

Submission of Monthly Progress Report for the Month of September- October, 2023 in the NGT Matter OA No. 673 of 2018 (in compliance to NGT order dated 24.09.2020)

I. Details of Sewage Treatment Plant (STP) :

- **Total Generation of Sewage:** 82.4 MLD (in 20 ULBs)
- **Total Treatment Facility Operationalized:** 9 MLD (8 MLD STP at Chandinamura under Agartala MC & 1 MLD In-Situ Nalla flowing to river Howrah at Agartala MC).

Existing and operational one 8MLD STP at Barjala, Agartala:

- Total Capacity of STP is 8 MLD
- Septage from Agartala city and surrounding areas are carried in by cesspool emptier vehicle and treated at this plant.
- Present utilization is 5 MLD
- To increase the utilization to optimal capacity an action plan has been prepared by Agartala Municipal Corporation amounting to Rs. 6.18 Cr. State Government has approved the action plan and fund for the same is also sanctioned and placed to Agartala Municipal Corporation.

Another 8 MLD STP at Akhaura (under construction phase by Agartala Smart City):

One 8 (eight) MLD STP is under construction at Akhaura, ICP at Agartala. Expected completion date is March 2024. The project has been taken up from Agartala Smart City.

- 1) SBR RCC work 90% has been completed.
- 2) Administrative building RCC work completed & finishing work in progress.
- 3) Sewage Pumping Station (SPS) Well foundation RCC work 90% completed, work in progress
- 4) SPS control room RCC work up to plinth level completed, work in progress.

Bio-Remediation/in-Situ Nalla Treatment of Drains/Oxidation Pond:

- 5 (five) nos. of Drains flowing to river Haorah are taken up in pilot mode under Agartala Smart City through in-situ nallah treatment. 1 MLD In-Situ Nalla Treatment of 5 (five) nos. of drains flowing to river Haorah under Agartala Smart City is completed and started functioning.
- Land identified in 2 ULBs for oxidation ponds (Kamalpur NP, Bishalgarh MC)

- SHPC in the meeting dated 26-12-2022 has approved the Action Plans of 66 MLD sewage treatment and State Government has ring-fenced fund amounting to Rs 282.58 Cr. for the said purpose.

New Proposal for STP to mitigate the gap: (66.7 MLD)-

Proposed Facility for Sewage Management in URBAN AREAS:

- 31.5 MLD STP at Kantakhal & Kalapania Khal of AMC - **work started.**
- 8 MLD STP (at South Zone of Agartala Municipal Corporation) to prevent sewage entering to Howrah river is proposed (from ABD fund of AMC)
- 9.7 MLD Bio-Remediation of Drains in 8 small ULBs - **work order issued.**

Survey works started, physical works will start from 22nd November, 2023 after completion of preliminary works. (Name of 8 ULBs: Sabroom NP, Panisagar NP, Sonamura NP, Santirbazar MC, Jirania NP, Kamalpur NP, Amarpur NP, Bishalgarh MO).

- 17.5 MLD STP in 11 ULBs - Total works has been divided in 4 packages.
 - a) **Cluster-1** : Bid opened on 8.09.2023, scrutiny of bids completed. Technical evaluation will start after approval.
 - b) **Cluster-2** : Bid opened on 30.09.2023, Technical scrutiny is in process)
 - c) **Cluster-3 & 4**: Technical bid opened on 25.08.2023 & 08-09-23. Scrutiny completed, Technical evaluation will start after approval. Evaluation going on, target completion date is 2 years.
(Name of 11 ULBs: Dharmanagar MC, Udaipur MC, Mohanpur MC, Kailashahar MC, Ranirbaza MC, Melaghar MC, Belonai MC, Khowai MC, Kumarghat MC, Ambassa MC & Teliamura MC)

- In addition, all drains flowing to river or water bodies are retrofitted with wired mesh to prevent the flow of solid waste into the water body.
- A vast range of IEC activities targeting littering of water bodies, drains are being carried out in all ULBs. Several awareness campaigns involving eminent personalities, brand ambassador, school children, NGOs, market association, clubs, District Magistrate & Collectors, Elected Representatives etc. have been carried out. Short videos and Audio message are also being disseminated to aware citizens. Rigorous Social Media post are also being done to aware citizens. Frequent raids on SUP and popularization of SUP alternatives are also going on. Dissemination of awareness message through Audio Video screens and loud speaker announcements are also being done.

