

**Monthly Progress Report for the State of MIZORAM for December 2020 & January 2021**  
(As per revised format)

(in compliance to NGT order dated 24.09.2020 in the matter of OA No. 673 of 2018)

**Overall status of the State:**

**I. Total Population: Urban Population & Rural Population (as per 2011 census).**

<i>Urban &amp; Rural Popullation</i>	<i>2011</i>	<i>Projected population in 2021</i>
Urban Population	525435	638722
Rural Population	571771	632013
<b>Total</b>	<b>1097206</b>	<b>1270735</b>

**II. Estimated Sewage Generation (MLD) as per projected population for 2021:**

<b>Urban</b>	68 MLD
<b>Rural (692 villages)</b>	36 MLD
<b>Total</b>	<b>104 MLD</b>

*Note: The Sewage Generations are arrived taking into consideration the water supply at 70 lpcd and 135 lpcd in rural and urban respectively.*

**III. Details of Sewage Treatment Plant:**

- Existing no. of STPs and Treatment Capacity (in MLD):
  - Nil
- Capacity Utilization of existing STPs:
  - Nil
- MLD of sewage being treated through Alternate technology:
  - **0.5437 MLD ( Bio Digester etc.)** – List of Bio Digester is enclosed in **Annexure-I**
- Gap in Treatment Capacity in MLD:
  - **104 MLD – 10.2 MLD = 93.45 MLD**  
(Counting the ongoing project of 10 MLD at hand)
- No. of Operational STPs:
  - Nil
- No. of Complying STPs:
  - N/A
- No. of Non-complying STPs:
  - N/A

### **Details of each existing STP in the State**

No.	Location	Existing STP Capacity	Capacity Being Utilized	Operational Status of STP	Compliance Status of STP
1.		NIL	NIL	NIL	N/A

### **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.	Bethlehem Vengthang, Aizawl	10 MLD	STP – 99% Sewerage network – 75%	3033 Households connections are ready for final connection to the sewer.	Within February 2021

### **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.			Action Plan for 100% sewage treatment Including recycle and reuse of treated waste water was submitted to the State Govt., will be implemented after due approval and instruction from the State Govt.	

#### **IV. Details of Industrial Pollution:**

- No. of industries in the State:
  - 735 units
- No. of water polluting industries in the State:
  - 56 units (Status of the industry and the functioning of ETP is enclosed at **Annexure-II**)
- Quantity of effluent generated from the industries in MLD:
  - 0.04384 MLD
- Quantity of Hazardous Sludge generated from the Industries in TPD:
  - Nil
- Number of industrial units having ETPs:

- 56 units
- Number of industrial units connected to CETP:
  - Nil ( No CETP exists)
- Number and total capacity of ETPs (details of existing/ under construction / proposed)
  - 56 units with total capacity of 0.099 MLD
- Compliance status of the ETPs:
  - ETPs are functional and effluents are found to be complied with standards.
- Number and total capacity of CETPs (details of existing/ under construction / proposed) :
  - Nil (No CETP exists)
- Status of compliance and operation of the CETPs: No CETP exists

Town	No. of industries	Industrial discharge	Status of ETPs	Status of CETPs (existing, under construction & proposed)
N/A				

**V. Solid Waste Management:**

- Total number of Urban Local Bodies and their Population:
  - Only 1 notified ULB in Mizoram i.e Aizawl Municipal Corporation
  - Population: 293,416 as per 2011 census
- Current Municipal Solid Waste Generation:
  - 348.19 TPD (23 Urban towns)
- 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:
  - Landfill : 44 TPD & Material Recovery Facility 74 TPD (Aizawl city)
  - Composting:
    - i. Aizawl city:
      - a) Vermi-composting plant – 22 TPD
      - b) Mechanical Composting Plant – 50 TPD
    - ii. Lunglei Town: Vermi-composting Plant – 45 TPD is under construction
    - ii. KolasibTown: Vermi-composting Plant of - 20 TPD is under construction.
    - iii. Champhai Town: Vermi-composting Plant of - 25 TPD is under construction
    - iv. Remaining 19 Urban towns: Vermi-composting Plant - 0.5 TPD each are operational

