

NATIONAL MISSION FOR CLEAN GANGA

FORMAT FOR SUBMISSION OF MONTHLY PROGRESS REPORT IN THE NGT MATTER OA NO.673 OF 2018 (IN COMPLIANCE TO NGT ORDER) DATED 24.09.2020 FOR THE MONTH OF APRIL TO JUNE 2023 FOR THE STATE OF MEGHALAYA

Overall status of the State:

- I. Total Population: Urban Population & Rural Population : (5,95,450 & 23,71,439)29,64,007
- II. Estimated Sewage Generation (MLD)(2021) : 51 MLD in Urban areas
- III. **Details of Sewage Treatment Plant** :
 - Existing no of STPs and Treatment Capacity (MLD) : 9
 - Capacity Utilization of existing STPs (MLD) : 2.005
 - MLD of Sewage being treated through alternate technology : 9.1 (propose for treatment by septage plant under SBM)
 - Gap in treatment Capacity in MLD : 22.98 (Propose by other forms of treatment under SBM)
 - No of operational STPs : 9
 - No of complying STPs : 9
 - No of Non-complying STPs : -

Details of Each Existing STP in the State

No.	Location	Existing STP Capacity MLD	Capacity being utilised MLD	Operational Status of STP	Compliance status of STP
1.	Residential colony of Meghalaya Cements Ltd., Thangskai, East Jaintia Hills District	0.1	0.06	Operational	Complying
2.	Residential colony of Star Cements Ltd., Lumshnong, East Jaintia Hills District	0.4	0.239	Operational	Complying
3.	North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences, Mawdiangdiang	1.0	1.0	Operational	Complying
4.	Residential colony of M/S Lafarge Umiam Mining Pvt. Ltd., Nongtra	0.12	0.03	Operational	Complying
5.	Residential School –JNV, Mawphlang	0.1	0.02	Operational	Complying
6.	Polo Market ,Shillong	0.05	0.05	Operational	Complying

7.	Green valley industries Ltd ,Nongsning,EJH	0.03	0.03	Operational	Complying
8.	Dalmia Cement (Bharat) Ltd,Thangskai,EJH	0.05	0.04	Operational	Complying
9.	Septage Treatment plant,Shillong	0.115	0.06	Operational	Complying
10.	i.Faecal Sludge &Septage management ,Khliehriat ii.Purchase order for 3000 litres cess pool car has been placed with TATA Motors,	0.04	100 %		To be made operational.

Details of under construction STPs in the State

No.	Location	Capacity of the plant in MLD	Physical progress in %	Status of I&D or house sewer connections	Completion timeline
1.	FSSM,Shillong	0.35	90% physical progress. Awaiting for power connection.		October, 2023
	5 nos of On- site treatment plant,Shillong	13.42	80-90 % physical progress in 4 Nos and awaiting for power connection. 1 No is yet to start due to land issue.		October, 2023
2.	FSSM, Jowai	0.05	95% physical progress. Installation of transformer to be taken up so trial run can start. Dialogue ongoing with Dorbar Shnong as they are doing road work which is hindering the installation of transformer.		Expected date of completion is November, 2023

Details of proposed STPs in the State

No.	Location	Capacity of the STP proposed in MLD	Status of project(at DPR stage/under Tendering/work to be awarded)	Likely date of completion
1.				
City Sanitation Action Plan for the Municipal Boards of Jowai, Tura, Baghmara, Resubelpara, and Williamnagar have been approved by the SLTC under SBM 2.0 and Ministry approved and 1 st instalment funding has been				

received.