II. Solid Waste Management:

- **Door to Door Waste Collection & Source Segregation of Waste -** Presently 100% door to door waste collection along with source segregation is being practiced in **all 334** wards.
- Total municipal solid waste generated: - 333.1 TPD
- 333.1 TPD is collected, segregated and transported.
- Presently 333.1 TPD waste is being processed.

Bio-Degradable And Non-Biodegradable Waste Processing:

- There are 20 ULBs in the State of Tripura.
- Existing 250 TPD Solid Waste Processing plant at DC Nagar Agartala Municipal Corporation AMC is co-used by Bishalgarh MC and 6 TPD Solid Waste Processing plant at Kamalpur Nagar Panchayet. For remaining 17 ULBs, 16 nos of Tertiary Waste Treatment Plant (TWTP) having capacity of 10 TPD each are taken up and till date 13 nos. TWTP (capacity 130 TPD) are made operationalized. Remainings are targeted to be operationalized by December, 2023. Jirania will utilize the TWTP of Ranirbazar MC.
- Total 85 nos. Secondary Waste Sorting & Segregation Centre with total 117 TPD are operationalized in 20 ULBs, for dry waste segregation, storage and recycling. They are linked with the TWTPs and other Treatment Plants.
- Total Solid Waste Disposal/ Processing Capacity of the State is 503 TPD.

Landfill/ Dumpsite Remediation:

- In Agartala Municipal Corporation, the dumpsite already been remediated (neighboring ULBs namely Ranirbazar MC, Mohanpur MC, Jirania NP & Bishalgarh MC used dumpsite of Agartala).
- As Kamalpur NP has their solid waste processing plant since 2015, no dumpsite exists. Teliamura NP had a very small dumpsite which is already remediated.
- Dumpsite/Legacy Dumpsite work is taken up for remediation in 13 ULBs (Santirbazar MC, Belonia MC, Sabroom NP, Dharmanagar MC, Panisagar NP, Kailashahar MC, Kumarghat MC, Udaipur MC, Amarpur NP, Khowai MC, Melaghar MC, Sonamura NP & Ambassa MC). Work Order issued and remediation completed in 3 ULBs. Remaining will be completed by within prescribed timeline.

III. Details of Industrial Pollution:

- **No. of industries in the State:** 2466 Nos. industrial units exist in the state. However, there are only 179 nos. of industrial units identified within the 500 meters of catchment areas of the six identified river stretches in Tripura.
- **No. of water polluting industries in the State:** There are only 179 nos. of industrial units has been identified within 500 meters of the catchment area. Among these 179 nos. of industrial units, only 18 industrial units are foremost generator of industrial effluents. And almost all the industrial units have installed ETPs
- **Quantity of effluent generated from the industries in MLD:** The total industrial discharge from the industries within the 500 meters of catchment area is 14427 LPD. A total of 179 industries are present within 500 meter of the catchment areas of the Six identified river. Out of 179 industries, most of the industries are not generating any industrial effluent and those who generates are already equipped with ETP.

IV. Bio-medical Waste Management:

- **Total Bio-medical generation:** 1940.26 kg/day (For the State)
- **No. of Hospitals and Health Care Facilities:** Total No. of Hospitals and nursing homes: 158 (bedded). 7 (seven) District hospitals are equipped with Liquid Waste Treatment Plant. Installation of ETP/STP is going on in other hospitals.
- **Status of Treatment Facility/ CBMWTF:** One CBWTF Operator has been selected by Health & Family Welfare Department, Govt. of Tripura through open tendering through e-Procurement for the whole State of Tripura. The CBWTF is presently working at Devendra Chandra Nagar in West Tripura District covering all the bedded Hospital of the State. There is no gap in processing the BMW in the State. Amongst the Public Health Facilities 03 state level hospitals namely GBP Hospital, IGM Hospital & Cancer hospital have their own incinerator.

V. Hazardous Waste Management:

- **Total Hazardous Waste generation:** 360.14 MTA
- **No. of Industries generating Hazardous waste:** 172 nos.
- **Treatment Capacity of all TSDFs:** There is no TSDF facility available in the State.
- **Avg. Quantity of Hazardous waste reaching the TSDFs and Treated:** There is no TSDF facility available in the State.
- **Details of on-going or proposed TSDF:** Yet to be finalized.
- **Fresh inventorization of the Hazardous Waste generation** has been done.

