)Rain water harvesting		Insisting for major units by KSPCB as consent condition
	(xi)Maintaining minimum Environmental flow of river		Not reported any progress by Irrigation Department

	(xii) Plantation on both sides of the river		Not reported any progress by Thripunithura Municipality
	(xiii) Setting up biodiversity parks on flood plains by removing encroachment		Not reported any progress by Revenue Department, Irrigation Department and Thripunithura Municipality

ANNEXURE-I(KSPCB)

Analysis Report(JUNE 2020)

Sl. No.	Parameters	Brahmapuram	Manackakadavu
1	Temperature, ^{0}C	28	28
2	pH	6.6	6.5
3	Conductivity, µmhos/cm	200	116
4	Turbidity, NTU	18.6	19.2
5	Total Alkalinity, as CaCO3	47	28
6	Chloride, mg/l	28	15
7	COD, mg/l	12	12
8	TKN, mg/l	0.78	0.24
9	Ammoniacal-N, mg/l	0.44	0.17
10	Hardness, as CaCO3 mg/l	43	29
11	Calcium, as CaCO3 mg/l	27	6
12	Magnesium as CaCO3, mg/l	16	23
13	Sulphate, mg/l	17.31	13.75
14	Sodium, mg/l	16.89	10.97
15	Total Dissolved Solids, mg/l	130	82
16	Total Fixed Solids, mg/l	100	65
17	Total Suspended Solids, mg/l	25	28
18	Phosphate, mg/l	0.03	0.02
19	Boron, mg/l	0.00	0.01
20	Potassium, mg/l	3.01	2.42
21	BOD, mg/l	3.0	2.9
22	Fluoride, mg/l	0.07	0.06
23	Dissolved Oxygen, mg/l	0.6	1.5
24	Nitrate-N, mg/l	0.79	0.34
25	Total Coliform, MPN/100 ml	2000	4600
26	Fecal Coliform, MPN/100 ml	1100	1500
27	Fecal Streptococci	79	100

Analysis Report(MAY 2020)

Sl. No.	Parameters	Brahmapuram	Manakkakkadavu
1	Temperature, ^{0}C	28	29
2	pH	6.6	6.7
3	Conductivity, µmhos/cm	126	86
4	Turbidity, NTU	1.2	3.1
5	Total Alkalinity, as CaCO3	25	20
6	Chloride, mg/l	18	9
7	COD, mg/l	12	10
8	TKN, mg/l	0.13	0
9	Ammoniacal-N, mg/l	0.06	0
10	Hardness, as CaCO3 mg/l	17	13
11	Calcium, as CaCO3 mg/l	5	7
12	Magnesium as CaCO3, mg/l	12	6
13	Sulphate, mg/l	8.1	8
14	Sodium, mg/l	11.56	6.64
15	Total Dissolved Solids, mg/l	72	50
16	Total Fixed Solids, mg/l	60	40
17	Total Suspended Solids, mg/l	20	24
18	Phosphate, mg/l	0	0
19	Boron, mg/l	0.01	0.14
20	Potassium, mg/l	2.26	1.96
21	BOD, mg/l	2.9	1.5
22	Fluoride, mg/l	0.04	0.04
23	Dissolved Oxygen, mg/l	1.3	3.6
24	Nitrate-N, mg/l	0.18	0.07
25	Total Coliform, MPN/100 ml	5400	3400
26	Fecal Coliform, MPN/100 ml	3100	2400
27	Fecal Streptococci	170	200

Analysis Report(APRIL 2020)

Sl. No.	Parameters	Brahmapuram	Manackakadavu
1	Temperature, ^{0}C	30	30
2	pH	6	6
3	Conductivity, µmhos/cm	90	60
4	Turbidity, NTU	4.2	5.7
5	Total Alkalinity, as CaCO3	26	6
6	Chloride, mg/l	11	10
7	COD, mg/l	6.4	8
8	TKN, mg/l	0.02	1.40
9	Ammoniacal-N, mg/l	0	0.41
10	Hardness, as CaCO3 mg/l	16	6
11	Calcium, as CaCO3 mg/l	4	4
12	Magnesium as CaCO3, mg/l	12	2
13	Sulphate, mg/l	2.7	2.8
14	Sodium, mg/l	7.59	7.43
15	Total Dissolved Solids, mg/l	50	34
16	Total Fixed Solids, mg/l	40	28
17	Total Suspended Solids, mg/l	14	10
18	Phosphate, mg/l	0	0
19	Boron, mg/l	0	0.03
20	Potassium, mg/l	1.94	1.81
21	BOD, mg/l	3.2	3.3
22	Fluoride, mg/l	0.06	0.04
23	Dissolved Oxygen, mg/l	2.9	2.2
24	Nitrate-N, mg/l	0.4	0.66
25	Total Coliform, MPN/100 ml	1700	1000
26	Fecal Coliform, MPN/100 ml	12	340
27	Fecal Streptococci	2	17

ANNEXURE-II(Irrigation Department)

SL No.	Name of work	Price ID	Amount in Lakhs	Present status
	Short Term Works			
1	NGT - Removal of water hyacinth from Kadambrayar upstream ecotourism to Kozhichira bund	2020/828/IA	48.57	Estimate submitted to Chief Engineer
2	NGT - Desilting of Padathikkara Thodu near Infopark Phase II in Vadavucode puthencruz Panchayath	2020/741/IA	15.43	Estimate submitted to Chief Engineer
3	NGT - Removal of water hyacinth from Edachira thodu from Brahmapuram bridge to Edachira road in Thrikkakara Muncipality	2020/829/IA	9.36	Estimate submitted to Chief Engineer
4	NGT - Desilting of Athikkaly Thodu from Kalangad road to Champakkara canal in Thrikkakara Muncipality	2020/742/IA	38.94	Estimate submitted to Chief Engineer
	Long Term works			
5	NGT- Soil Investigation Works for the construction of Walk way along Kadambrayar from Manakkakadavu bridge to Kozhichira bund	2020/1242/IA	16.25	Estimate submitted to Chief Engineer
	Total		128.55	
These estimates are prepared for implementing the action plan prepared based on National Green Tribunal OA No. 673/2018				

KADAMBRAYAR

Analysis Report(JUNE 2020)

Sl. No.	Parameters	Brahmapuram	Manackakadavu
1	Temperature, ^{0}C	28	28
2	pH	6.6	6.5
3	Conductivity, µmhos/cm	200	116
4	Turbidity, NTU	18.6	19.2
5	Total Alkalinity, as CaCO3	47	28
6	Chloride, mg/l	28	15
7	COD, mg/l	12	12
8	TKN, mg/l	0.78	0.24
9	Ammoniacal-N, mg/l	0.44	0.17
10	Hardness, as CaCO3 mg/l	43	29
11	Calcium, as CaCO3 mg/l	27	6
12	Magnesium as CaCO3, mg/l	16	23
13	Sulphate, mg/l	17.31	13.75
14	Sodium, mg/l	16.89	10.97
15	Total Dissolved Solids, mg/l	130	82
16	Total Fixed Solids, mg/l	100	65
17	Total Suspended Solids, mg/l	25	28
18	Phosphate, mg/l	0.03	0.02
19	Boron, mg/l	0.00	0.01
20	Potassium, mg/l	3.01	2.42
21	BOD, mg/l	3.0	2.9
22	Fluoride, mg/l	0.07	0.06
23	Dissolved Oxygen, mg/l	0.6	1.5
24	Nitrate-N, mg/l	0.79	0.34
25	Total Coliform, MPN/100 ml	2000	4600
26	Fecal Coliform, MPN/100 ml	1100	1500
27	Fecal Streptococci	79	100

National Mission for Clean Ganga

Format for Submission of Monthly Progress Report by States/UTs

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

Periyarriver – Aluva – Eloor-Kalamassery

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		Progressing
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	Dec 2019- 2021	1.Augmentation and Revamping of existing STP at near AdwaithaAshramam–No progress reported, Aluva municipality under lockdown due to COVID19 Pandemic diseases. 2. Augmentation and Revamping of exisiting STP at Aluva Market- No progress reported, Aluva municipality under lockdown due to COVID19 Pandemic diseases.
3	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning	31.03.2023	Progressing
5	Chief Secretaries may set up appropriate monitoring mechanism at state level • Specifying accountability of nodal authorities not below the Secretary level	-	NA

	• Chief Secretaries may have an accountable person attached in their office for this purpose.		
	• Monitoring at State level must take place	-	NA
6	Progress report may be furnished by the State/UTs to • Secretary,Ministry of Jal Shakti • Member Secretary,CPCB	-	NA