- v. DPR for Land Development for Solid Waste Management Centre for 5 (Five) remaining towns have been approved and Administrative Approval & Expenditure Sanction amounting to Rs 60.00 Lakhs each have been received from the state Government.
- Action plan to bridge gap between Installed Capacity and Current Utilization of processing facilities (if Gap > 20%):
  - Concept Note have been submitted for Waste Resource Management Center for all remaining 19 Urban Towns
  - No. and capacity of C&D waste processing plants in TPD (existing, proposed and under construction):
    - Nil
  - Total no. of wards, no. of wards having door to door collection service, no. of wards practicing segregation at source:
    - No. of wards in Aizawl city: 19
    - No. of wards having door to door collection service: 19
    - No. of wards practicing segregation at source: 19
  - Details of MSW treatment facilities proposed and under construction (no., capacity, and technology):
    - In addition to one existing MSW treatment facility at Tuirial (Eastern part of Aizawl city), 3 more sites have been identified for closing the gap in waste management at the following locations for which concept paper preparation is under process:
      - i) Hualngo Hmun (southern part of Aizawl city)
      - ii) Sihphir Neihbawih (Northern part of the Aizawl city)
      - iii) Luangmual (Eastern part of Aizawl City)
  - No. and area (in acres) of uncontrolled garbage dumpsites and Sanitary Landfills:
    - One at Tuirial Dumping Ground having approximately 487 sq.m. It has been closed recently since 1<sup>st</sup> November 2020 following the commissioning of the newly constructed Waste Management Centre at Tuirial.
  - No. and area (in acres) of legacy waste within 1km buffer of both side of the rivers:
    - Nil

- No. of drains falling into rivers and no. of drains having floating racks/screens installed to prevent solid waste from falling into the rivers:
  - Nil

**Status of ULB wise Management of Solid Waste**

<i>ULB and polluted river</i>	<i>Population (2011 Census)</i>	<i>Total Municipal Waste Generated in TPD</i>	<i>Total Municipal Waste Processed in TPD</i>	<i>Existing Municipal Waste Facilities</i>	<i>Utilization Capacities of the Existing MSW facilities</i>	<i>Proposed MSW facilities and completion time</i>
Aizawl (Chite & Tuikual)	293416	188.54 TPD	64.628 TPD	Mechanical composting & vermin composting and Sanitary landfill	190 TPD	3 more sites have been identified to ease the waste transportation and reduce O&M cost.
Lunglei (Tlawng)	57011	17.10	6.50	Solid Waste Management Centre for Lunglei Town is under Construction (NLCPR)	NA	Bio-Degradable Waste: Vermicomposting Non Bio-Degradable Waste: Recycling at Waste Resource Management Centre Inert Waste: Sanitary Landfill
Champhai (Tuipui River)	32734	9.83	4.00	Solid Waste Management Centre for Champhai Town is under Construction (State Plan Fund)	NA	Bio-Degradable Waste: Vermicomposting Non Bio-Degradable Waste: Recycling at Waste Resource Management Centre Inert Waste: Sanitary Landfill
Serchhip (Mat River)	21158	6.35	3.40	Open Dumping	NA	Concept Note for Solid Waste Management has been submitted to NitiAayog
Sairang (Tlawng)	5950	1.79	0.80	Open Dumping	NA	Concept Note for Solid Waste Management has been submitted to NitiAayog
Bairabi (Tlawng)	4320	1.30	0.85	Open Dumping	NA	Concept Note for Solid Waste Management has been submitted to NitiAayog

**VI. Bio-medical Waste Management:**

- Total Bio-medical generation:
  - 936.37 kg/ day
- No. of Hospitals and Health Care Facilities:
  - 68 (Bedded Hospitals & Nursing Home) & 144 (Non-bedded)
- Status of Treatment Facility/ CBMWTF

- No CBMWTF yet in Mizoram. However, Govt. of Mizoram has prepared proposal for setting up of CBMWTF for Mizoram and submitted to Central Pollution Control Board for funding.
- At present, for treatment of BMW in Mizoram, captive biomedical treatment and disposal is in practice as of now.