VI. Plastic Waste Management:

- Total Plastic Waste generation: As per annual report 2021-22, on PWM Rules, 2016, the amount of Plastic waste generated in the State is: 347.291 TPA.
- Treatment/ Measures adopted for reduction or management of plastic waste: Collected through MRF in each ULBs. There are 13 registered Recyclers in the State.
- Details of Alternate Treatment Technology being adopted by the State/UT : Recently, the State has started using the plastic wastes in road making purpose.
- The RD Department has notified a Policy regarding use of plastic waste in road making in the State.
- Action Plan for phasing out Single Use Plastic is under implementation.

VII. Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;

Tripura State Pollution Control Board (TSPCB) is conducting water quality monitoring on monthly basis under National Water Quality Monitoring Programme (NWMP) of Central Pollution Control Board for the following six identified polluted river stretches in the State: River Stretch Burigaon: along Bishalgarh, Gumti :Telkajila to Amarpur, Haora : Agartala to Champaknagar, Juri along Dharmanagar, Khowai along Teliamura, Manu along Kailashahar. From the analytical report for all the monitoring locations of six rivers entered in EWQDES portal of CPCB by TSPCB since June, 2016, it has been observed that the BOD values for the six identified polluted river stretches were within prescribed standard limit (3 mg/l) except for some specific months in respect of Gumati river (June, July, August & September, 2016 at Sonamura location), Haora river (June & July, 2016 at Chandrapur location; June to August, 2016 at Dashamighat location) Juri river (June to November, 2016 at Krishnapur location) Manu river (June to August, 2016 at Kailasahar location). It is relevant to mention that for all the monitoring locations of Khowai river, the BOD value was within prescribed standard limit (3 mg/l) since June, 2016. According to the latest analytical report of the six river water, the BOD level were found within prescribed standard limit for the 5 identified rivers of Tripura. However, few parameters exceed the normal standard for the Haora river occasionally.

River Wise Details:

Name of the River	River Stretch	Priority	Action Plan under implementation/ Proposed	Present Status
Burigaon	Along Bishalgarh	V	Compressive Action Plan for rejuvenation of the identified river stretches covering individual rivers have been prepared and submitted to Central Pollution Control Board. The Action Plan is under implementation.	Since June, 2016, it has been observed that the BOD values for the six identified polluted river stretches were within prescribed standard limit (3 mg/l) except for some specific months in respect of Gumati river (June, July, August & September, 2016 at Sonamura location), Haora river (June & July, 2016 at Chandrapur location; June to August, 2016 at Dashamighat location) Juri river (June to November, 2016 at Krishnapur location) Manu river (June to August, 2016 at Kailasahar location). It is relevant to mention that for all the monitoring locations of Khowai river, the BOD value was within prescribed standard limit (3 mg/l) since June, 2016. According to the latest analytical report of the six river water, the BOD level were found within prescribed standard limit for the 5 (Burigaon, Gomati, Juri, Manu, Khowai) identified rivers of Tripura. However, few parameters exceed the normal standard for the Haora river occasionally. However, implementation of the Action Plan is going on. The River Rejuvenation Committee (RRC), Tripura is reviewing the implementation of the said Action Plan on regular basis.
Gumti	Telkajila To Amarpur	V		
Haora	Agartala to Champaknagar	V		
Juri	Along Dharmanagar	V		
Khowai	Along Teliamura	V		
Manu	Along Kailashahar	V		
The Water Quality analysis report of the six identified river stretches is enclosed as Annexure-I .				