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 insitu treatment.	2020	(I) i)Kadungallur Panchayath - **The action being taken for solid waste disposal.** ii)Choornikkara Panchayath - Only residential apartments and houses located near the riverbank from which no discharge is found. But, there is discharges to drains in other area of panchayath. Strict measures taken against them. Panchayath identified 8 spots for Fixing CCTV camera. 24 lakhs rupees allotted for this project. Work awarded to Steel Industries Kerala Limited. **Work not started due to COVID19 Pandemic diseases** iii)Aluva municipality – No progress reported iv)Inspection carried Muncipality .Notice issued to defaulters and sewage is disposed in to soak pit and septic tank and directed by PCB.Periodic monitoring is done to ensure the same in Eloor municipality. v)Identification of the establishments/commercial complexes/flats/houses/hotels

			etc who is discharging the sewage to the public drain is under process in Kalamassery municipality- No progress reported vii)Periodical inspection in the flats, hotels, shops located along the river **is reported by Cochin Corporation**
	(II) Status of STPs, I&D and sewerage networks Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline	Dec-2019 2021 Dec 2019	(II) 1.Augmentation and Revamping of existing STP at near AdwaithaAshramam - No progress reported 2. Augmentation and Revamping of exisiting STP at Aluva Market - No progress reported 3.STP in Kalamaserry market – No progress reported (III)No existing CETP. Common Effluent Treatment Plant at Edayar Industrial Estate - PCB had given a detailed report to industries Department for installation of CETP. **Action on the site identification and DPR preparation initiated**. (iv) 1.Construction of retaining wall with HDPE liner at Kalamassery dumping yard in order to prevent the leachate discharge from the

	(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.	2022	yard to Thoombungal Thodu– No progress reported 2. Identification of site is in progress forinstallation of modern abattoirs including poultry and meat rendering plants in Kalamassery municipality-– No progress reported 3.Installation of modern abattoirs in Aluva muncipality-– No progress reported
	(iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline	Sep-2019 Mar-2021	(v)Daily sampling from 4 location and sample taken from an additional point twice in a month.Monthly river sampling from 12 discharge points from industries.- **Sampling ongoing by PCB** (vi) Installation of cameras at the waste dumping spots – Aluva municipality formed squad to regularly monitor the issue. As a result, there is no dumping site to install the camera. Eloor municipality- contract for installation of cameras is given to Keltron. They were unable to install the cameras due to COVID 19 Pandemic disease Biomedical wastes through CBWTDF.

	(v)Latest water quality ofpolluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river; (vi)Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.	2020	E-waste through authorised collection agents. Plastic shredding unit is operating , establishment of second unit is under discussion in Kalamassery municipality. River monitoring being done by KSPCB. Analysis report submitted. Identification of drains completed by PCB

	(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	Long term measure	The long term measures such as construction of dyke, ring road, etc at the industrial belt, installation of common pipeline for industrial discharge at downstream of Pathalam bund and maintaining minimum flow is coming under the action of Irrigation department. Irrigation department had not submitted any action taken report till date.

KERALA STATE POLLUTION CONTROL BOARD
ENVIRONMENTAL SURVEILLANCE CENTRE, ELOOR
ANALYSIS REPORT OF RIVER PERIYAR - MAY 2020
Sampling point: VETTUKADAVU

Sl. No	Parameter	Unit	05/05/2020	25/05/2020
1	Temp	°c	33.6	32.4
2	pH		7	8.2
3	Conductivity	µS	11560	11560
4	Turbidity	NTU	1	2
5	Chlorides	mg/l	3200	3200
6	Hardness	"	2700	2800
7	D.O.	"	5.4	6.6
8	Calcium	"	3200	680
9	Magnesium	"	267.3	267.3
10	Ammoniacal Ntrogen	"	0.782	0.195
11	Phosphate	"	0.139	0.049
12	Total alkalinity	"	15	20
13	BOD	"	2.5	1.7
14	FS	cfu/100ml	NIL	
15	FC	"	500	
16	Nitrate	mg/l	0.693	0.751

Microbiological Incubator Complaint on 21.05.2020

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KERALA STATE POLLUTION CONTROL BOARD
ENVIRONMENTAL SURVEILLANCE CENTRE, ELOOR
ANALYSIS REPORT OF RIVER PERIYAR - MAY 2020
Sampling point: PATHALAM

Sl. No	Parameter	Unit	05.05.2020	25.05.2020
1	Temp	°c	33.7	32.4
2	pH		6.8	7.1
3	Conductivity	µS	495	193
4	Turbidity	NTU	1	1
5	Chlorides	mg/l	140	50
6	Hardness	"	100	43
7	D.O.	"	5.6	3.8
8	Calcium	"	140	10.4
9	Magnesium	"	11.66	4.131
10	Ammoniacal Ntrogen	"	0.065	0.124
11	Phosphate	"	BDL	BDL
12	Total alkalinity	"	10	10
13	BOD	"	2.1	3
14	FS	cfu/100ml	NIL	
15	FC	"	800	
16	Nitrate	mg/l	0.028	0.316

Scanned by CamScanner

KERALA STATE POLLUTION CONTROL BOARD
ENVIRONMENTAL SURVEILLANCE CENTRE, ELOOR
ANALYSIS REPORT OF RIVER PERIYAR - MAY 2020
Sampling point: PUTHALAM

Sl. No	Parameter	Unit	05.05.2020	25.05.2020
1	Temp	°c	33.7	32.3
2	pH		6.5	6.4
3	Conductivity	µS	330	242
4	Turbidity	NTU	1	2
5	Chlorides	mg/l	89	62
6	Hardness	"	78	54
7	D.O.	"	3.7	0.1
8	Calcium	"	89	12.4
9	Magnesium	"	7.533	5.589
10	Ammoniacal Ntrogen	"	0.065	0.328
11	Phosphate	"	BDL	BDL
12	Total alkalinity	"	10	10
13	BOD	"	3	5.8
14	FS	cfu/100ml	NIL	
15	FC	"	900	
16	Nitrate	mg/l	0.163	0.498

Scanned by CamScanner

KERALA STATE POLLUTION CONTROL BOARD
ENVIRONMENTAL SURVEILLANCE CENTRE, ELOOR
ANALYSIS REPORT OF RIVER PERIYAR - MAY 2020
Sampling point: MANJUMMAL BUND

SI.NO	Parameter	Unit	05.05.2020	25.05.2020
1	Temp	°c	33.6	32.2
2	pH		6.7	6.6
3	Conductivity	µs	318	273
4	Turbidity	NTU	2	2
5	Chlorides	mg/l	85	72
6	Hardness	"	76	63
7	D.O.	"	0.8	0.6
8	Calcium	"	85	14.8
9	Magnesium	"	7.047	6.318
10	Ammoniacal Ntrogen	"	0.304	0.323
11	Phosphate	"	BDL	BDL
12	Total alkalinity	"	10	15
13	BOD	"	5.1	5.3
14	FS	cfu/100ml	NIL	
15	FC	"	400	
16	Nitrate	mg/l	0.245	0.637

Scanned by CamScanner

KERALA STATE POLLUTION CONTROL BOARD
ENVIRONMENTAL SURVEILLANCE CENTRE, ELOOR
ANALYSIS REPORT OF RIVER PERIYAR - JUNE 2020
Sampling point: PATHALAM BRIDGE

Sl. No	Parameter	Unit	06.06.2020	25.06.2020
1	Temp	°c	29.2	29.7
2	pH		6.8	6.4
3	Conductivity	µs/cm	107	67
4	Turbidity	NTU	2	1
5	Chlorides	mg/l	26	17
6	Hardness	"	24	11
7	D.O.	"	3.9	4.4
8	Calcium	"	6	2.4
9	Magnesium	"	2.187	1.215
10	Ammoniacal Nitrogen	"	BDL	BDL
11	Phosphate	"	BDL	BDL
12	Total alkalinity	"	10	10
13	BOD	"	2.9	2.6
14	Nitrate	"	0.351	0.722

TREESA SHIMOL P. R.
ASSISTANT SCIENTIST

KERALA STATE POLLUTION CONTROL BOARD
ENVIRONMENTAL SURVEILLANCE CENTRE, ELOOR
ANALYSIS REPORT OF RIVER PERIYAR - JUNE 2020
Sampling point: VETTUKADAVU

Sl. No	Parameter	Unit	06/06/2020	25/06/2020
1	Temp	°c	29.2	29.7
2	pH		6.8	6.2
3	Conductivity	µS/cm	1884	178
4	Turbidity	NTU	1	1
5	Chlorides	mg/l	510	43
6	Hardness	"	490	33
7	D.O.	"	4	4.3
8	Calcium	"	12.4	6.8
9	Magnesium	"	43.74	3.888
10	Ammoniacal Nitrogen	"	BDL	0.063
11	Phosphate	"	BDL	BDL
12	Total alkalinity	"	15	10
13	BOD	"	2.8	2.8
14	Nitrate	"	0.586	0.561

15/7/20
TREESA SHIMOL P. R.
ASSISTANT SCIENTIST

KERALA STATE POLLUTION CONTROL BOARD
ENVIRONMENTAL SURVEILLANCE CENTRE, ELOOR
ANALYSIS REPORT OF RIVER PERIYAR - JUNE 2020
Sampling point: PUTHALAM

Sl. No	Parameter	Unit	06.06.2020	25.06.2020
1	Temp	°c	29.2	29.6
2	pH		6.5	6.3
3	Conductivity	µs/cm	118	93
4	Turbidity	NTU	1	2
5	Chlorides	mg/l	31	24
6	Hardness	"	20	15
7	D.O.	"	1.9	3.6
8	Calcium	"	4	3.2
9	Magnesium	"	2.43	1.701
10	Ammoniacal Nitrogen	"	BDL	BDL
11	Phosphate	"	BDL	BDL
12	Total alkalinity	"	10	10
13	BOD	"	3.1	3
14	Nitrate	"	0.396	0.981