IV. Details of Industrial Pollution

- No. of industries in the State : **1559**
- No. of water polluting industries in the state : **260**
- Quantity of effluent generated from the industries in MLD : **3.5**
- Quantity of hazardous sludge generated from the industries in TPD : **1.3105**
- No. of industrial units having ETPs : **255**
- No of Industrial units connected to CETPs : **Nil**
- Compliance status of the ETPs : **Complying**
- No and total capacity of CETPs (details of existing/under construction /proposed) : **Nil**
-

Town	No of Industries	Industrial discharge (MLD)	Status of ETPs	Status of CETPs(existing, under construction &proposed)
Shillong	130	1.7585	Complying	-
Byrnihat	29	0.676	Complying	-
Nongstoin and Mairang	37	0.276	Complying	-
Ladrymbai&Khliehriat	12	0.029	Complying	-
Jowai	20	0.40	Complying	-
Khliehriat,Myndihati &Lumshnong	11	0.15	Complying	-
Tura	16	0.20	Complying	-
Umiam	5	0.135	Complying	-

STATUS OF ULB WISE MANAGEMENT OF SOLID WASTE

V. Solid Waste Management

- Total number of Urban Local Bodies and their Population : **10 Nos , 3,75,930**
- Current Municipal Solid Waste Generation : 245 TPD
- Number, installed capacity and utilization of existing MSW processing facilities in TPD (bifurcated by type of processing eg. Waste to Energy (Tonnage and Power Output), Compost Plants (Windrow, Vermi, decentralized pit composting), biomethanation, MRF etc.: Action plan to bridge gap between Installed Capacity and Current Utilization of processing facilities (if Gap> 20%):

EXISTING SWM PLANTS IN MEGHALAYA						
SN	Town	Facility Type	Installed Capacity	Nos.	Utilization	Action Plan to utilise installed capacity
1	Shillong	Waste to Recovery centre	8 TPD	4	12.72 TDP (6.00 TPD Organic Compost + 6.72 Recyclables)	All 4 nos. are made operational.
2.	Tura	Waste to Compost	50 TPD	1	0 TPD	Yet to be made operational
3	Nongpoh	Waste to Compost	15 TPD	1	0 TPD	Yet to be made operational
4	Shillong	Waste to Compost	170 TPD	1	60 TPD	The plant is 100% operational
5	Khliehriat	Composting Plant	0.1 TPD	1		Completed and is on trial stage.

- No. And capacity of C & D waste processing plants in TPD (Existing, proposed and under construction):
None
- Total no. Of wards, having door to door collection service, no. Of wards practicing segregation at source:
- 96 wards have door to door collection service; 64 wards practicing segregation at source.**
- Details of MSW treatment facilities proposed and under construction (no. Capacity, and technology):

PROPOSED SWM PLANTS IN MEGHALAYA				
SN	Town	Facility type	Proposed capacity TPD	Nos.
1	Shillong Municipal Board	Waste to Energy	100	1
2		Decentralized Processing Units	25	-
3	Tura Municipal Board	Waste to Energy	50	
4		Decentralized Processing Units	10	-
5	Nongstoin Town	Compost Plant	7	1

6	Committee	Decentralized Processing Units	4.5	-
7	Jowai Municipal Board	Compost Plant	6	1
8		Decentralized Processing Units	4	-
9	Williamnagar Municipal Board	Compost Plant	5.5	1
10		Decentralized Processing Units	3.5	-
11	Resubelpara Municipal Board	Compost Plant	4.5	1
12		Decentralized Processing Units	3	-
13	Mairang Town Committee	Compost Plant	3.5	1
14		Decentralized Processing Units	2	-
15	Nongpoh Town Committee	Compost Plant	3	1
16		Decentralized Processing Units	2	-
17	Baghmara Municipal Board	Compost Plant	3	1
18		Decentralized Processing Units	2	-
19	Khliehriat& Jowai	Solid Waste processing & Disposal Facility to cater to both Jowai &Khliehriat	10	1

- No. And area (in acres) of uncontrolled garbage dumpsites and Sanitary Landfills:
- No. and area (in acres) of legacy waste within 1km buffer of both side of the rivers: **8.94 acres (a MOU has been signed with CHAMHANA GW INDIA PVT.LTD on 22nd June 2020 which will include the setting up of waste to Energy plant at Tura and Shillong of 10TPD and 100 TPD capacities respectively. These plants will remediate the existing legacy waste at the present dumping grounds) For the Tura Plant, trial runs are underway and operator will scale up operation thereafter.**
- No. Of drains falling into rivers and no. Of drains having floating racks/screens installed to prevent solid waste from falling into the rivers: **Garbage traps have been installed in 6 nos of drains connecting to the rivers and one oil grease trap of 5 Kld installed in one drain of Umkhras river in Shillong City**