VIII. Ground water regulation :

- As per report of the Central Ground Water Board, in Tripura State Annual Replenishable Ground Water Resources is 2.19 billion cubic meter (BCM), Net Annual Ground Water Availability is 1.97 BCM, Annual Ground Water Draft is 0.17 BCM, Stage of Ground Water Development is 9%. Critical stage of Ground- water development is 70 % or above.
- As per earlier NRDWP guidelines (para 9.4 page number 11), 10% of the NRDWP fund shall be utilized for Sustainability of rural water supply schemes. Relaxation will be available only to those areas that are 'Water Surplus' (with annual normal rainfall more than 1500mm). In the State of Tripura the average annual rainfall is more than 1500mm recorded.
- In the year 2005, analysis of 3682 water samples was carried out through the All India Institute of Hygiene & Public Health (AIIPH&PH), Kolkata and presence of Arsenic in 8 samples above permissible limit (0.05 mg/ltr as per BIS 10500), iron in 3511 samples above permissible limit (1 mg/ltr as per BIS 10500) were found. No other heavy metals i.e. Lead, Zinc, Manganese were found. The presence of Arsenic beyond permissible limit was detected in Ordinary Hand Pump and Mark-11 only. As Arsenic in drinking water is health hazard, at once all the above 8 no. water sources were sealed and alternative sources were created for drinking water supply to that locality.
- Accordingly, 17 numbers new water testing laboratory in the District and DWS Sub Division level have been setup and strengthened the existing water testing laboratory to develop adequate competency and efficiency of the water quality monitoring & surveillance throughout the State. Every year, almost 80% of water supply sources are being tested through laboratory as well as Field Test Kits and the results are being uploaded in the online IMIS of Ministry of Drinking Water & Sanitation, Government of India.
- From the test results, it is observed that the underground water of Tripura State is mainly infested with iron beyond permissible limit. There is no presence of Arsenic beyond permissible limit in drinking water sources at present. Moreover, presence of Lead, Zinc, Manganese etc. in the drinking water sources is not detected so far. Iron removal plant (IRP) has been installed in almost every places in Tripura.
- While issuing the Consent to Establish & Operate Certificate by TSPCB to any industry where extraction of ground water has been done, the permission of Central Ground Water Authority is required as pre requisite condition for obtaining the consent certificate from Tripura State Pollution

Control Board. In addition, the industries using ground water are also being directed to recharge the ground water through ground water recharging pit.

- Moreover, the industries handling with chemicals and hazardous wastes are also being directed not to inject any chemicals/hazardous wastes into the ground water as well as water body without any treatment.
- Central Ground Water Board under the Ministry of Jal Shakti, Department of Water Resources, Government of India issued Show Cause Notice to 04 nos. of Industries for not applying to the Board to renew the NOC for extracting ground water in due time.
- Direction has been issued to all the industries which are extracting ground water for industrial purpose and also for compliance of environmental norms.

IX. Good irrigation practices being adopted by the State:

Generation of mass awareness to conserve water and also for good irrigation practices is being carried out by the farmers in the catchment areas of the River.

X. Rain Water Harvesting:

- All the industries using in the catchment areas responsible for using ground water for industrial purpose is directed to construct rain water harvesting plant and the compliance has been ensured. Accordingly, Rain water harvesting plant has been constructed by almost all the concerned units.
- A comprehensive Rain water harvesting plan has submitted to CPCB.
- In the new Building Rules, the roof top Rain Water Harvesting systems have been included for all new building.

XI. Demarcation of Floodplain and removal of illegal encroachments:

Flood Plane Zones of six identified river stretches were already identified.

XII. Model River:

The State of Tripura has identified **Haora** river stretch as the **Model River** for implementation of Action Plan for restoration of the river. This is also communicated to the NMCG with a copy to CPCB. Some of the major initiatives taken by the State in this regard are as follows:

- a. 5 (five) drains have been identified discharging in the Haora river. *Insitu* Bioremediation is being carried out in those 5 drains. Work Completed.
- b. Haora River Front Development Project has been launched having several objectives to protect this river.
- c. Extensive river bank plantation has been done already.

- d. Regular monitoring of Water Quality is being done by the State Board.
- e. Flood Plain Zone has been identified.
- f. The river bank is made encroachment free and regular monitoring is being done by the concerned Authority.
- g. Proper monitoring is being done so that no solid waste dumped into the river from nearby markets.

XIII. Plantation activities along the rivers:

Bamboo Plantation on sides of the river banks has been done in collaboration with Forest Department, Tripura. Target achieved 100%.

XIV. Reuse of Treated Water:

- The Urban Development Department and Urban Local Bodies has taken many initiatives for utilization of treated sewage effluent.
- AMC had prepared the Action Plan for utilization of treated waste water from Sewage Treatment Plant (STP) located at Barjala, Tripura, Agartala. The said Action Plan was sent to Central Pollution Control Board (CPCB) in March 2019.
- AMC is already using treated waste water from the Barjala (Near Lankamura) STP for various activities including watering of gardens & open space in Agartala city, road watering in dry seasons, irrigation of agricultural fields etc.
- A notification has been issued by AMC to use only treated water for the watering of gardens & open space in Agartala city, road watering in dry seasons and never to allow use of drinking water for these activities. AMC also confirms that presently no surface or ground water is used for watering parks and gardens in the city.
- As per the revised Action Plan for utilization of treated water, the additional steps taken by AMC for full compliance of the Hon'ble NGT order . A dedicated team is formed to look after the gardens and parks in Agartala city.

