Meghalaya State Pollution Control Board
Forests & Environment Department, Government of Meghalaya
'ARDEN' Lumpyngngad, Shillong-793014
Website: http://megspcb.gov.in

mspcb

No. MPCB/GEN-285/ANNEXED IX A/2021-2022/87 Dated Shillong the 16th September 2022

To,

The Secretary
Government Of India
Ministry of Jal Shakti
Department of Water Resources, River Development & Ganga Rejuvenation
Shram Shakti Bhawan
Rafi Marg,New Delhi -110001
(Email: ruby.raju@nmcg.nic.in)

Sub: Submission of Monthly Progress Report for ensuring compliance to the Hon'ble NGT matter OA No 673/2018 for the month of May to August 2022.

Sir

With reference to the above, please find enclosed herewith the Monthly Progress Report for the month of May to August 2022 for favour of your kind information & necessary action.

Enclo : As stated

Yours faithfully

(SHRI. R. NAINAMALAI, IFS)
MEMBER SECRETARY
MSPCB, SHILLONG

Memo.No.MPCB/GEN-285/(Annexed–IX A)/ 2021-2022/87A Dated Shillong the 16th September 2022

Copy to:-

1. Shri. A. Sudhakar, DH, WQM-I, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi – 110032 for his kind information. Email: asudhakar.cpcb@nic.in/jcb.cpcb@nic.in
2. The Addl Principal Chief Conservator of Forest (Climate Change ,Research & Training) cum Chairman of River Rejuvenation Committee ,Meghalaya, Shillong-793001 for his kind information
3. The Director of Urban Affairs cum Member Convener of the RRC ,Meghalaya, Shillong for information
4. Shri. M.B.K. Reddy ,IFS, Additional Principal Chief Conservator of Forest, Planning, Development and Legal matters, Meghalaya, Shillong, for his kind information

(SHRI. R. NAINAMALAI, IFS)
MEMBER SECRETARY
MSPCB, SHILLONG

Contact details: Email: memsecy.spcb-meg@gov.in, megspcb@rediffmail.com; Telephone Numbers: Chairman-0364-2521217; Member Secretary-2522802; Scientific-2521514; Engineering-2521533; Legal-2520044; Laboratory-2521726; Administration-2520073; Accounts-2522124; Telefax-2521764.

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 MAY –AUGUST 2022 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) : 75 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) : 1.529
- MLD of Sewage being treated through alternate technology : 22.8 (Considering treatment by septic tank)
- Gap in treatment Capacity in MLD : 50.671
- 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., Nongtrai	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	0.03	0.03	Operational	Complying

	,Nongsning,EJH				
8.	Dalmia Cement (Bharat) Ltd,Thangskai,EJH	0.05	0.04	Operational	Complying
9.	Septage Treatment plant,Shillong	0.115	0.06	Operational	Complying

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.					
2.	i.Faecal Sludge & Septage management ,Khliehriat ii.Purchase order for 3000 litres cess pool car has been placed with TATA Motors,	0.04	100 %		Completed and yet to be make operational.
3.	FSSM,Shillong 5 nos of On-site treatment plant,Shillong	0.35 13.42	80 % physical progress 50 % physical progress		The estimated date of completion is March 2023
4.	FSSM,Jowai	0.05 KLD	35% physical progress.		

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.				

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	5 ETPS for servicing units under construction	
Umiam	5	0.135	Complying	-

STATUS OF ULB WISE MANAGEMENT OF SOLID WASTE

V. <u>Solid Waste Management</u>

- 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	3 nos Operational. 1 completed and yet to be made operational (training

					Organic Compost + 6.72 Recyclables)	of operator in progress
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		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:**73**
- Details of MSW treatment facilities proposed and under construction (no. Capacity, and technology):