TREESA
ASSISTANT SCIENTIST

KERALA STATE POLLUTION CONTROL BOARD
ENVIRONMENTAL SURVEILLANCE CENTRE, ELOOR
ANALYSIS REPORT OF RIVER PERIYAR - JUNE 2020
Sampling point: MANJUMMAL BUND

Sl.NO	Parameter	Unit	06.06.2020	25.06.2020
1	Temp	°c	28.9	29.8
2	pH		6.9	6.3
3	Conductivity	µs/cm	150	94
4	Turbidity	NTU	1	1
5	Chlorides	mg/l	40	24
6	Hardness	"	31	16
7	D.O.	"	4.4	2.6
8	Calcium	"	6.8	3.2
9	Magnesium	"	3.402	1.944
10	Ammoniacal Nitrogen	"	BDL	BDL
11	Phosphate	"	BDL	BDL
12	Total alkalinity	"	10	15
13	BOD	"	2.5	3.2
14	Nitrate	"	0.472	0.511

15/7/20

TREESA SHIMOL P. R.
ASSISTANT SCIENTIST

National Mission for Clean Ganga

Format for Submission of Monthly Progress Report by States/UTs

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

Karuvannur River – June 2020

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		On Progress
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		NA
3	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning		On progress (Proposal Submitted Before Council
5	Chief Secretaries may set up appropriate monitoring mechanism at state level ● Specifying accountability of nodal authorities not below the Secretary level ● Chief Secretaries may have an accountableperson attached in their office for this purpose.		NA
	● Monitoring at State level must take place		NA
6	Progress report may be furnished by the State/UTs to ● Secretary,Ministry of Jal Shakti ● Member Secretary,CPCB	Applicable at State level	NA

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 insitu treatment.		Inspection conduced and no Illegal outlets were identified.
	(II) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline	30.05.2021	Invited tender for FSTP and STP for DPR.
	(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.		NA
	(iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline		Windrow compost construction started.Aerobic compost unit – Thumbhurmozhi model construction completed.

	(v)Latest water quality ofpolluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;		Water quality monitoring of polluted river stretch is done periodically, (Report attached.)
	(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.		Health squard is formed to prevent littering of waste in public places. Police department installed CCTV at Karuvannur bridge and Puthenthodu.Neccesary steps are taken for installation of CCTV at Neerolithodu and Painkilipadam areas.
	(vii)Ground water regulation		
	(viii) Adopting good irrigation practices,		
	(ix) Protection and management of food plain Zones (FPZ),		Not yet started

	(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		Work not started due to high water level

KARUVANUR

09.06.2020

SL. NO	PARAMETE	UNIT	KT	MRK	KND	MDK	THR	KRV
1	PH		6.48	5.8	5.88	6.64	6.67	6.43
2	EC	µ/cm	82	197	142	187	117	118
3	BOD	mg/L	2.1	1.9	2.5	3	2.9	2.1
4	DO	mg/L	6.3	3.5	6	8.6	8.4	3.9
5	COD	mg/L	4	4	11.8	3.9	7.8	3.9
6	TC	CFU/100m	400	500	200	600	400	500
7	FC	CFU/100m	100	200	100	200	100	200

KT - KANAKKAN KADAVU, KARUVANNUR

MRK - NEEI EEROLI THODE

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)

Kecheri River – June 2020

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		DPR Submitted before KIIFB
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		DPR Submitted before KIIFB
3	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning		DPR Submitted before KIIFB
5	Chief Secretaries may set up appropriate monitoring mechanism at state level ● Specifying accountability of nodal authorities not below the Secretary level ● Chief Secretaries may have an accountableperson attached in their office for this purpose.		NA
	● Monitoring at State level must take place		NA
6	Progress report may be furnished by the State/UTs to ● Secretary,Ministry of Jal Shakti ● Member Secretary,CPCB	Applicable at State level	NA

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 insitu treatment.		Illegal outlets were identified and notice was issued as per Kerala Municipal Act .In Further inspection outlets were found removed. Process on going
	(II) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline	March 2021	2 common STPs are proposed, One at Athani (350 MLD)and other at Ottupara(500MlD).
	(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.		NA
	(iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline	30.09.2020	Tender for installation of windrow composting at Kumbalangad completed.Work order issued.Non biodegradable wastes collected by Haritha karma sena. Biodegradable wastes by kudumbasree.

	(v)Latest water quality ofpolluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;		Tributaries Akamala Ottupara Thodu Drains-2 wadakanchery &Ottupara. Water quality monitoring of polluted river stretch is done periodically, (Report attached.)
	(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.		Biomedical wastes collected by IMAGE.Two MRF were setup. Plastic waste handed to Clean Kerala company every day by harithakarma sena.RCF(Cost of installing bailing machine and shredding machine remitted to Clean Kerala company).
	(vii)Ground water regulation		Construction of 1726 rain pits for ground water recharge are under progress
	(viii) Adopting good irrigation practices,		Not yet started

	(ix) Protection and management of food plain Zones (FPZ),		Not yet started
	(x) Rain water harvesting,	30.03.2022	Guaranteed construction of Rain water harvesting facility for residential building above 150m^2 are under process.
	(xi)Maintaining minimum Environmental flow of river	30.03.2022	Not yet started
	(xii) Plantation on both sides of the river		Planting bamboos on riversides. Work ongoing.
	(xiii) Setting up biodiversity parks on flood plains by removing encroachment		Encroachment removal ongoing. Already recovered 10.5Acre of encroached land.

KECHERI

09.06.2020

SL. NO	PARAMETE	UNIT	VAD1	VAD2
1	PH		6.6	6.42
2	EC	µ/cm	105	100
3	BOD	mg/L	1.5	2.4
4	DO	mg/L	6.8	7
5	COD	mg/L	15.9	8.1
6	TC	CFU/100m	300	200
7	FC	CFU/100m	100	100

VAD1 - WADAKKANCHERY PUZHA, KECHERY	
VAD2 - WADAKKANCHERY PUZHA, KECHERY	

National Mission for Clean Ganga

Format for Submission of Monthly Progress Report by States/UTs

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

Puzhakkal River– June 2020

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		On Progress
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		NA
3	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning		On progress (Proposal Submitted Before Council
5	Chief Secretaries may set up appropriate monitoring mechanism at state level ● Specifying accountability of nodal authorities not below the Secretary level ● Chief Secretaries may have an accountableperson attached in their office for this purpose.		NA
	● Monitoring at State level must take place		NA
6	Progress report may be furnished by the State/UTs to ● Secretary,Ministry of Jal Shakti ● Member Secretary,CPCB	Applicable at State level	NA

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 insitu treatment.		Illegal outlets 91530 houses and 122 establishments)were identified and notice issued.
	(II) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline	30.05.2021	Work tendered and selection memo issued. Agrement not executed. Reminder letter sent
	(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.		70 percentage of industries installed ETPs. Notice were issued to remaining establishments
	(iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline		

	(v)Latest water quality ofpolluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;		Water quality monitoring of polluted river stretch is done periodically, (Report attached.)
	(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.		.
	(vii)Ground water regulation		
	(viii) Adopting good irrigation practices,		Riverside protection work for a stretch of 500m has been completed. Construction of second stretch of 450m is ongoing.
	(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		

PUZHAKKAL

09.06.2020

SL. NO	PARAMETE	UNIT	SBA	KTH	PTU	MP
1	PH		6.76	6	6.71	6.15
2	EC	µ/cm	172.3	465	501.4	176
3	BOD	mg/L	2.2	2.9	1.7	1.6
4	DO	mg/L	8.4	6.1	2.9	3.6
5	COD	mg/L	8.1	16	8	12
6	TC	CFU/100m	200	400	500	200
7	FC	CFU/100m	100	100	200	100

SBA - NEAR SOBHA CITY, KIZHAKKUMMURI ROAD , PUZHAKKAL

KTH - KURINJAKKAL THODU, PUZHAKKAL

PTU - PANCHIKKAL THODU, PUZHAKKAL

MP - MUPPUZHA, PUZHAKAL

National mission for clean Ganga

Formate for submission of monthly progress report by state/UTs

For the month of June 2020 – Kuttiady polluted river stretch

Sl No	Activity to be monitored	Timeline	Submission of progress by state/UT-complinace status Kuttiady
1	Ensure 100% treatement of sewage at least in-situ remediation		
	Commencement of setting up of STPs 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	31.03.2021	Not Applicable
5	Chief secretaries may set up appropriate monitoring mechanism at state level • Specifying accountability of nodal authorities not below the secretary level • Chief secretaries may have an accountable person attached in their office for this purpose		Not Applicable
	• Monitoring at state level must take place		Not Applicable
6	Progress report may be furnished by the state/UTs to • Secretary,ministry of jal shakti • Member secretary,CPCB	Monthly (preferably before 20th of every month)	Not Applicable
6.1	Progress report may be comprised of details along with completion timeline on: (i) identification of polluting source including drains	Primary STP (oil & grease gap with grit chamber)	Progressing

	contributing to river pollution and action as per NGT order on insitu treatment	Not proposed	
	(ii) status of STPs, I&D and sewage networks details of existing infrastructure,proposed along with completion timeline		NIL
	(iii) status of CETPs details of existing CETP and ETP infrastructure ,Gap analysis,proposed along with complying status	Implementation of MCF & RRF was achieved by January 2020	Implemented
	(iv) status of solid waste management & details of processing facilities details of existing infrastructure, Gap analysis,proposed along with completion timeline	Will be implemented	Water quality monitoring of polluted river stretch
	(v) latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;	Will be implemented	Water quality monitoring result in month of may polluted river stretch-attached as annexure-1
	(vi) preventing dumping of waste and scientific waste management including bio-medical waste plastic waste and decentralizeing waste processing, including waste generated from hotels, ashrams,etc.	No specific proposal No specific proposal No specific proposal	NIL
	(vii) ground water regulation		
	(viii) adopting good irrigation practices	No specific proposal	
	(ix) protection and management of flood plain zones(FPZ),		NIL