ANALYTICAL RESULTS OF SURFACE WATER SAMPLES COLLECTED FROM SIX IDENTIFIED RIVER STRETCH OF TRIPURA

River Stretch	Station Name	January, 21			February, 21			March, 21			April, 21		
		BOD	TC	FC	BOD	TC	FC	BOD	TC	FC	BOD	TC	FC
Gomti	Jatanbari	1.08	170	47	1.36	170	63	1.5	170	58	1.4	210	70
	Sonamura	1.56	210	58	2.48	210	58	2.5	350	47	2.7	240	84
	Rajdhanagar	1.46	150	47	1.58	170	58	1.8	210	33	1.6	210	63
	Amarpur	1.32	150	33	1.48	170	58	1.5	210	47	1.7	220	70
	Tirthanukh	1.14	120	33	1.18	130	47	1.3	140	48	1.3	140	58
Burigaon	Subhashsetu	1.56	150	41	1.64	170	58	1.8	170	58	1.8	220	84
	Bishalgarh	1.46	170	32	1.76	220	40	1.8	280	43	2.1	280	58
	Chandrapur	1.22	150	17	1.56	170	27	1.2	280	15	1.8	210	38
Haora	Dashamighat	1.54	350	63	1.98	350	70	1.6	430	63	2.5	430	84
	Aralia	1.46	210	33	1.74	220	48	1.6	220	43	2.0	280	58
	Kalabagan	1.22	150	33	1.36	170	41	1.1	210	38	1.5	210	48
Manu	Jaynagar	1.36	150	26	1.44	150	32	1.2	170	38	1.8	170	40
	Kalasaibar	1.22	110	27	1.32	130	33	1.48	150	38	1.7	170	48
Khowai	Trishabari	1.32	110	33	1.46	120	40	1.1	150	43	1.6	170	63
	Kumari Madhuni setu	1.28	63	21	1.34	110	27	1.2	120	33	1.7	170	40
	Chakmaghat	1.18	63	26	1.42	63	32	1.2	70	40	1.6	94	58
	Karailong	1.42	94	26	1.56	110	32	1.68	150	40	1.8	170	58
Juri	Krishnapur	1.22	94	38	1.56	110	40	1.6	150	43	1.8	170	58
River Stretch	Station Name	May, 21			June, 21			July, 21			August, 21		
		BOD	TC	FC	BOD	TC	FC	BOD	TC	FC	BOD	TC	FC
Gomti	Jatanbari	1.5	220	70	1.8	240	70	1.7	240	70	1.8	280	84
	Sonamura	2.8	280	84	2.9	280	94	2.8	350	94	2.8	430	110
	Rajdhanagar	1.8	240	63	1.9	280	63	2.1	280	63	2.2	280	63
	Amarpur	1.8	240	70	1.9	280	70	1.9	350	70	2.1	350	84
	Tirthanukh	1.6	170	63	1.8	210	63	1.9	220	63	2.1	240	63
Burigaon	Subhashsetu	1.9	240	84	2.1	280	84	2.2	280	84	2.4	280	84
	Bishalgarh	2.5	280	58	2.6	280	63	2.8	350	63	2.9	350	63
	Chandrapur	1.9	240	40	2.3	280	58	2.4	350	63	2.5	350	63
Haora	Dashamighat	2.6	430	94	2.8	540	94	2.9	540	94	3.2	540	94
	Aralia	2.2	350	63	2.6	350	63	2.7	350	63	2.8	350	63
	Kalabagan	1.8	220	58	1.9	240	63	2.1	280	63	2.2	280	63
Manu	Jaynagar	1.9	210	47	1.8	220	48	1.9	240	58	2.1	280	58
	Kalasaibar	1.8	210	48	1.9	220	48	2.2	240	58	2.3	240	58
	Trishabari	1.8	210	63	1.9	220	63	2.1	240	63	2.2	280	63
Khowai	Kumari Madhuni setu	1.9	210	49	2.1	220	58	2.4	240	58	2.5	240	58
	Chakmaghat	1.8	110	58	1.9	140	58	2.2	170	58	2.2	210	58
Juri	Karailong	1.9	170	63	2.1	210	63	2.4	240	63	2.5	240	63
	Krishnapur	1.7	210	63	1.8	220	70	1.9	240	70	2.1	240	63