VI. Bio-medical Waste Management:

- Total Bio-medical generation: **1276.24 Kg/day**
- No. of Hospitals and Health Care Facilities: **554**
- Status of Treatment Facility/CBMWTF:

a) **Common Bio-Medical waste treatment is completed and is in operation.**

b) **The Urban Affairs has procured three Bio-medical Wastes vehicles solely for transport of Bio-medical Wastes**

VII. Hazardous Waste Management:

- Total Hazardous Waste generation: **498.4434 KL/annum**
- No. of Industries generating Hazardous waste: **19 (Nineteen)**
- Treatment Capacity of all TSDF's: **Not available**
- Avg. Quantity of Hazardous waste reaching the TSDF's and Treated : **Nil**

- Details of on-going or proposed TSDF: **None**

VIII. Plastic Waste Management:

- Total Plastic Waste generation: **9.16 TPD**
- Treatment/Measures adopted for reduction or management of plastic waste:

(a) **The plastic wastes are collected as municipal waste. The plastic waste was segregated from the dry waste at the dumpsite and collected for compaction and bailing and send to Cement Plants for co-processing to be used as Fuel.**

(b) **Used for roadmaking in some parts of Tura, and Nongstoin.**

- IX. Details of Alternate Treatment Technology being adopted by the State/UT:
- X. Identification of polluting sources including drains contributing to river pollution and action as per NGT order on insitu treatment:
- XI. Details of Nodal Officer appointed by Chief Secretary in the State/UT: **The Government has constituted a Monitoring Committee under the chairmanship of the Principal Secretary to the Govt. of Meghalaya, Forests & Environment Department vide no. ENV.4/2018/426 Dated Shillong the 19th June 2020**
- XII. Details of meetings carried under the Chairmanship Chief of Secretary in the State/UT:
- XIII. Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river: **Enclosed as II A to Annexure IX B**
- XIV. Ground water regulation: **For Domestic purpose – District Level Committee Ground Water Resource (Deputy commissioner of respective District as Chairman and official of Water resources as Member Secretary) looks after it and grant NOC For Commercial purpose - State Level Committee Ground Water Resource (Commissioner & Secretary, Water Resources as Chairman and Regional Director, CGWB, NER, as Member Convener) looks after it and grant NOC.**
- XV. Good irrigation practices being adopted by the State: **Traditional Bamboo Drip Irrigation**
- XVI. Rain Water Harvesting: **(a) Rain water harvesting implemented for Schools and government buildings. (b) Incorporated as one of the condition while giving permission for any house construction**
- XVII. Demarcation of Floodplain and removal of illegal encroachments: **(a) Network design including the proposed additional installation submitted. Field Survey report of Umkhrach, Nonbah, Umtrew and Myntdu have been submitted and various inputs for catchment models have also been prepared .80% of the work have been completed.**
(b) Setting up of HO stations was completed .Hydro-meteorological data from the installed instruments have been collected and compiled for the month of July

(c) The rain gauges and staff gauges have been installed in all the four study river basins and data collection was initiated from 1st May 2022.

(d) Flood models of Umkhrach, Nonbah, Umtrew and Myntdu have been simulated for 2,5,10,25,50, and 100 years return period floods and team is reviewing the results.

(e) Calibration of flood models for different flood events have been started. Method to estimate areal rainfall from observed point rainfall is being analysed.

(f) Major work of Draft Feasibility Study Report is completed in July 2022.

(g) Flood inundation scenarios with and without considering the flood protection at various locations in Umkhrach, Nonbah, Umtrew and Myntdu have been generated.