	(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		NIL Initiated Initiated NIL

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

KERALA STATE POLLUTION CONTROL BOARD
കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്
കോഴിക്കോട് റീജ്യണൽ ലബോറട്ടറി
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Annexure-1

ANALYSIS REPORT OF RIVER WATER

Report No.	K R O R 3 8 3 7 / 1 to 8	Date:	0 8 0 7 2 0 2 0
Date of Sample Collection	1 7 0 6 2 0 2 0	Date of receipt of the sample	1 8 0 6 2 0 2 0
		Time	1 0 : 3 0 AM
Sampled by:	DO ,KKD	Sample ID	DS1,DS2,DS3,DS4,DS5,DS6,DS7,DS8
Sampling Method	APHA1060B,a	Sample Lab Code	KROS 3837/1-8
Sample container	PC 2.5 L	Ref.letter No.	PCB/KKD/DO/GEN/POLLUTED RIVER STRETCHES/2018 dated 18.06.2020
Source:	KUTTYADI RIVER WATER	Received from:	EE,DO,KKD
		Period of analysis:	18.06.2020-07.07.2020
Specific sampling location:	GIVEN BELOW	No. of samples	8
		Analysed by:	AC/VN/JS/CVR
Sample preservation:	Ice box	Method:Standard Methods for the examination of Water and Wastewater, APHA AWWA WEF (22nd Ed.)	

sl no	Parameters	unit	Method No.	SAMPLE ID							
				DS1	DS2	DS3	DS4	DS5	DS6	DS7	DS8
1	pH	-	APHA 4500-H+,B	6.2	6	5.9	5.8	5.8	5.8	5.8	6.1
2	CONDUCTIVITY	µmhos /cm	APHA 2510B	40	29.2	35.4	25.3	83	93	44.8	39
3	BOD	mg/L	IS3025 (Part 44)	0.7	0.73	0.13	1.3	0.73	0.07	0.13	0.2
	DISSOLVED OXYGEN	mg/L	APHA 4500-O,C	8	8.1	7.93	7.53	8.2	5.73	7.3	8.07
5	TOTAL COLIFORM,	CFU/100ml	APHA 9222B	50000	3200	7500	2900	800	21000	6500	62000
6	FECAL COLIFORM	CFU/100ml	APHA 9222D	31000	2400	5800	2200	300	17000	4800	58000
7	TEMPERATURE	°C	APHA 2550B	28	26	28	28	28	27	26	27

Test method variation: None

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

DS8- KUTTYADI RIVER BEHIND KSRTC DEPOT, THOTTILPALAM, 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 (DRAINAGE MOUTH), DS7- KUTTYADI RIVER AT KADIYANGAD RIVER

Scientist in charge
8/7/2020
Asst. Scientist

National mission for clean Ganga

Format for submission of monthly progress report by state/UTs

For the month of June 2020 – Kallai polluted river stretch

Sl No	Activity to be monitored	Timeline	Submission of progress by state/UT-complinace status Kallai
1	Ensure 100% treatement of sewage at least in-situ remediation		
	Commencement of setting up of STPs 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	31.03.2021	1. Proposal for 13 MLD STP(6 MLD STP plant proposed at Kothi, 7 MLD STP plant proposed at Avikkal) – Tendering in progress 2.Initiated the construction of 2 MLD ,1MLD plant-medical college
5	Chief secretaries may set up appropriate monitoring mechanism at state level • 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
	• Monitoring at state level must take place		NIL
6	Progress report may be furnished by the state/UTs to • Secretary,ministry of jal shakti • Member secretary,CPCB	Monthly (preferably before 20th of every month)	NIL
6.1	Progress report may be comprised of details along with	Primary STP	Action plan submitted

	completion timeline on: (i) identification of polluting source including drains contributing to river pollution and action as per NGT order on insitu treatment	(oil & grease gap with grit chamber) Not proposed	
	(ii) status of STPs, I&D and sewage networks details of existing infrastructure,proposed along with completion timeline		Tendering in progress
	(iii) status of CETPs details of existing CETP and ETP infrastructure ,Gap analysis,proposed along with complying status	Implementation of MCF & RRF was achieved by January 2020	NIL
	(iv) status of solid waste management & details of processing facilities details of existing infrastructure, Gap analysis,proposed along with completion timeline	Will be implemented	Existing centralized waste disposal facility of 70 MT/DAY at Njeliyanparamba(windrow composting) ,proposal of waste to energy plant at Njeliyanparamba implementation in progress
	(v) latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;	Will be implemented	Water quality monitoring result in month of may polluted river stretch-attached as annexure-2
	(vi) preventing dumping of waste and scientific waste management including bio-medical waste plastic waste and decentralizeing waste processing, including waste generated from hotels, ashrams,etc.	No specific proposal No specific proposal No specific proposal	Biomedical waste collected through image, plastic waste disposal through recyclers centralized solid waste (windrow composting) facility 70 MT/DAY at Njeliyanparaba
	(vii) ground water regulation		NIL
	(viii) adopting good irrigation practices	No specific proposal	NIL

	(ix) protection and management of flood 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		NIL Initiated Initiated NIL

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

KERALA STATE POLLUTION CONTROL BOARD
കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്
കോഴിക്കോട് റീജ്യണൽ ലബോറട്ടറി
REGIONAL LABORATORY, KOZHIKODE
3rd FLOOR, ZAMORIN'S SQUARE, LINK ROAD, KOZHIKODE – 673 002
Telefax: 2300745 46, 47
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Annexure-2

ANALYSIS REPORT OF RIVER WATER

Report No.	KROR 3836 / 1 to 7	**Date:**	08/07/2020
Date of Sample Collection	16/06/2020	Date of receipt of the sample	16/06/2020
		Time	Hours: 04:00 AM
Sampled by:	DO ,KKD	Sample ID	KL1, KL2, KL3, KL5, KL6 & KL7
Sampling Method	APHA1060B,a	Sample Lab Code	KROS 3836/1-7
Sample container	PC 2.5 L	Ref.letter No.	PCB/KKD/DO//POLLUTED RIVER STRETCHES/2018 dated16.06.2020
Source:	KALLAI RIVER WATER	Received from:	EE,DO,KKD
		Period of analysis:	16.06.2020-07.07.2020
Specific sampling location:	GIVEN BELOW	No. of samples	7
		Analysed by:	AC/VNM/JS/CVR
Sample preservation:	Ice box	Method:Standard Methods for the examination of Water and Wastewater, APHA AWWA WEF (22nd Ed.)	

sl no	Parameters	unit	Method No.	SAMPLE ID					
				KL 1	KL 2	KL 3	KL 5	KL 6	KL7
1	pH	-	APHA 4500-H+,B	6.7	6.7	6.7	7.1	7.3	7.3
2	CONDUCTIVITY	µmhos /cm	APHA 2510B	205	276	355	390	430	494
3	BOD	mg/L	IS3025 (Part 44)	2.06	0.73	1.13	2.2	1.93	2.6
4	DISSOLVED OXYGEN	mg/L	APHA 4500-O,C	4.47	4.07	4.3	4.07	4.07	2.13
5	TOTAL COLIFORM,	CFU/100ml	APHA 9222B	30000	25000	44000	80000	88000	91000
6	FECAL COLIFORM	CFU/100ml	APHA 9222D	26000	22000	35000	56000	62000	78000
7	TEMPERATURE	°C	APHA 2550B	28	27	27	27	25	25

Test method variation: None

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

KL1-KALLAI RIVER AT PALATHUMKANDI BRIDGE,POKKUNNU,KL2-KALLAI RIVER AT KADUPPINI BRIDGE, K.L3- KALLAI RIVER AT MANKAVU BRIDGE, KL5- KALLAI RIVER AT KALLAI BRIDGE, KL6-KALLAI RIVER AT KOTHI BRIDGE, THEKKEPURAM & KL7-KALLAI RIVER AT UDAYA RESIDENCY .