*BOD = Bio Chemical Oxygen Demand, TC = Total Coliform, FC = Faecal Coliform

River Stretch	Station Name	September, 21			October, 21			November, 21			December, 21		
		BOD	TC	FC	BOD	TC	FC	BOD	TC	FC	BOD	TC	FC
Gomti	Jatanbari	1.5	280	84	1.2	240	63	1.1	210	58	1.1	150	38
	Sonamura	2.9	430	120	2.6	430	94	2.4	350	63	2.2	280	58
	Rajdharnagar	2.1	240	58	1.8	210	43	1.6	170	38	1.3	150	58
	Amarpur	1.9	350	79	1.4	220	58	1.2	210	58	1.3	140	58
	Tirthamukh	1.8	220	58	1.1	130	27	1.1	130	26	1.1	98	32
Burigaon	Subhashsetu	2.2	240	63	1.9	170	43	1.6	150	41	1.5	170	58
	Bishalgah	2.6	350	63	2.4	280	58	2.2	240	49	1.7	210	47
	Chandrapur	2.4	430	63	2.2	350	58	2.1	350	58	1.9	280	47
Haora	Dashamighat	2.9	540	94	2.6	540	84	2.4	430	70	2.5	350	84
	Aralia	2.6	350	58	2.2	280	47	2.1	240	43	1.7	220	58
	Kalabagan	1.9	240	58	1.5	210	41	1.2	170	32	1.3	170	31
	Jaynagar	1.8	240	58	1.4	210	43	1.2	170	33	1.5	110	31
Manu	Kailasahar	2.1	220	48	1.8	170	47	1.6	150	40	1.5	110	41
	Trishabari	1.9	240	58	1.8	220	47	1.6	210	41	1.2	150	41
Khowai	Kumari Madhuti setu	2.3	220	47	1.8	210	40	1.5	210	38	1.5	150	33
	Chakmaghat	2.1	210	47	1.9	210	41	1.7	210	40	1.3	84	33
	Karailong	2.1	220	47	1.8	170	43	1.6	150	41	1.5	130	38
Juri	Krishnapur	1.8	220	48	1.6	210	41	1.4	170	41	1.5	130	47

River Stretch	Station Name	January, 22			February, 22			March, 22			April, 22		
		BOD	TC	FC	BOD	TC	FC	BOD	TC	FC	BOD	TC	FC
Gomti	Jatanbari	1.8	130	41	1.1	130	39	1.3	150	47	1.4	170	58
	Sonamura	2.14	170	58	1.9	150	47	2.1	170	58	2.4	240	63
	Rajdharnagar	1.12	130	47	1.2	110	38	1.4	130	47	1.6	150	58
	Amarpur	1.12	110	38	1.1	94	26	1.3	110	41	1.4	150	58
	Tirthamukh	1.08	84	25	1.1	63	21	1.2	84	34	1.2	110	46
Burigaon	Subhashsetu	1.34	150	48	1.2	130	32	1.5	150	58	1.8	170	63
	Bishalgah	1.52	170	32	1.3	150	32	1.6	170	39	1.9	240	58
	Chandrapur	1.28	150	22	1.2	120	21	1.5	140	26	1.8	210	48
Haora	Dashamighat	2.26	280	63	2.1	280	47	2.4	350	58	2.7	430	70
	Aralia	1.1	170	41	1.4	150	32	1.8	170	38	1.9	210	58
	Kalabagan	1.22	150	25	1.1	130	21	1.3	170	27	1.4	170	31
	Jaynagar	1.36	84	25	1.2	63	21	1.4	84	26	1.5	94	27
Manu	Kailasahar	1.36	84	33	1.4	94	31	1.4	94	31	1.5	110	39
	Trishabari	1.18	130	38	1.1	120	27	1.3	150	38	1.4	170	41
Khowai	Kumari Madhuti setu	1.34	120	21	1.2	110	21	1.4	130	32	1.4	150	40
	Chakmaghat	1.14	58	17	1.1	48	17	1.4	58	17	1.4	63	22
	Karailong	1.38	110	21	1.2	84	21	1.3	94	22	1.3	110	38
Juri	Krishnapur	1.32	110	38	1.4	110	39	1.4	110	39	1.5	120	39