(h) Draft report on Flood Plain Zoning and Flood Mitigation Measures has been submitted and is under review by the Department

XVIII. Maintaining minimum e-flow of river: **Perennial rivers**

XIX. Plantation activities along the rivers: Sanction approved for treatment of 48.58 ha (preliminary works for creation of plantations and creation of 94.5 polypot nursery beds for future plantations)

XX. Development of Biodiversity Park: **No proposal for setting due to non-availability of Government land.**

XXI. Reuse of Treated Water: **Stand-alone ETPs are operational in 260 number of hotels/guesthouse/health care centers /Industries and treated wastewater are reuse for gardening/cleaning purpose.**

XXII. Model River being adopted by the State & Action Proposed for achieving the bathing quality standards: Nonbah river

XXIII. Status of Preparation of Action Plan by the 13 Coastal States: **Not applicable to the State of Meghalaya**

XXIV. Regulation of Mining Activities in the State/UT: **Mining activities in the State is being regulated under the following acts and rules**

a) **Mines and Minerals (Development and Regulation) Act 1957 and its subsequent amendments**

b) **EIA notification, 2006 and its subsequent amendments**

c) **Meghalaya Minor mineral Concession Rules 2016 and its subsequent amendments**

d) **EP Acts, 1986**

e) **The Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974**

XXV. Action against identified polluters, law violators and officers responsible for failure for vigorous monitoring:

- a) Units which failed to comply to the consent conditions have been issued directions,show cause notice and closure notices
- b) Units which have been operating without consent from the Pollution Control Board have been issued closure notices under relevant Acts and Rules
- c) Filing of Complaints to the District Courts

POLLUTED RIVERSTRETCHES

I.	Total No. of Pollution River Stretches	7(Umkhrah&Umshyrpi river –Priority I:Umtrew,Nonbah&Kyrhukhla river –Priority IV: Myntdu&Lukha –Priority V)						
		Umkhrah	Umshyrpi	Umtrew	Nonbah	Kyrhukhla	Myntdu	Lukha
II.	In-situ Bio-remediation	Work completed in 5 drains .			Phycoremediation has already started for Kyrhukhla river. and Lukha river 10% of the Bio-remediation work completed in 3 drains in Myntdu river .			
III.	Sewage Treatment Plant							
	Total Sewage Generation (MLD)	33.52	15.47	0.36	3.10	0.8	3.07	0.5
	Total Existing Treatment Capacity (MLD)	0.165				0.04		
	Capacity Utilization	0.11						

Note: Garbage traps have been installed in 6 nos. of drains connecting to the rivers and one oil grease trap of 5kld installed in one drain of Umkhrah River.

Town	Existing STP	Capacity Being Utilized	Whether Complying or not	STP Proposed if any	Status (DPR/tendering/under construction/ETC etc.)
Shillong (catchment of Umkhrah&Umshyrpi river)	0.165 MLD	0.11	-		For the 0.35MLD FSSM, 90% physical progres and Awaiting for power connection For the 5 Nos. onsite STP, 80-90 % physical progress in 4 Nos and awaiting for power connection. 1 No is yet to start due to land issue.
Faecal Sludge Treatment Plant,Khliehriat	0.04 MLD				Completed and yet to be make operational

Town	Existing ETP Capacity(MLD)	Whether Complying or not	CETP Proposed if any	Status (DPR/tendering/under construction/ETC etc.)
Shillong	1.8	Complying	-	-
Byrnihat	1.0	Complying	-	-
Nongstoin	0.41	Complying	-	-
Ladrymbai&Khliehriat	0.1	Complying	-	-
Jowai	0.45	Complying	-	-
Khliehriat,Myndihati&Lumshnong	0.615	Complying	-	-

V.	Solid Waste Management	Umkhrah	Umshyrpi	Umtrew	Nonbah	Myntdu	Kyrhukhla	Lukha
	Total Municipal Solid Waste generation (TPD)	164.81	1.16	10.05	9.95	2.6	1.6	