Scientist in charge
8/7/2020
Asst. scientist

National Mission for Clean Ganga

Format for Submission of Monthly Progress Report by States/UTs

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

TIRUR

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		
	Chief Secretaries may set up appropriate monitoring mechanism at state level • Specifying accountability of nodal authorities not below the Secretary level • Chief Secretaries may have an accountable person attached in their office for this purpose.		
	• Monitoring at State level must take place		
6	Progress report may be furnished by the State/UTs to • Secretary,Ministry of JalShakti • Member Secretary,CPCB	Monthly (preferably before 20th of every month)	

TIRUR - PONNANI RIVER

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 insitu treatment. (II) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline (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. (iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline		Last updated report submitted was on 19 june 2020 Total 17 drains. Out of which 9 were additionally identified on 11.07.2019. **Tirur river :** Market -45KLD –finished Bus stand -50 KLD- under construction (Expected time period was june 2020, but works slowed down due to COVID 19.) Nil Disposal using sanitary landfills , composting , operations, MRF, MCF ect.

	(v)Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;		Attached as Annexure II (analysis report during the month of july 2020)
	(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.		Biomedical waste disposal through IMAGE Plastic waste through municipality undertaking Decentralized waste processing through biogas , compost plants etc.
	(vii)Ground water regulation		Permission for extraction of ground water by local body.
	(viii) Adopting good irrigation practices,		Effluent from industrial units utilized after treatment
	(ix) Protection and management of food plain Zones (FPZ),		FPZ are identified
	(x) Rain water harvesting,		
	(xi)Maintaining minimum Environmental flow of river		Enforced through local bodies Dumping of SW on river banks are controlled . River rejuvenation measures taken.
	(xii) Plantation on both sides of the river		Initiated
	(xiii) Setting up biodiversity parks on flood plains by removing encroachment		Initiated

ANNEXURE II

ANALYSIS REPORT OF POLLUTED STRETCH POINTS IN TIRUR RIVER –JULY 2020

Sl 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	6.9	4.4	0.4	1.6	46
2	Thazhepalam drain	7.1	5.5	1.4	6	44
3	Naduvilangadi drain (old ponnani thodu)	7.3	3.6	0.4	1.6	84
4	Annassery darin	6.8	7.5	1	4	56
5	Canal at CV Land	7.2	2.6	0.6	2.8	60
6	Canal at Mangalam thuruth	6.6	2.3	0.6	1.6	62
7	Canal at Pullooni	7.2	2.3	1.2	5.1	36
8	Drain near Mangattiri bridge	5.9	5.3	1.1	4	72
9	Drain near Ettirikkadavu bridge	7.8	4.7	0.8	3.6	80
10	Epothingal	6.3	3.2	0.3	1.2	44
11	Asarikkadav	6.9	3.8	0.8	4	48
12	Kandanath kadav	5.4	4.8	1.6	6.8	28
13	Pancharamoola	5.8	4.2	1	4.4	36
14	Kakadav	5.6	3.8	1.1	3.6	32
15	Kanathkadav	7.8	6.7	1.2	4.8	72
16	Drain near tirur railway station	7.7	4	0.8	3.6	40
17	Payyanangadi(kadayithodu)	7.4	3.9	0.8	3.2	72

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)

KADALUNDI

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		
	Chief Secretaries may set up appropriate monitoring mechanism at state level • Specifying accountability of nodal authorities not below the Secretary level • Chief Secretaries may have an accountable person attached in their office for this purpose.		
	• Monitoring at State level must take place		
6	Progress report may be furnished by the State/UTs to • Secretary,Ministry of JalShakti • Member Secretary,CPCB	Monthly (preferably before 20th of every month)	

KADALUNDI RIVER

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 insitu treatment.		Last updated report submitted was on 19 june 2020 Identified 3 drains on 10.12.2018
	(II) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline	March 2020	**Kadalundi river :** Malappuram municipality – 30KLD – Finished - Maintenance works under progress
	(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.		Nil
	(iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline		Disposal using sanitary landfills , composting , operations, MRF, MCF etc

	(v)Latest water quality ofpolluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;		Attached as Annexure I (analysis report during the month of july 2020)
	(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.		Biomedical waste disposal through IMAGE Plastic waste through municipality undertaking Decentralized waste processing through biogas , compost plants etc.
	(vii)Ground water regulation		
	(viii) Adopting good irrigation practices,		Permission for extraction of ground water by local body.
	(ix) Protection and management of food plain Zones (FPZ),		Effluent from industrial units utilized after treatment
	(x) Rain water harvesting,		FPZ are identified
	(xi)Maintaining minimum Environmental flow of river		Enforced through local bodies Dumping of SW on river banks are controlled . River rejuvenation measures taken.
	(xii) Plantation on both sides of the river		Initiated
	(xiii) Setting up biodiversity parks on flood plains by removing encroachment		Initiated

ANNEXURE I

ANALYSIS REPORT OF POLLUTED STRETCH POINTS IN KADALUNDY RIVER –JULY 2020 ALONG HAJIYARPALLY

Sl .No	Name of point	PARAMETERS				
		P^H	DO (mg/l)	BOD(mg/l)	COD(mg/l)	FC (cfu/100ml)
1	Valiyangadi drain	7.6	6.2	0.6	2.4	28
2	Valiyangadi bypass drain	6.9	4.9	0.8	3.2	32
3	Valiyathod drain	7.4	6.8	1.2	4.8	36
4	Hajiyarpally	7.3	7	0.3	1.6	40

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)

Bharathapuzha at Pattambi

Status reported as on 30th June 2020

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	Progressing (Proposal Submitted Before Council)
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	Not proposed	Not Applicable
3	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)	Progressing (Proposal Submitted Before Council)
5	Chief Secretaries may set up appropriate monitoring mechanism at state level ● 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
	● Monitoring at State level must take place	Applicable at State level	Not Applicable

6	Progress report may be furnished by the State/UTs to ● Secretary,Ministry of Jal Shakti ● Member Secretary,CPCB	Applicable at State level	Not Applicable
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 insitu treatment.	Primary STP (oil and grease trap with grit chamber)- March 2021	Progressing (Proposal Submitted Before Council)
	(II) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline	Not Proposed	Not Applicable
	(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.	Not proposed	Not Applicable
	(iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with	MSW treatment Plant – March 2021	Construction work for the MSW treatment plant was started on 25/05/2020 and 35 % of the work

	completion timeline		was completed
	(v)Latest water quality ofpolluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;	March 2021	Water quality monitoring of polluted river stretch, two additional points, and 5 major drains were completed during the period of June 2020.
	(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.	Implemented by January 2020	Management of dry wastes were achieved through the MCF and RCF facilities, BMW by CBWTDF, E-Waste by authorised collection agencies.
	(vii)Ground water regulation	No specific proposal	Not Applicable
	(viii) Adopting good irrigation practices,	No specific proposal	Not Applicable
	(ix) Protection and management of food plain Zones (FPZ),	March 2021	Project preparation on-going.

	x) Rain water harvesting,	No specific proposal	Not Applicable
	(xi)Maintaining minimum Environmental flow of river	March 2021	Project preparation on-going.
	(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

POLLUTED RIVER STRETCH MONITORING PROGRAMME
DATA SHEET JUNE 2020

Nhangatiri Temple (U/S of NWMP-2) ADDITIONAL POINT

Station Name		RIVER BHARATHAPUZHA AT PATTAMBI (NWMP-2)									
Type of Water body		RIVER									
Completed by		DO, PALAKKAD									
Agency		Kerala State Pollution Control Board									
1	Station Code	2	3	3	2						
2	Date and time of sample taken (DD/MM/YY, HH/MM)	05.06.2020									
		1	2	:	0	0					
3	Weather	Cloudy			Clear √			Windy		Raining	
4	Approximate depth of main stream	< 50 cm			50 – 100 cm √			>100 cm		Flood	
5	Color & Intensity	Clear √			Turbid			Green		Brown	
		1 = Light			2 = Moderate √			3 = High			
6	Odour	None √			Fishy			H2S		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	12.3 m^3/s									
12	Major polluting source	Industrial effluent			MSW		PW	None √		Other	
13	Uses of water in downstream	Irrigation			Drinking water source √			Fishing		Domestic	
		Organized water source			Cultivation			Bathing Ghat		Others	

Sl.No	Determinant	Value
1	Temperature, ^0C	29
2	pH	7.74
3	Conductivity, µmhos/cm	235.4
4	Turbidity, NTU	BDL
5	Phenolphthalein Alkalinity, as $CaCO_3$ mg/l	BDL
6	Total Alkalinity, as $CaCO_3$ mg/l	75.18
7	Chloride, mg/l	32.66
8	COD, mg/l	8
9	TKN, mg/l	BDL
10	Ammoniacal-N, mg/l	BDL
11	Hardness, as $CaCO_3$ mg/l	80
12	Calcium, as $CaCO_3$ mg/l	46
13	Magnesium as $CaCO_3$, mg/l	34
14	Sulphate, mg/l	4.47
15	Sodium, mg/l	18.52
16	Total Dissolved Solids, mg/l	145
17	Total Fixed Solids, mg/l	92
18	Total Suspended Solids, mg/l	BDL
19	Phosphate, mg/l	0.083
20	Boron, mg/l	BDL
21	Potassium, mg/l	3.45
22	BOD, mg/l	2.06
23	Fluoride, mg/l	0.361
24	Dissolved Oxygen, mg/l	6.8
25	Nitrate-N, mg/l	0.608
26	Total Coliform, MPN/100 ml	900
27	Fecal Coliform, MPN/100 ml	400
28	Fecal Streptococci MPN/100 ml	80
29	SAR	4.81