PROPOSED SWM PLANTS IN MEGHALAYA				
SN	Town	Facility type	Proposed capacity	Nos.
1.	Shillong	Waste to Energy	100 TPD	1
2.	Tura	Waste to Energy	50 TPD	1
		Waste Recovery Centre	2 TPD	1
3.	Nongpoh	Waste Recovery Centre	2 TPD	1
4.	Jowai	Waste Recovery Centre	2 TPD	1
5.	Williamnagar	Waste Recovery Centre	2 TPD	1
6.	Baghmara	Waste to Recovery Centre	2 TPD	1
7.	Resubelpara	Waste to Recovery Centre	2 TPD	1
8.	Nongstoin	Waste to Recovery Centre	2 TPD	1
9.	Mairang	Waste to Recovery Centre	2 TPD	1
11.	Khliehriat	Solid Waste processing & Disposal Facility to cater to both Jowai & Khliehriat .	10 TPD	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, it is expected to start trail run by June 2022**
- 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 Umkhrah 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 arecollected 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 DatedShillong 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 asII 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 NOCFor 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 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-meteorogical 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 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

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

XIX. Plantation activities along the rivers: Sanction is still awaited 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 has already started for 3 nos of nallah of which 90 % civil work is completed in 1 nallah and remaining 2 is about to start. Civil work for all 5 nos targeted by November 2022.Mechanical work to start by October 2022.**		**Phycoremediation has already started for Kyrhukhla river. and in Lukha river it is ready and yet to be commission.The project is funded under MEPRF(Meghalaya Environment Protection and Restoration Fund)**				
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)	0.05						
	Capacity Utilization							

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)	0.05 MLD	-	-		80 % physical progress for 0.35 MLD FSSM,Shillong 50 % physical progress for 13.42 MLD (5 nos) of On-site treatment plant,Shillong 0.115 MLD FSSM is completed and functional
Faecal Sludge Treatment Plant,Khliehriat	0.04 MLD				Completed and yet to be make operational

Jowai catchment of	-	-	-	FSSM		35% physical progress for 0.05 MLD FSSM,Jowai .		
Byrnihat(catchment of Umtrew river)						Safe sanitary latrine under Swachh Bharat mission (Gramin) for 364 households		
Nongstoin (catchment of Nonbah river)						Safe sanitary latrine under Swachh Bharat Mission (urban) for 424 households		
Khliehriat,Ladrymbaietc (catchment of Kyrhukhla river)						Safe sanitary latrine under Swachh Bharat mission (Gramin) for 220 households		
Myndihati, Khliehriat&Lumshnongetc (catchment of Lukha River)						Safe sanitary latrine under Swachh Bharat mission (Gramin) for 366 households.		
IV.	**Industrial**	**Umkhrah**	**Umshyrpi**	**Umtrew**	**Nonbah**	**Kyrhukhla**	**Myntdu**	**Lukha**
•	Total No. of industries/industrial estates	121	9	29	34	12	20	11
•	Total Industrial discharge	1.3035	0.455	0.676	0.276	0.029	0.40	0.15
•	Total No. of industries having ETPs	121	9	29	34	12	20	11
•	Total existing CETPs	None	None	None	None	None	None	None
•	Total No. of GPIs/SPIs	None	None	1	None	None	None	None
•	No. of industries having OCEMS	None	None	None	None	None	None	None

Town	**Existing ETP**	**Whether Complying or**	**CETP Proposed if**	**Status (DPR/tendering/under**

	Capacity(MLD)	not	any	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 Umkhrah River. 170 TPD Compost Plant at Marten is completed and under testing of trial run. There are 4nos of decentralised compost plants. Out of these, 3 are operational and 1 is yet to be made operational.	15.0	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 22nd June 2020 between the Department of Urban Affairs ,Government of Meghalaya and	Proposed for soak pit household waste water management & organic waste compost for 112	Land has been identified and a compost plan has been sanctioned under SBM (Urban)	Within the existing dumping site portion of land has been identified for indigenous compost plant and waste	-	-

		CHAMHANA GW India 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 .	households under SBM (G)		recovery. The work is to be started soon		
	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 Treatment	1.0597		0.0021	0.029	0.00608	0.41	Nil
	Bio-Medical Treatment facilities	a) Common Bio-Medical waste treatment plan is completed and is under trial run b) The Urban Affairs has procured three Bio-medical Wastes vehicles solely for transport of Bio-medical Wastes.						
	Hazardous Waste generation	Nil	Nil	1.17	Nil	Nil	Nil	0.1405
	Hazardous Waste Treatment	-	-	1.135	-	-	-	0.1405
	Plastic Waste generation	0.230 -		-	-	-	-	
	Plastic Waste processing	(a) The plastic Waste was collected as municipal waste into dry waste and wet 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 road making in some parts of Nongstoin						
	Total No. of Hospital and bio-medical waste generation/treatment	6	2	None	2	None	2	None
	Total of units generating Hazardous waste/treatment facility			6				11

