

Submission of Monthly Progress Report for the Month of January to February, 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) :

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

- Total Capacity of STP is 8 MLD
- Total of connections to the STP as of now is 3900 Nos. (as reported by Eco Protect O & M operator of this STP)
- O & M operator is ECO Protect who supplies operators and chemical. Total number of manpower deployed is 26 numbers
- Total 104.5 km sewer line is already connected to the STP including 9 pumping stations.
- Septage from Agartala city and surrounding areas are carried in by cesspool emptier vehicle and treated at this plant.
- To increase the utilization to optimal capacity, a DPR was prepared in FY 2016-17 amounting to Rs.46.12 Crores. Financial assistance is being active perused from DoNER and Ministry of Housing & Urban Affairs.

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

- Total cost of the project is Rs. 24,73,50,000.00
- Time of completion of Work- 2years
- Date of LOA issued-11.02.2020
- All Piling works completed, pile cap work also completed. STP wall civil work completed upto 2 meters. Admin building column casting and other works are in progress. M/S Mecgale Premierworld JV is the selected agency who is executing the said works.
- All 20 ULBs will install a combination of Sewage Treatment Plant (STP) cum Feacal Sludge Treatment Plant (FSTP) and in-situ Nalla Treatment in their jurisdiction to treat the generated sewage.
- Ministry of Jal Shakti requested for a physical meeting to discuss on the already submitted 3 (three) concept proposal for setting up STP cum FSTP plants mentioned above on 23.08.2022 at 11:00 am in the office of the NRCD. Ministries observation was the cost of the project is high, requested to revise the estimate considering clubbing STP & FSTP.

- The State has taken a major step to mitigate the entire gap in Solid as well as Liquid Waste treatment. In this regard, a State High Power Committee (SHPC) has been constituted under SBM-U and a meeting was convened under the Chairmanship of the Chief Secretary, Tripura on 26.12.2022 for approving action plan and also to **ring-fence funds**.

Bio-Remediation/in-Situ Nalla Treatment of Drains

- 5 (five) nos. of Drains flowing to river Haorah are taken up in pilot mode under Agartala Smart City through in-situ nallah treatment by proven technology under phytoremediation method on design, build and operate (DBO) basis and post completion operation and maintenance for two years including defects liability period of one year.
- An Agency (Bint Biotech Pvt. Ltd.) is selected for the same, Work order has been issued and agreement signed on 21st July, 2022. Incubation centre building is completed. Raft & Wall casting of drain No.5 has been done. Material procurement has been done and installation work is in progress.

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
- Wet waste 55% & Dry waste- 35%, Sanitary waste-2 % & Domestic hazardous waste-2%, E-waste-2% & Other inert Waste-4%
- AMC generate @ 427 grams/per capita/per day
- Other ULBs generate @ 199-294 grams/per capita/per day
- 273 TPD is collected out of 333.1 TPD (82 %). Rest are used for home composting.
- 273 TPD is segregated and transported.
- Only 206.5 TPD waste is being processed as of now. (250 TDP processing – AMC, 6 TPD at Kamalpur NP, 10 TPD each Tertiary Waste Treatment Plants at Sabroom MC, Ambassa MC , Khowai MC, Dharmanagar MC, Mohanpur MC, Udaipur MC, Sonamura NP and Ranirbazar MC and 84 Secondary Centres).
- Gap of 66.5 TDP will be mitigated after operationalization of all the waste processing centres (remaining 8 nos. Tertiary Waste Processing Plants).

- **Tertiary Waste Treatment Plant (for organic waste):**
 - The Tertiary waste Treatment Plant (TWTP) to treat organic/wet waste & to store segregated dry waste of Sabroom NP was inaugurated by Hon'ble CM on 11-08-2022. TWTP at Ambassa MC , Khowai MC, Dharmanagar MC, Mohanpur MC, Udaipur MC, Sonamura NP and Ranirbazar MC is also made Operational. As on date 8 nos of TWTP construction have been completed.
 - The remaining construction works of TWTP will be completed by April, 2023.
 - Bishalgarh is using the existing plant of AMC at D.C Nagar & Kamalpur is using their own existing waste treatment plant.
 - Jirania will utilize the TWTP of Ranirbazar MC.
- **Secondary Waste Sorting & Segregation Centre (for dry waste): 84 nos.** Secondary Waste sorting and Segregation Centres are already made operationalized for dry waste segregation, storage and recycling in 20 ULBs.
- **Total Solid Waste Disposal/Processing Capacity of the State:** The Agartala Municipal Corporation has a well equipped Solid Waste Processing Plant having treatment capacity of 250 TPD, Kamalpur Nagar Panchayet has the Capacity of 6 TPD. Moreover, presently Eight Tertiary Waste Treatment Plant at Ambassa MC , Khowai MC, Dharmanagar MC, Mohanpur MC, Udaipur MC, Sonamura NP , Ranirbazar MC and Sabroom has the capacity of 10 TPD each. In addition, 84 Secondary Waste Segregation Centres are already made operational.
- **Landfill/ Dumpsite Remediation:**

Action Plan for remediation of identified Legacy Waste of 13 ULBs (Santirbazar, Belonia, Sabroom, Dharmanagr, Panisagar, Kailasahar, Kumarghat, Udaipur, Amarapur, Khowai, Melaghar, Sonamura & Ambassa) have been prepared by ULBs as per SBM-U 2.0 guidelines. Which is subsequently approved by State and Ministry of Housing & Urban Affairs, Govt. of India. Accordingly, all 13 ULBs have floated tender for remediation out of which work order have already been issued by 5 ULBs namely Kumarghat MC, Kailashahar MC, Sabroom NP, Udaipur MC and Belonia MC.