POLLUTED RIVER STRETCH MONITORING PROGRAMME
DATA SHEET JUNE 2020

Veliamkallu regulator (D/S of NWMP-2) ADDITIONAL POINT

Station Name		BHARATHAPUZHA AT PATTAMBI																					
Type of Water body		RIVER																					
Completed by		DO, PALAKKAD																					
Agency		Kerala State Pollution Control Board																					
1	Station Code	2	3	3	2																		
2	Date and time of sample taken (DD/MM/YY, HH/MM)	05.06.2020																					
		1	1	:	4	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				H2S				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	110 m^3/s																					
12	Major polluting source	Industrial effluent			MSW			PW		None √			Other										
13	Uses of water in downstream	Irrigation			Drinking water source √							Fishing			Domestic								
		Organized water source						Cultivation		Bathing Ghat					Others								

Sl.No	Determinant	Value
1	Temperature, ^0C	28
2	pH	7.76
3	Conductivity, µmhos/cm	248.3
4	Turbidity, NTU	BDL
5	Phenolphthalein Alkalinity, as $CaCO_3$ mg/l	BDL
6	Total Alkalinity, as $CaCO_3$ mg/l	80.12
7	Chloride, mg/l	27.71
8	COD, mg/l	16
9	TKN, mg/l	BDL
10	Ammoniacal-N, mg/l	BDL
11	Hardness, as $CaCO_3$ mg/l	88
12	Calcium, as $CaCO_3$ mg/l	52
13	Magnesium as $CaCO_3$, mg/l	36
14	Sulphate, mg/l	2.86
15	Sodium, mg/l	15.23
16	Total Dissolved Solids, mg/l	148
17	Total Fixed Solids, mg/l	101
18	Total Suspended Solids, mg/l	BDL
19	Phosphate, mg/l	0.141
20	Boron, mg/l	BDL
21	Potassium, mg/l	3.52
22	BOD, mg/l	1.53
23	Fluoride, mg/l	0.32
24	Dissolved Oxygen, mg/l	6.81
25	Nitrate-N, mg/l	0.322
26	Total Coliform, MPN/100 ml	200
27	Fecal Coliform, MPN/100 ml	100
28	Fecal Streptococci MPN/100 ml	20

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 BHAVANI AT ELAICHIVAZHI

Status reported as on 30th June 2020

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. Target achieved.
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	Not proposed	Not Applicable
3	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
4	Chief Secretaries may set up appropriate monitoring mechanism at state level • 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
5	• Monitoring at State level	Applicable at	Not Applicable

	must take place	State level	
6	Progress report may be furnished by the State/UTs to • Secretary,Ministry of Jal Shakti • Member Secretary,CPCB	Applicable at State level	Not Applicable
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 insitu treatment. (II) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline (III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure,Gap Analysis, Proposed along with completion timeline, No. of industries and	 Drains contributing pollution to the River were not identified Not Proposed Not proposed	 Not Applicable Not Applicable Not Applicable

	complying status.		
	(iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline	Dec 2020	Construction work of MSW Treatment plant is in progress
	(v)Latest water quality ofpolluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;	March 2021	Water quality monitoring of polluted river stretch and three additional points were completed up to June 2020
	(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.	Implemented by January 2020	Not applicable
	(vii)Ground water regulation	No specific proposal	Not applicable
	(viii) Adopting good irrigation practices,	No specific proposal	Not applicable
	(ix) Protection and management of food plain Zones (FPZ),	March 2021	Project Preparation is going on

	(x) Rain water harvesting,	No specific proposal	Not applicable
	(xi) Maintaining minimum Environmental flow of river	March 2021	Project Preparation is going on
	(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

POLLUTED RIVER STRETCH MONITORING PROGRAMME
DATA SHEET JUNE 2020

Cheerakuzhi (U/S of NWMP-6)

| | | |

Chalayur Uru (U/S of NWMP-6) (ADDITIONAL POINT)

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)	04.06.2020																	
		1	1	:	3	0													
3	Weather	Cloudy			Clear √			Windy			Raining								
4	Approximate depth of main stream	< 50 cm √			50 – 100 cm			>100 cm			Flood								
5	Color & Intensity	Clear √			Turbid			Green			Brown								
		1 = Light √			2 = Moderate			3 = High											
6	Odour	None √			Fishy			H2S			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	4.8 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	Determinant	Value
1	Temperature, ^0C	25
2	pH	7.71
3	Conductivity, µmhos/cm	162.8
4	Turbidity, NTU	BDL
5	Phenolphthalein Alkalinity, as $CaCO_3$ mg/l	BDL
6	Total Alkalinity, as $CaCO_3$ mg/l	67.3
7	Chloride, mg/l	13.86
8	COD, mg/l	4
9	TKN, mg/l	BDL
10	Ammoniacal-N, mg/l	BDL
11	Hardness, as $CaCO_3$ mg/l	68
12	Calcium, as $CaCO_3$ mg/l	38
13	Magnesium as $CaCO_3$, mg/l	30
14	Sulphate, mg/l	BDL
15	Sodium, mg/l	7.81
16	Total Dissolved Solids, mg/l	98
17	Total Fixed Solids, mg/l	61
18	Total Suspended Solids, mg/l	BDL
19	Phosphate, mg/l	0.155
20	Boron, mg/l	BDL
21	Potassium, mg/l	1.12
22	BOD, mg/l	1.73
23	Fluoride, mg/l	0.345
24	Dissolved Oxygen, mg/l	6.87
25	Nitrate-N, mg/l	0.823
26	Total Coliform, MPN/100 ml	1100
27	Fecal Coliform, MPN/100 ml	600
28	Fecal Streptococci MPN/100 ml	80
29	SAR	3.39

POLLUTED RIVER STRETCH MONITORING PROGRAMME
DATA SHEET JUNE 2020

Karathur (D/S of NWMP-6) (ADDITIONAL POINT)

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)	04.06.2020																					
		1	2	:	1	0																	
3	Weather	Cloudy			Clear √				Windy				Raining										
4	Approximate depth of main stream	< 50 cm √			50 – 100 cm				>100 cm				Flood										
5	Color & Intensity	Clear √			Turbid				Green				Brown										
		1 = Light √			2 = Moderate				3 = High														
6	Odour	None √			Fishy				H2S				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	7.1 m^3/s																					
12	Major polluting source	Industrial effluent			MSW		PW		None √			Other											
13	Uses of water in downstream	Irrigation √			Drinking water source √				Fishing			Domestic √											
		Organized water source			Cultivation				Bathing Ghat			Others											

Sl.No	Determinant	Value
1	Temperature, ^0C	27
2	pH	7.79
3	Conductivity, µmhos/cm	178.3
4	Turbidity, NTU	BDL
5	Phenolphthalein Alkalinity, as $CaCO_3$ mg/l	BDL
6	Total Alkalinity, as $CaCO_3$ mg/l	72.1
7	Chloride, mg/l	14.85
8	COD, mg/l	4
9	TKN, mg/l	BDL
10	Ammoniacal-N, mg/l	BDL
11	Hardness, as $CaCO_3$ mg/l	76
12	Calcium, as $CaCO_3$ mg/l	46
13	Magnesium as $CaCO_3$, mg/l	30
14	Sulphate, mg/l	BDL
15	Sodium, mg/l	8.23
16	Total Dissolved Solids, mg/l	102
17	Total Fixed Solids, mg/l	66
18	Total Suspended Solids, mg/l	BDL
19	Phosphate, mg/l	0.089
20	Boron, mg/l	BDL
21	Potassium, mg/l	2.31
22	BOD, mg/l	1.8
23	Fluoride, mg/l	0.382
24	Dissolved Oxygen, mg/l	6.47
25	Nitrate-N, mg/l	0.895
26	Total Coliform, MPN/100 ml	900
27	Fecal Coliform, MPN/100 ml	600
28	Fecal Streptococci MPN/100 ml	90
28	SAR	3.29

NATIONAL WATER QUALITY MONITORING PROGRAMME
(NWMP -6 DATA-JUNE 2020)

Station Name		RIVER BHAVANI AT ELACHIVAZHI (nwmp station)																					
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)	04.06.2020																					
		1	2	:	0	0																	
3	Weather	Cloudy			Clear √				Windy				Raining										

4	Approximate depth of main stream	< 50 cm √	50 – 100 cm		>100 cm		Flood		
5	Color & Intensity	Clear √	Turbid		Green		Brown		
		1 = Light √	2 = Moderate		3 = High				
6	Odour	None √	Fishy		H2S		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	5.1 m^3/s							
12	Major polluting source	Industrial effluent	MSW	PW	None √	Other			
13	Uses of water in downstream	Irrigation √	Drinking water source √			Fishing	Domestic		
		Organized water source	Cultivation		Bathing Ghat		Others		