		Umkhrah	**Umshyrpi**	**Umtrew**	**Nonbah**	**Myntdu**	**Kyrhukhla**	**Lukha**
VII.	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						

VIII.	Maintaining minimum e-flow of river	Perennial	
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-meteorogical 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 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	Sanction is still awaited for treatment of 48.58 ha (preliminary works for creation of plantations and creation of 94.5 polypot nursery beds for future plantations).	No proposal was made since there is a Reserve Forest and

			green cover on both 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 –MAY, 2022

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	7.1	7.2	6.9	7.6	7.2	7.1	6.8	6.9	7.2	3.4	4.1
Dissolved Oxygen(mg/l)	1.0	4.2	1.0	5.0	1.2	NIL	7.0	7.6	6.4	6.9	6.9
Bio-chemical Oxygen Demand (mg/l)	41.0	14.0	43.0	16.0	40.0	43.0	2.3	2.0	1.9	2.1	2.2
Faecal Coliform (MPN/100ml)	31000	9000	38000	6300	43000	46000	630	1100	630	<1.8	<1.8
Total Coliform (MPN/100ml)	94000	24000	94000	27000	130000	140000	4200	4100	2700	<1.8	<1.8
Faecal Streptococci (MPN/100m	4300	1700	4100	2500	7900	8400	150	120	120	<1.8	<1.8

WATER QUALITY DATA OF POLLUTED RIVER STRETCHES – JUNE 2022

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	6.9	6.8	7.1	7.0	7.0	7.0	6.8	7.1	3.2	3.9
Dissolved Oxygen(mg/l)	2.4	5.8	3.8	5.6	3.2	2.6	7.2	7.8	7.4	7.2	7.0
Bio-chemical Oxygen Demand (mg/l)	18.0	9.2	16.0	13.0	20.0	23.0	1.9	1.8	1.7	1.9	2.0

Faecal Coliform (MPN/100ml)	22000	6100	21000	4100	23000	24000	280	430	220	<1.8	<1.8
Total Coliform (MPN/100ml)	49000	17000	43000	23000	70000	79000	1700	2300	920	<1.8	<1.8
Faecal Streptococci (MPN/100m	2100	1100	3100	1700	3800	3900	110	120	94	<1.8	<1.8

WATER QUALITY DATA OF POLLUTED RIVER STRETCHES – JULY, 2022

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	6.9	7.0	6.8	7.0	7.1	7.1	7.1	6.9	6.9	3.0	3.7
Dissolved Oxygen(mg/l)	2.3	5.8	3.2	5.6	3.2	2.0	6.8	8.0	7.0	6.9	6.8
Bio-chemical Oxygen Demand (mg/l)	21.0	12.0	17.0	14.0	21.0	27.0	2.2	1.6	1.9	2.3	2.0
Faecal Coliform (MPN/100ml)	23000	6300	23000	4600	24000	27000	310	350	270	<1.8	<1.8
Total Coliform (MPN/100ml)	58000	21000	46000	24000	79000	84000	2400	2100	1300	<1.8	21
Faecal Streptococci (MPN/100m	2200	1300	3300	2100	4000	4300	130	110	110	<1.8	<1.8

WATER QUALITY DATA OF POLLUTED RIVER STRETCHES – AUGUST, 2022

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	6.7	7.1	7.0	7.2	7.2	7.4	7.2	6.7	6.7	3.2	3.5
Dissolved Oxygen(mg/l)	1.8	4.4	3.0	5.0	2.2	1.2	7.2	7.5	7.0	7.0	6.6
Bio-chemical Oxygen Demand (mg/l)	21.0	13.0	19.0	16.0	29.0	37.0	1.8	2.0	2.2	1.9	2.1
Faecal Coliform (MPN/100ml)	24000	7000	23000	4900	27000	31000	270	480	170	<1.8	<1.8
Total Coliform (MPN/100ml)	70000	24000	48000	27000	84000	94000	2100	2400	840	<1.8	23
Faecal Streptococci (MPN/100m	3800	1700	3700	1400	4200	4900	120	110	93	<1.8	<1.8