	Existing facilities (TPD)	Chain link fencing has been installed at strategic garbage points. Penalty is imposed on habitual offenders. b) Additionally, Garbage traps have been installed in 6 nos of drains connecting to the rivers and one oil grease trap of 5 Kld installed in one drain of Umkhras River. 170 TPD Compost Plant at Marten is completed and operational. There are 4nos of decentralised compost plants and all are operational.	15.0 I no of waste to compost plant of 15TPD is yet to made operational	Collection, segregation and transportation of wastes has been done by the SLRM team under SBM (Urban) .In some households the biodegradable wastes are treated by composting method in compost pit	Door to door collection and transportation coverage is being done by the Jowai Municipal Board. Segregation at source is in place.	i) Waste management soak pit household waste water management & soak pit household waste water management & organic waste compost for 112 households under SBM (G) ii) Construction of 0.1 TPD compost plant completed and on trial run.	Waste management soak pit household waste water management & organic waste compost pit for 366 households under SBM (G)
						Materials recovery centres have been set up in 61 villages	
	Proposed	Waste to energy of 100 TPD capacity and the proposed investment is INR 24.5 crores. MoU has been signed on 22 nd June 2020 between the Department of Urban Affairs ,Government of Meghalaya and CHAMHANA GW India	Proposed for soak pit household waste water management & organic waste compost for 112 households	Land has been identified and a compost plan has been sanctioned under SBM (Urban)	Solid Waste processing & Disposal Facility of 10 TPD to cater to both Jowai & Khliehriat .Physical progress of civil works is 70%. Target date of completion is December 2023. -		

		Pvt .Ltd on a Build, Own and Operate (BOD) basis for a period of 25 years. There is however ,delay in starting the project due to ongoing pandemic for transportation of equipments and other related matters to human resources .	under SBM (G)		
	Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river	Enclosed as Annexures			

VI.	Bio-medical/Hazardous/Plastic Waste Management(in TPD)	Umkhrah	Umshyrpi	Umtrew	Nonbah	Kyrhukhla	Myntdu	Lukha
	Total Bio-medical Waste generation	1.0597		0.0021	0.029	0.00608	0.41	Nil
	Total Bio-medical Waste	1.0597		0.0021	0.029	0.00608	0.41	Nil

	minimum e-flow of river		
IX.	Protection and management of Flood Plain Zones (FPZ)	(a) Network design including the proposed additional installation submitted. Field Survey report of Umkhrah, Nonbah, Umtrew and Myntdu have been submitted and various inputs for catchment models have also been prepared. 80% of the work have been completed. (b) Setting up of HO stations was completed. Hydro-meteorological data from the installed instruments have been collected and compiled for the month of July and August 2022. (c) The rain gauges and staff gauges have been installed in all the four study river basins and data collection was initiated from 1st May 2022. (d) Flood models of Umkhrah, Nonbah, Umtrew and Myntdu have been simulated for 2,5,10,25,50, and 100 years return period floods and team is reviewing the results. (e) Calibration of flood models for different flood events have been started. Method to estimate areal rainfall from observed point rainfall is being analysed. (f) Major work of Draft Feasibility Study Report is completed in July 2022. (g) Flood inundation scenarios with and without considering the flood protection at various locations in Umkhrah, Nonbah, Umtrew and Myntdu have been generated. (h) Draft report on Flood Plain Zoning and Flood Mitigation Measures has been submitted and is under review by the Department	
X.	Rain water harvesting	i. Rain water harvesting implemented for Schools and government buildings ii. Incorporated as one of the condition while giving permission for any house construction	
XI.	Plantation along river	Creation of Temporary nursery and preliminary works completed for the catchment area of Nonbah river . 1800 sapplings planted in the catchment of Umkhrah covering an area of 3.5 km	No proposal was made since there is a Reserve Forest and green cover on both

		500 sapplings planted in the catchment area of Umtrew river covering an area of 0.5 Ha.		sides of the river
XII.	Development of biodiversity park on flood plains by removing encroachment	Matter of encroachment is pending in the Supreme Court.Biodiversity parks in existence.	No proposal for setting up of Bio-Diversity Park due to non-availability of Government land.	
XIII.	Reuse of Waste water	Treated wastewater are reuse for gardening/cleaning purpose		