#### **VII. Hazardous Waste Management:**

- Total Hazardous Waste generation
  - 20.374 MTA (As per revision of Annual Inventory report 2019-2020)
- No. of Industries generating Hazardous waste
  - 40 (most of them are automobile repairing units of small scale)
- Treatment Capacity of all TSDFs:
  - No TSDF exists at present.
- Avg. Quantity of Hazardous waste reaching the TSDFs and Treated:
  - N/A
- Details of on-going or proposed TSDF:
  - Suitable Site at Industrial Growth Centre, Luangmual, Aizawl has been identified by the State Govt. for setting up common TSDF. The Commerce and Industries department is in search of consultancy firm for setting up of the common TSDF but is held back due to non-availability of empanelled firm in the state. The problem has been conveyed to the higher authority.

#### **VIII. Plastic Waste Management:**

- Total Plastic Waste generation:
  - 7905.5 TPA (Municipal Corporation) & 3.1 TPA (Urban and Rural areas)
- Treatment/ Measures adopted for reduction or management of plastic waste:
  - The Plastic Wastes Management Bye-laws, 2019, prepared by Aizawl Municipal Corporation(AMC) was notified vide Mizoram Gazette Notification No M.12011 /6/2014-AMC Dt 16.07.2019.
  - AMC has imposed complete ban on plastic carry bags below 50 micron within its jurisdiction with effect from 1<sup>st</sup> August 2019.
  - The State Govt. has imposed ban on distribution or placing of packaged drinking water made of plastic in all official meetings or conferences or gathering w.e.f 20<sup>th</sup> May 2019.
  - The AMC has initiated of segregation of wastes at source and has set up **Plastic waste Collection Centre** at Riangvai Thlanmual, Zemabawk, Aizawl.

- As per initiatives taken by Mizoram Pollution Control Board, Public Works Department has initiated a program for utilization of plastic wastes in road construction following the 'Guidelines for utilization of plastic wastes' and has recently constructed 800 m long of road using plastics at Reiek, Mamit district.
- Extensive Awareness campaigns were launched in beating plastic pollution to schools and colleges by MPCB. As a result, the state now has 126 schools and 11 colleges declared as "Plastic Free" institutions.

**IX. Details of Alternate Treatment Technology being adopted by the State/UT:**

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**X. Identification of polluting sources including drains contributing to river pollution and action as per NGT order on insitu treatment:**

- Water quality of the polluted drains has been regularly monitored by Mizoram Pollution Control Board on quarterly basis.

**XI. Details of Nodal Officer appointed by Chief Secretary in the State/UT:**

- Mr. Lalrotluanga, Chief Engineer, Irrigation & Water Resources Department, Govt. of Mizoram Vide Notification No.A.46012/1/2019-GAD Dt.27.02.2020

**XII. Details of meetings carried under the Chairmanship Chief of Secretary in the State/UT:**

- State Level Monitoring Committee has been constituted under the Chairmanship of Chief Secretary, Govt. of Mizoram notified vide letter No.C.18013/2/2020-I&WR/243 dt. 21.07.2020. The Committee comprises of the following members:

1. Chief Secretary	Chairman
2. Principal Secy./Secy., EF&CC	Member
3. Secy., PHED	Member
4. Secy., LRS&WCD	Member
5. Secy., UD&PA	Member
6. Commissioner, AMC	Member
7. Chairman, MPCB	Member
8. Secy., I&WRD	Member Secy.

- Review meeting under the Chairmanship of Chief Secretary, Govt. of Mizoram with Secretaries of the concerned departments to oversee implementation status of the

Action Plan in the matter of the orders of the Hon'ble NGT in O.A No.673/2018 is scheduled to be held on 2<sup>nd</sup> February 2021.

**XIII. Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river:**

- Latest water quality of the 9 polluted rivers for the month of January 2021 is at **Annexure-III**.
- Water quality of drains/tributaries for the last quarter i.e January 2021 to March 2021 is at **Annexure-IV**. Monitoring of drains/tributaries is being carried out for January to March 2021 Quarter

**XIV. Ground water regulation:**

- In Mizoram, surface water serves as the main sources of water for drinking, domestic and industrial purposes. Ground water extraction is insignificant in Mizoram and the State Govt. has no separate notified Ground water regulations, however, regulations issued by Central Ground Water Authority has been followed in the state.