Sl.No	Determinant	Value
1	Temperature, ^0C	28
2	pH	7.65
3	Conductivity, µmhos/cm	176.6
4	Turbidity, NTU	BDL
5	Phenolphthalein Alkalinity, as $CaCO_3$ mg/l	BDL
6	Total Alkalinity, as $CaCO_3$ mg/l	69.2
7	Chloride, mg/l	15.84
8	COD, mg/l	4
9	TKN, mg/l	BDL
10	Ammoniacal-N, mg/l	BDL
11	Hardness, as $CaCO_3$ mg/l	70
12	Calcium, as $CaCO_3$ mg/l	40
13	Magnesium as $CaCO_3$, mg/l	30
14	Sulphate, mg/l	BDL
15	Sodium, mg/l	8.6
16	Total Dissolved Solids, mg/l	106
17	Total Fixed Solids, mg/l	73
18	Total Suspended Solids, mg/l	BDL
19	Phosphate, mg/l	0.135
20	Boron, mg/l	BDL
21	Potassium, mg/l	1.89
22	BOD, mg/l	1.66
23	Fluoride, mg/l	0.421
24	Dissolved Oxygen, mg/l	6.8
25	Nitrate-N, mg/l	0.88
26	Total Coliform, MPN/100 ml	900
27	Fecal Coliform, MPN/100 ml	600
28	Fecal streptococci , MPN/100 ml	100
29	SAR	3.51

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Format for Submission of Monthly Progress Report KAVVAYI RIVERJULY 2020

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

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 • Specifying accountability of nodal authorities not below the Secretary level • Chief Secretaries may have an accountable person attached in		

	their office for this purpose.		
	• Monitoring at State level must take place		
6	Progress report may be furnished by the State/UTs to • Secretary,Ministry of Jal Shakti • Member Secretary,CPCB	Monthly (preferably before 20th of every month)	
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.		**Proposal given by Ramanthali GP:** There are 5 natural drains meeting the river, of which 3 drains cleaned before monsoon itself and two are partly cleaned and the cleaning work is stopped due to heavy rain
	(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	2022	Proposal By **Payyannur** Municipality under DPR
			Distribution of Bio bins, Pit Compost, Bio gas Plant by GP is doing as ongoing project
	(v)Latest water quality of polluted river, its tributaries, drains with flow details and		Attached Document

	ground water quality in the catchment of polluted river		
	(vi)Preventing dumping of waste and scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.		Proposal was given by KankolAlappadamba GP for installing CCTV. But not started installation due to non availability of fund
	(vii)Ground water regulation	2020	Proposal given by irrigation Dept. for desilting and rejuvenation of river the fund for which is not sanctioned as informed.
	(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		

Sd/-

ENVIRONMENTAL ENGINEER

Kavvayi River

Table 1 Concentrations of water quality parameters measured on June 2020

Sl no	Parameters	Kankol	Karikuzhi thodu	Thattarakadavu Bridge	Kuttyol palam
	Date of collection	**2/07/2020**	**2/07/2020**	**2/07/2020**	**8/06/2020**
1	pH	6.66	6.53	6.48	6.82
2	Electrical Conductivity, µs/cm	53.5	62.1	206	61.8
3	BOD, mg/L	1.2	0.9	1.4	1.47
4	Dissolved Oxygen, mg/L	5.5	5.4	6.6	6.47
5	Total coliform, cfu/100ml	100	100	80	470
6	Faecal coliform, cfu/100ml	80	40	40	180
7	Turbidity	1.5	1.5	1.2	1.8
8	Total Hardness, mg/L	10	7	88	19
10	Calcium Hardness, mg/L	4	4	54	6
9	Magnesium Hardness, mg/L	6	3	34	13
11	Ammonia-NO_3 ,mg/L	BDL	BDL	BDL	BDL
12	Sulphate, mg/L	0.2853	0.0472	0.0956	BDL
13	Phosphate, mg/L	0.0008	BDL	BDL	BDL
14	Fluoride, mg/L	BDL	BDL	BDL	BDL
15	Total Alkalinity, mg/L	5	4	70	15
16	Chloride, mg/L	10	15	60	12

Format for Submission of Monthly Progress Report KUPPAM RIVER

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

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		Intimation given to Local Bodies
	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 proposal
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning	31.03.2021	
5	Chief Secretaries may set up appropriate monitoring mechanism at state level • Specifying accountability of nodal authorities not below the Secretary level • Chief Secretaries may have an accountable person attached in their office for this purpose.		

	• Monitoring at State level must take place		
6	Progress report may be furnished by the State/UTs to • Secretary,Ministry of Jal Shakti • Member Secretary,CPCB	Monthly (preferably before 20th of every month)	
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.		Identified drains already cleaned before commencement of monsoon by harithakarmasena in local bodies
	(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		Attached with this report
	(vi)Preventing dumping of waste and scientific		Door to door collection of non bio

	waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.		degradable waste is doing by local body and measures for disposal of biodegradable waste is practicing. All existing HCFs are disposing their BMW through CBMWTF
	(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		

Sd/-

ENVIRONMENTAL ENGINEER

Kuppam

Sl no	Parameters	Velichankeel	Mangalasserry	Kuppam bridge	Variankottam	Vellavu	Kuttyerikadavu
	Date of collection	**7/07/2020**	**7/07/2020**	**2/06/2020**	**7/07/2020**	**7/07/2020**	**7/07/2020**
1	pH	6.92	6.87	7.12	6.88	6.86	6.90
2	Electrical Conductivity, µs/cm	302	90.1	21000	84.2	75.7	72.4
3	BOD, mg/L	2.87	0.1	1.67	1.97	1.66	1.67
4	Dissolved Oxygen, mg/L	6	6.93	6	6.67	7.46	8
5	Total coliform, cfu/100ml	100	80	260	80	100	80
6	Faecal coliform , cfu/100ml	40	40	80	40	40	40
7	Turbidity	2.8	2.8	1.2	2	2.4	3.6
8	Total Hardness, mg/L	28	17	3200	12	15	11
10	Calcium Hardness, mg/L	16	10	1600	8	9	6
9	Magnesium Hardness, mg/L	12	7	1600	4	6	5
11	Ammonia-NO_3, mg/L	BDL	BDL	0.0216	BDL	BDL	BDL
12	Sulphate, mg/L	BDL	BDL	352.75	BDL	BDL	0.0892
13	Phosphate, mg/L	0.2897	0.0313	BDL	0.0452	BDL	0.0071
14	Fluoride, mg/L	BDL	BDL	0.20	BDL	BDL	BDL
15	Total Alkalinity, mg/L	10	8	38	7	10	9
16	Chloride, mg/L	65	25	7000	15	10	15

Format for Submission of Monthly Progress Report Peruvamba RIVER – JULY 2020

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

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		Intimation given to Local Bodies to monitor the in situ 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	2021	Proposed 10 KLD STP at fish market Perumba by Payyannur Municipality which is in DPR stage
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning	31.03.2022	All proposals by local body are in progress
5	Chief Secretaries may set up appropriate monitoring mechanism at state level • Specifying accountability of nodal authorities not below the Secretary level • Chief Secretaries may have an accountable person attached in		

	their office for this purpose.		
	• Monitoring at State level must take place		
6	Progress report may be furnished by the State/UTs to • Secretary,Ministry of Jal Shakti • Member Secretary,CPCB	Monthly (preferably before 20th of every month)	
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.		Identified drains already cleaned before monsoon by harithakarmasena in Ramanthali GP and Kunhimangalam GP
	(II) Status of STPs, I&D and sewerage networks Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline	2021	Proposed by Payyannur Municipality

	(III) Status of CETPs Details of Existing CETP and ETP Infrastructure,Gap Analysis, Proposed along with completion timeline, No. of industries and complying status.		NIL
	(iv) Status of Solid Waste Management & Details of Processing Facilities Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline		Disposal facilities for biodegradable wastes are distributing by all local bodies as every year project
	(v)Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river		Attached with this report

	(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.		Door to door collection of non bio degradable waste is doing by local body and measures for disposal of biodegradable waste is practicing. All existing HCFs are disposing their BMW through CBMWTF
	(vii)Ground water regulation	2021	Proposal given by Irrigation dept.for Desilting and reconstruction of salt water exclusion cross bar across perumbathodu in Payyannur Municipality and Desilting and repair of salt water exclusion cross bar across Koykottuvayalthodu in Kunhimangalam Panchayath
	(viii) Adopting good irrigation practices		
	(ix) Protection and management of food plain Zones (FPZ),	2022	Irrigation Dept.
	(x) Rain water harvesting,		

	(xi) Maintaining minimum Environmental flow of river		
	(xii) Plantation on both sides of the river	2022	Planting trees on the bank of the river by Irrigation Dpt.
	(xiii) Setting up biodiversity parks on flood plains by removing encroachment		

Sd/-

ENVIRONMENTAL ENGINEER

PERUVAMBA

Sl no	Parameters	Kacherikadavu	Mathamangalam	Chandapura	Kandakali
	Date of collection	**8/07/2020**	**8/07/2020**	**8/06/2020**	**8/07/2020**
1	pH	7.42	7.24	7.03	6.57
2	Electrical Conductivity, µs/cm	37.3	36.7	82.6	171.1
3	BOD, mg/L	0.53	0.13	1.13	2.7
4	Dissolved Oxygen, mg/L	7	6.8	7.13	6
5	Total coliform, cfu/100ml	80	80	440	320
6	Fecal coliform, cfu/100ml	40	60	120	180
7	Turbidity	1.4	2.7	1.4	3.1
8	Total Hardness, mg/L	10	10	21	22
9	Calcium Hardness, mg/L	7	8	10	9
10	Magnesium Hardness, mg/L	3	2	11	13
11	Ammonia-NO_3, mg/L	BDL	BDL	BDL	BDL
12	Sulphate, mg/L	4.5454	8.4415	BDL	9.84414
13	Phosphate, mg/L	0.00374	BDL	BDL	0.03927
14	Fluoride, mg/L	BDL	BDL	BDL	BDL
15	Total Alkalinity, mg/L	7	5	4	7
16	Chloride, mg/L	20	10	21	37