*BOD = Bio Chemical Oxygen Demand, TC = Total Coliform, FC = Faecal Coliform

River Stretch	Station Name	May, 22			June, 22			July, 22			August, 22		
		BOD	TC	FC	BOD	TC	FC	BOD	TC	FC	BOD	TC	FC
Gomti	Jehanbari	1.5	170	63	1.7	210	70	1.9	220	83	1.9	220	83
	Sonamura	2.5	280	70	2.6	350	94	2.7	350	94	2.8	350	94
	Rajdhanagar	1.8	210	58	1.9	220	84	2.1	240	84	2.3	280	94
	Amarpur	1.4	170	58	1.6	210	63	1.7	230	63	1.8	240	63
	Tirthamulh	1.3	120	48	1.4	150	58	1.5	170	63	1.7	210	63
Barighat	Subhashnagar	1.9	210	63	2.2	240	70	2.4	280	84	2.6	280	84
	Bahadurpur	1.5	280	63	2.4	350	84	2.5	430	110	2.7	430	130
	(Bandharpur)	2.1	220	58	1.4	240	63	2.3	280	79	2.4	280	63
	Deshmukhi	2.8	430	79	2.9	430	84	3.1	430	94	3.3	430	110
	Arzila	2.0	220	63	1.9	240	70	2.5	280	84	2.4	280	94
Haora	Kalibagan	1.5	210	49	1.8	240	47	1.8	240	58	1.9	280	63
	Jonagar	1.7	150	39	1.9	210	48	1.6	210	48	1.7	220	58
	Kalibagan	1.6	120	48	1.8	130	48	1.9	150	58	1.9	170	58
	Tirthbari	1.5	170	43	1.6	210	58	1.5	220	63	1.6	240	63
	Kumarji Madhuni setu	1.5	170	49	1.7	210	48	1.8	220	58	1.9	240	58
Khowai	(Tahamghat)	1.4	110	38	1.6	140	47	1.7	170	58	1.8	210	58
	Karibong	1.5	120	40	1.6	150	48	1.8	170	58	1.9	210	63
	Krishnapur	1.6	150	48	1.8	170	58	1.9	170	58	2.1	170	58

River Stretch	Station Name	September, 22			October, 22			November, 22			December, 22		
		BOD	TC	FC	BOD	TC	FC	BOD	TC	FC	BOD	TC	FC
Gomti	Jehanbari	1.8	210	70	1.3	150	47	1.2	130	47	1.2	110	43
	Sonamura	2.6	350	84	2.1	220	63	1.1	210	63	1.8	170	63
	Rajdhanagar	2.1	240	94	1.4	150	48	1.3	130	47	1.2	120	41
	Amarpur	1.6	220	58	1.4	130	47	1.3	120	41	1.2	110	39
	Tirthamulh	1.5	170	58	1.1	110	43	1.1	110	41	1.1	110	39
Barighat	Subhashnagar	2.2	240	70	1.6	150	63	1.5	130	58	1.4	120	49
	Bahadurpur	2.6	430	110	1.8	220	58	1.7	210	58	1.5	170	48
	(Bandharpur)	2.2	240	63	1.5	210	47	1.3	170	38	1.3	170	38
	Deshmukhi	3.1	430	94	2.6	430	70	2.2	430	63	2.1	430	63
	Arzila	2.2	240	84	1.8	210	48	1.7	170	46	1.6	170	43
Haora	Kalibagan	1.7	240	58	1.3	150	31	1.2	130	31	1.2	120	31
	Jonagar	1.6	210	58	1.4	94	26	1.2	94	26	1.2	94	26
	Kalibagan	1.8	150	47	1.3	110	32	1.2	94	32	1.2	94	26
	Tirthbari	1.4	220	63	1.3	150	38	1.2	130	38	1.2	120	32
	Kumarji Madhuni setu	1.6	220	58	1.3	150	38	1.3	130	38	1.2	120	38
Khowai	(Tahamghat)	1.6	210	48	1.3	63	22	1.2	58	22	1.2	58	22
	Karibong	1.7	170	58	1.2	94	38	1.1	94	33	1.1	94	31
	Krishnapur	2.1	140	43	1.4	110	39	1.5	94	27	1.6	94	27