ANNEXURE

WATER QUALITY DATA OF POLLUTED RIVER STRETCHES –APRIL 2023

Stations→ Parameters↓	Umshyrpi		Umkhrah				Umtrew at Byrnihat	Nonbah at Nongstoin	Myntdu at Jowai	Lunar River (Tributary of Lukha River) at Myndihati	Kyrhuhkhla River
	Near Law College	Umshyrpi Bridge	Demthring	Umkaliar	Near Slaughter House	Mawpdang					
pH	7.0	6.8	7.0	7.0	7.1	6.9	6.8	6.8	7.1	2.9	3.6
Dissolved Oxygen(mg/l)	NIL	1.0	NIL	2.6	NIL	NIL	6.8	6.9	6.7	7.2	6.8
Bio-chemical Oxygen Demand (mg/l)	50.0	33.0	47.0	19.0	52.0	50.0	2.5	2.7	2.4	2.3	2.5
Faecal Coliform (MPN/100ml)	63000	11000	43000	7900	79000	70000	580	1100	410	<1.8	<1.8
Total Coliform (MPN/100ml)	230000	49000	110000	41000	300000	280000	3500	4900	2700	<1.8	<1.8
Faecal Streptococci (MPN/100m	13000	3300	8400	3000	21000	17000	310	480	240	<1.8	<1.8

WATER QUALITY DATA OF POLLUTED RIVER STRETCHES – MAY 2023

Stations→ Parameters↓	Umshyrpi		Umkhrah				Umtrew at Byrnihat	Nonbah at Nongstoin	Myntdu at Jowai	Lunar River (Tributary of Lukha River) at Myndihati	Kyrhuhkhla River
	Near Law College	Umshyrpi Bridge	Demthring	Umkaliar	Near Slaughter House	Mawpdang					
pH	7.2	7.4	7.3	7.4	7.4	7.5	7.3	6.7	7.0	2.9	3.4
Dissolved Oxygen(mg/l)	NIL	0.9	NIL	2.4	NIL	NIL	6.8	7.0	6.8	7.4	6.8
Bio-chemical Oxygen Demand (mg/l)	54.0	39.0	52.0	20.0	55.0	56.0	2.6	2.5	2.4	2.2	2.5

Faecal Coliform (MPN/100ml)	79000	13000	46000	8400	84000	79000	630	1200	480	<1.8	<1.8
Total Coliform (MPN/100ml)	280000	63000	140000	42000	350000	330000	4300	4900	3100	<1.8	<1.8
Faecal Streptococci (MPN/100m)	17000	3600	11000	3300	27000	24000	320	350	220	<1.8	<1.8

WATER QUALITY DATA OF POLLUTED RIVER STRETCHES – JUNE 2023

Stations→ Parameters↓	Umshyrpi		Umkhrah				Umtrew at Byrnihat	Nonbah at Nongstoin	Myntdu at Jowai	Lunar River (Tributary of Lukha River) at Myndihati	Kyrhuhkhla River
	Near Law College	Umshyrpi Bridge	Demthring	Umkaliar	Near Slaughter House	Mawpdang					
pH	6.8	6.7	6.9	6.8	6.9	7.2	7.0	6.7	6.7	2.7	3.3
Dissolved Oxygen(mg/l)	2.8	5.8	2.6	6.2	3.0	3.1	7.0	7.2	7.3	7.0	6.8
Bio-chemical Oxygen Demand (mg/l)	28.0	11.0	23.0	5.5	26.0	24.0	2.4	2.2	2.3	2.4	2.7
Faecal Coliform (MPN/100ml)	39000	3900	21000	3600	33000	31000	540	1100	430	<1.8	<1.8
Total Coliform (MPN/100ml)	140000	33000	63000	17000	130000	120000	4100	4600	3000	<1.8	<1.8
Faecal Streptococci (MPN/100m)	9400	1200	4800	1100	13000	11000	280	350	210	<1.8	<1.8