**XV. Good irrigation practices being adopted by the State:**

- Assessment of e-flow is underway. Discharge of streams/rivers are ensured not to be fully diverted for irrigation purposes.
- Guidelines for 'Environment Health and Social Safety' is incorporated in the Department's Construction Manual which is expected to be approved within a month.

**XVI. Rain Water Harvesting:**

- State Govt. has framed Rain Water Harvesting Policy for the state of Mizoram which is expected to be notified soon.
- Various stakeholder departments such as, PHE, Rural Development, PWD, AMC have taken up schemes for implementing construction of rainwater harvesting structures in the state.
- AMC has mandated provision of rainwater harvesting facility and discharge of rainwater in AMC Building Regulation, 2012 No 5(6) and No.32.
- For rejuvenation of polluted rivers, construction of rainwater harvesting structures have been proposed to be constructed in the river catchment areas for which concerned department, PHED has initiated actions.

## **XVII. Demarcation of Floodplain and removal of illegal encroachments:**

- Not relevant for the state as Mizoram is a hilly region and has no floodplain zone.

## **XVIII. Maintaining minimum e-flow of river:**

For assessment of e-flow of the rivers, actions have been initiated as briefed below:

- Climate Forecast System Reanalysis (CFSR) daily data such as temperature (max and min), wind, relative humidity, solar and precipitation was obtained over the 36-year period of 1979 through 2014. This specific location-based data will be interpolated to each catchment (gauged and ungauged) for carrying out the analysis.
- IMD gridded rainfall data (1901 – 2018) has been obtained. Land use land cover map from MODIS data has been obtained and analysis has been under process whether it can be used in the study area. Obtaining a High-resolution satellite imagery and Soil map is being in progress.
- Identification and preparation of all the gauged catchments been completed for e-flow assessment. The ungauged catchment where the flow has to be assessed has been identified.
- Coding in R statistical software has been prepared for extracting required location from IMD gridded data and also a code for carrying out regression analysis
- The different gauged catchment characteristics like area, perimeter, drainage density, slope, land use land cove and different hydrological parameters has been obtained. Calculation of actual evapo transpiration of each gauged catchment is under process. Using these parameters, climatic classification will be conducted based on the hydroclimatic region in the catchment using Budyo curve.

Location where flow duration curve had been obtained is enclosed in **Annexure-V**

## **XIX. Plantation activities along the rivers:**

- Environment, Forests and Climate Change Department has been taking up plantation drives in the catchment areas of the polluted rivers with a targeted area of 595.5 Ha out of which about 186.8 Ha has been already covered. Details enclosed in **Annexure-VI**

## **XX. Development of biodiversity park:**

- Some of the rivers already have Riverine Reserved Forests of about 800 metres on either side of the river banks which are well protected. As such, a separate biodiversity park was not proposed for rejuvenation of the polluted rivers, instead plantation drives have been undertaken in the catchment area of the polluted rivers.

**XXI. Reuse of Treated Water:**

- Action Plan for sewage treatment including recycle and reuse of treated waste water was submitted to the State Govt., will be implemented after due approval and instruction from the State Govt.

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

- Govt. of Mizoram has no separate Model river adopted so far. The matter is to be discussed in the meeting of the Chief Secretary, Govt. of Mizoram with concerned Secretaries in the matter of the Orders of the Hon'ble NGT in O.A 673/2018 scheduled to be held on 2<sup>nd</sup> February 2021.

**XXIII. Status of Preparation of Action Plan by the 13 Coastal States:**

- Not applicable to the state of Mizoram as Mizoram is a landlocked state and has no coastal areas.

**XXIV. Regulation of Mining Activities in the State/UT:**

- In Mizoram, there are no major mining activities yet. Most of the mining activities are that of minor mineral mining such as sandstone ( stone quarry) and sand mining (sand extraction from river beds)
- Mining activities are strictly regulated in the state under The Mizoram Minor Minerals Consession Rules, 2000, notified by the State Govt. on 20.09.2005 as per the provisions of Section 15 (i) of the The Mines and Minerals (Development and Regulation) Act, 1957.
- Apart from the above Rules, provisions under Central Act and Rules such as, The Explosive Rules, 2008 and The Mines Act, 1952 are effectively followed.

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

- Actions have been taken and fines imposed from time to time against the identified polluters, law violators in the past. However, during the reporting months, there is no such action taken.