Format for Submission of Monthly Progress Report RAMAPURAM RIVER – JULY 2020

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

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		Intimation given to Local Bodies. Identified 10 illegal outlets in to drains and stopped the same by construction of soak pit by Madayi GP
	Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured	31.03.2022	NIL
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning	31.03.2022	
5	Chief Secretaries may set up appropriate monitoring mechanism at state level • Specifying accountability of nodal authorities not below the Secretary level • Chief Secretaries may		

	have an accountable person attached in their office for this purpose.		
	• Monitoring at State level must take place		
6	Progress report may be furnished by the State/UTs to • Secretary,Ministry of Jal Shakti • Member Secretary,CPCB	Monthly (preferably before 20th of every month)	
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.		Identified drains already cleaned before commencement of monsoon by harithakarmasena in local bodies
	(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		Ring compost, Pipe Compost, Dung Pits are distributing for bio degradable waste disposal in every year and a proposal for thumboormozhi is made by Pariyaram GP, Non bio degradable waste is collecting through MCF and giving to Clean Kerala Company
	(v)Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river		Attached with this report

	(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.	Ongoing	1. Door to door collection of non bio degradable waste is doing by local body and measures for disposal of biodegradable waste is practicing. All existing HCFs are disposing their BMW through CBMWTF
		2021	2. Proposal given by Irrigation Department for Providing fencing on Ramapuram bridge across Ramapuram river at Madayi GP
	(vii)Ground water regulation (viii) Adopting good irrigation practices,		Proposal given by Irrigation Department for desilting and repair of salt water exclusion cross bar at Ramapuram in cheruthazham GP

	(ix) Protection and management of food plain Zones (FPZ),		Regualting activites in flood plain zone, protection and management of flood plain zone
	(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	2022	

Sd/-

ENVIRONMENTAL ENGINEER

RAMAPURAM

Sl no	Parameters	Kappugal	Athiyadam	Ramapuram	Vayalapra
	Date of collection	**25/06/2020**	**25/06/2020**	**8/06/2020**	**25/06/2020**
1	pH	6.109	6.32	6.26	6.71
2	Electrical Conductivity, µs/cm	47.4	45.0	11200	1411
3	BOD, mg/L	1.4	0.13	0.42	2.13
4	Dissolved Oxygen, mg/L	5.8	7.1	5.53	7.46
5	Total coliform, cfu/100ml	100	100	310	120
6	Fecal coliform, cfu/100ml	40	60	100	80
7	Turbidity	1.5	1.5	2.4	1.8
9	Total Hardness, mg/L	15	8	1700	93
8	Calcium Hardness, mg/L	12	6	1200	64
10	Magnesium Hardness, mg/L	3	2	500	29
11	Ammonia-NO_3, mg/L	BDL	BDL	0.0012	BDL
12	Sulphate, mg/L	8.0389	5.2077	243.120	13.7921
13	Phosphate, mg/L	0.0098	0.278	BDL	0.2897
14	Fluoride, mg/L	BDL	BDL	BDL	BDL
15	Total Alkalinity, mg/L	4	8	68	17
16	Chloride, mg/L	12	16	3600	285

Kerala State Pollution Control Board DO Kasaragod

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)

UPPALA

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 • Specifying accountability of nodal authorities not below the Secretary level • Chief Secretaries may have an accountable person attached in their office for this purpose.		
	• Monitoring at State level must take place		
6	Progress report may be furnished by the State/UTs to	Monthly (preferably before 20th of every month)	

	• 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 insitu treatment.	No external polluting source found	
	(II) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline	Mostly rural area. No separate STP provided. Mostly scattered houses, individual septic tank soak pit system provided.	
	(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure,Gap Analysis, Proposed along with completion timeline, No. of industries and complying status.	No CETP	
	(iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline	**<u>Mangalpady</u>** –MCF located at Kubanur. Waste from road sides and polluted river banks are being removed through a private Company named Green Space by using panchayath vehicle.	
	(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;	Attached the analysis report of water quality in the month of June 2020.	
	(vi)Preventing dumping of waste and scientific waste management	Hotel waste is disposed through pig farms.	

	including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc. (vii)Ground water regulation (viii) Adopting good irrigation practices, (ix) Protection and management of food plain Zones (FPZ), (x) Rain water harvesting, (xi)Maintaining minimum Environmental flow of river (xii) Plantation on both sides of the river (xiii) Setting up biodiversity parks on flood plains by removing encroachment	The water level in Uppala river has increased with moderate flow.	

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			19.06.2020
Nature and flow of the river			Moderate flow, water level rised
Sl.No	Parameters	Unit	Uppala Bridge
1	Temperature	˚ C	27
2	pH	-	7.3
3	Conductivity	µmhos/cm	280
4	Turbidity	NTU	1.5
5	BOD	mg/l	1.53
6	Dissolved Oxygen	mg/l	7.33
7	Total Coliforms	cfu/100ml	250
8	Feacal Coliforms	cfu/100ml	72
9	Feacal Streptococcus	cfu/100ml	20
10	Chlorides	mg/l	67
11	Total Alkalinity	mg/l	33
12	Total Hardness	mg/l	52
13	Calcium Hardness	mg/l	29
14	Magnesium Hardness	mg/l	23
15	Calcium	mg/l	11.6
16	Magnesium	mg/l	5.5
17	Total Dissolved Solids	mg/l	165
18	Sodium	mg/l	35
19	Potassium	mg/l	7

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			19.06.2020
Nature and flow of the river			Water level rised, moderate flow
Sl.No	Parameters	Unit	Uppala River Near Bhagavathi Temple (Bhagavathi Gate)
1	Temperature	˚ C	27
2	pH	-	7.02
3	Conductivity	µmhos/cm	252
4	Turbidity	NTU	3
5	BOD	mg/l	1.4
6	Dissolved Oxygen	mg/l	6.4
7	Total Coliforms	cfu/100ml	140
8	Feacal Coliforms	cfu/100ml	40
9	Feacal Streptococcus	cfu/100ml	10
10	Chlorides	mg/l	60
11	Total Alkalinity	mg/l	33
12	Total Hardness	mg/l	49
13	Calcium Hardness	mg/l	28
14	Magnesium Hardness	mg/l	21
15	Calcium	mg/l	11.2
16	Magnesium	mg/l	5.1
17	Total Dissolved Solids	mg/l	155
18	Sodium	mg/l	31
19	Potassium	mg/l	6.2

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

MOGRAL

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 • Specifying accountability of nodal authorities not below the Secretary level • Chief Secretaries may have an accountable person attached in their office for this purpose.		
	• Monitoring at State level must take place		
6	Progress report may be furnished by the State/UTs to	Monthly (preferably before 20th of every month)	

	• 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 insitu treatment.	No external polluting source found	
	(II) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline	Mostly rural area. No separate STP provided. Mostly scattered houses, individual septic tank soak pit system provided.	
	(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure,Gap Analysis, Proposed along with completion timeline, No. of industries and complying status.	No CETP	
	(iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure,Gap Analysis, Proposed along with completion timeline	**<u>Mogral</u>** - MCF provided. Waste being collected through Haritha Karma Sena.	
	(v)Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;	Attached the analysis report of water quality in the month of June 2020. Also attached the analysis report of the drain joining the Mogral river.	
	(vi)Preventing dumping of waste and	Hotel waste is disposed	

	scientific waste management including bio-medical waste, plastic waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc. (vii)Ground water regulation (viii) Adopting good irrigation practices, (ix) Protection and management of food plain Zones (FPZ), (x) Rain water harvesting, (xi)Maintaining minimum Environmental flow of river (xii) Plantation on both sides of the river (xiii) Setting up biodiversity parks on flood plains by removing encroachment	through pig farms. The water level in Mogral river has increased with moderate flow.	

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			19.06.2020
Nature and flow of the river			Moderate flow, water level rised
Sl.No	Parameters	Unit	Mogral Bridge
1	Temperature	˚C	26
2	pH	-	7.4
3	Conductivity	µmhos/cm	430
4	Turbidity	NTU	1.1
5	BOD	mg/l	1.53
6	Dissolved Oxygen	mg/l	5.66
7	Total Coliforms	cfu/100ml	120
8	Feacal Coliforms	cfu/100ml	64
9	Feacal Streptococcus	cfu/100ml	20
10	Chlorides	mg/l	116
11	Total Alkalinity	mg/l	32
12	Total Hardness	mg/l	72
13	Calcium Hardness	mg/l	37
14	Magnesium Hardness	mg/l	35
15	Calcium	mg/l	14.8
16	Magnesium	mg/l	8.505
17	Total Dissolved Solids	mg/l	266
18	Sodium	mg/l	60
19	Potassium	mg/l	12

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