WOD = Bio Chemical Oxygen Demand, TC = Total Coliform, FC = Faecal Coliform

Forest Site/Block	National Name	April, 23			May, 23			June, 23		
		POD	FC	FC	POD	FC	FC	POD	FC	FC
Forest	Jatibonari	1.3	120	41	1.4	130	47	1.6	150	47
	Sonamurti	1.3	150	58	1.9	170	63	2.2	210	63
	Kalibanganagar	1.2	130	47	1.3	150	58	1.5	170	58
	Amarpur	1.3	110	38	1.3	110	46	1.5	120	58
	Parthasarathi	1.5	120	47	1.5	130	58	1.7	150	63
Battagram	Sudhakarsetu	1.3	120	48	1.4	120	58	1.6	140	58
	Bachkharth	1.3	150	58	1.6	170	84	1.9	220	94
	Chandrapur	1.3	150	47	1.5	170	63	1.7	210	63
	Dashamaghat	1.9	350	84	2.1	430	110	2.3	430	120
	Arabi	1.4	220	63	1.5	240	63	1.8	280	70
Bhara	Kalibangan	1.3	130	39	1.3	150	43	1.4	170	48
	Jyotnagar	1.4	120	32	1.4	150	38	1.5	170	41
	Kalibachar	1.2	120	32	1.3	130	41	1.8	170	47
	Parthabari	1.2	110	31	1.3	120	34	1.4	140	43
	Kumari Madhuf setu	1.3	130	41	1.3	130	43	1.4	130	43
Khosai	Chakmaghat	1.4	110	31	1.5	170	47	1.6	170	48
	Karabong	1.3	94	31	1.3	120	38	1.4	130	41
	Kishnapur	1.3	110	38	1.3	120	38	1.4	120	38

Yehli = Yohel ben David (Dagpen ben David, TC) = Yehel (California, PC) = Faerrel (California)

River stretch		BOD	TC	FC	BOD	TC	FC	BOD	TC	FC
Gomti	Jatanbari	1.7	170	47	1.8	210	58	1.7	210	48
	Sonamura	1.9	350	94	2.6	350	110	2.4	350	84
	Rajbarnagar	1.6	210	58	1.8	240	63	1.5	220	63
	Amarpur	1.7	170	58	1.8	210	63	1.6	170	58
	Tirthamukh	1.8	170	63	1.9	210	63	1.8	170	58
Barigaon	Subhashsetu	1.7	150	58	1.8	170	63	1.6	150	58
	Bishalgarh	2.1	280	94	2.6	350	110	2.5	350	70
	Chandrapur	1.8	220	63	1.9	240	70	1.8	220	58
Haora	Dashamighat	2.6	540	130	2.9	540	140	2.8	430	110
	Aralia	2.2	350	94	2.6	430	110	2.6	350	90
	Kalabagan	1.6	220	58	1.8	240	63	1.6	220	58
	Jaynagar	1.6	210	47	1.8	220	58	1.6	220	48
	Kailasbar	1.9	170	48	2.1	210	58	1.8	170	48
Manu	Trishabari	1.6	170	47	1.8	210	58	1.7	150	58
	Kumari Madhuri setu	1.6	150	47	1.8	170	58	1.7	170	58
	Chakmaghat	1.7	170	48	1.9	210	58	1.7	170	58
Khowai	Karailong	1.5	150	47	1.7	170	47	1.5	150	47
	Krishnapur	1.5	140	41	1.6	150	48	1.4	150	48
Juri										

*BOD = Bio Chemical Oxygen Demand, TC = Total Coliform, FC = Faecal Coliform

A. Materials and Methods:

Surface water samples from the six identified river stretches of Tripura were collected on monthly basis. The collected samples were analyzed in the laboratory of TSPCB using the standard methods given in **APHA, 2012** (American Public Health Association).

B. Observations:

From the analytical results for the year of 2021-2023 (January, 2021 to September, 2023) it has been observed that, among the six identified rivers stretches in Tripura, 5 stretches having BOD, Total Coliform & Faecal Coliform values were within the prescribed standard limit of CPCB for Class-B (Water for Outdoor Bathing). The BOD values of one river stretch that is Haora River were slightly beyond the prescribed standard limit of CPCB for particular one location (Dashamighat, Haora) for few months only (August, 2021 & July, August & September, 2022). The Total Coliform of Haora River at Dashamighat location were also beyond the prescribed standard limit of for two months only (July & August, 2023).

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