III. **Liquid Waste Management:**

The State High Power Committee (SHPC) in the meeting dated 26-12-2022 has approved the following Action Plans which are under tendering stage:

- a. **9.7 MLD In situ Nala treatment for 8 small ULBs** namely Sabroom NP @Rs. 1.53 Cr. (capacity 1 MLD), Panisagar NP@Rs. 2.00 Cr. (Capacity 1.3 MLD), Sonamura NP@ Rs. 1.75 Cr. (Capacity 1.1 MLD), Santirbazar MC@ Rs. 1.75 Cr. (Capacity 1.1 MLD), Jirania NP@ Rs. 1.75 Cr.(Capacity 1.1 MLD), Kamalpur NP @Rs. 1.53 Cr. (Capacity 1 MLD), Amarapur NP @ Rs. 1.75

Cr.(Capacity 1.1 MLD), Bishalgarh MC@Rs. 4.00 Cr. (Capacity 2 MLD). Tender to be floated by TUDA on 10.01.2023.

b. Installation & Commissioning of 31.50 MLD STP including 1 year O & M at Kanta Khal and Kalapania Khal. Tender is already floated by CEO, Agartala Smart City on 13.01.2023.

c. Installation & Commissioning of 7.30 MLD *In-situ* Nalla Treatment at Kalapania Khal including 1 year O & M. Tender is already floated by CEO, Agartala Smart City on 13.01.2023.

d. 17.5 MLD in 11(eleven) SPTs with Co-treatment Facilities (Moveable Bed Bio film Reactor) (MBBR) for 11 ULBs namely Dharmanagar MC@ Rs. 8.73 Cr.(Capacity - 3 MLD), Udaipur MC@ Rs. 9.89 Cr. (Capacity 3 MLD), Mohanpur MC@ Rs. 7.5 Cr. (Capacity2 MLD), Kailashahar MC @ Rs. 5.12 Cr. (capacity 1.3 MLD), Ranirbazar MC@ Rs. 4.32 Cr. (capacity 1.1 MLD), Melaghar MC@ Rs. 4.72 Cr. (capacity 1.1 MLD), Belonia MC@ Rs. 4.06 Cr. (capacity 1.1 MLD), Khowai MC @Rs. 5.71 Cr. (capacity - 1.3 MLD), Kumarghat MC @ Rs. 3.34 Cr. (Capacity 1 MLD), Ambassa MC@ Rs. 4.52 Cr. (capacity 1.3 MLD), Teliamura MC@Rs. 4.61 Cr. (Capacity 1.3 MLD). Tender is already floated by TUDA on 07.01.2023 and 10.01.2023.

IV.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.

V. Bio-medical Waste Management:

- **Total Bio-medical generation:** 2800 kg/day (in the ULBs and Towns of catchment areas of the six rivers) 10 Tripura RRC

- **No. of Hospitals and Health Care Facilities:** Total No. of Hospitals and nursing homes: 158 (bedded). Work order has been issued to install STP in seven district 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 working at Devendra Chandra Nagar in West Tripura District. Amongst the Public Health Facilities 03 state level hospitals namely GBP Hospital, IGM Hospital & Cancer hospital have their own incinerator. Other Public Health Facilities are managing the biomedical waste through disinfection, deep burial & sharp pits. Moreover, 7 District level Hospital have already completed the commissioning of STP.

VI. 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 will be done. Tendering process has already been completed for selection of the Agency and work order has been issued.

VII. 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: 169.63 TPA.
- Treatment/ Measures adopted for reduction or management of plastic waste: Collected through MRF in each ULBs. There are 19 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.

VIII. 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 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 6 identified rivers of Tripura. Accordingly Tripura Pollution Control Board (TSPCB) have sent a proposal of delisting of 6 identified rivers of Tripura in connection with the OA No. 673 of 2018 vide letter no No.F.19(07)/TSPCB/673/5972-977 dated 06-08-2021 to CPCB.

IX. 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 States/ 14 Tripura RRC 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 (AIHH&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 15 Tripura RRC 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.

X. 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.

XI. 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.

XII. Demarcation of Floodplain and removal of illegal encroachments:

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

XIII. 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:

- 5 (five) drains have been identified discharging in the Haora river. *In situ* Bioremediation is being carried out in those 5 drains. Work is under progress.
- Haora River Front Development Project has been launched having several objectives to protect this river.
- Extensive river bank plantation has been done already.
- Regular monitoring of Water Quality is being done by the State Board.
- Flood Plain Zone has been identified.
- The river bank is made encroachment free and regular monitoring are being done by the concerned Authority.
- Proper monitoring is being done so that no solid waste dumped into the river from nearby markets.

XIV. 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%.

XV. 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 RRC 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 are as follows. A dedicated team is formed to look after the gardens and parks in Agartala city. At

present watering is done by jetting machines which collect treated waste water from the STP at Barjala. Under ADB support, 15 no. of tankers filled with suction pump will be shortly delivered to AMC out of which 6 no. of vehicles shall be utilized for watering parks and gardens across the city. AMC has received 3 no. of heavy duty sweeping machine with water tanks from the Department under ADB project. Watering on roads is continued with these machines.