

Monthly Progress Report for the State of MIZORAM for February 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 & Rural Population</i> | <i>2011</i> | <i>Projected population in 2021</i> |
|-------------------------------------|----------------|-------------------------------------|
| Urban Population | 525435 | 638722 |
| Rural Population | 571771 | 632013 |
| Total | 1097206 | 1270735 |

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

| | |
|-----------------------------|----------------|
| Urban | 68 MLD |
| Rural (692 villages) | 36 MLD |
| Total | 104 MLD |

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):
 - 1 STP in Aizawl with a capacity of 10 MLD operational from 6th Feb , 2021
- Capacity Utilization of existing STPs:
 - 0.094 MLD
- MLD of sewage being treated through Alternate technology:
 - 0.578 MLD (Bio Digester etc.) by PHED (List of Bio Digesters constructed is enclosed in **Annexure-I**)
 - 0.115 MLD Bio Digester constructed by SIPMIU
- Gap in Treatment Capacity in MLD:
 - 104 MLD – 10.693 MLD = 93.307 MLD
(Counting the operation of 10 MLD at hand)
- No. of Operational STPs:
 - 1
- No. of Complying STPs:
 - 1
- No. of Non-complying STPs:
 - Nil

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. | | (10 MLD) | 0.094 MLD | (Operation has started on 6 th February, 2021) | Consent to Operate for STP obtained from the Mizoram Pollution Control Board (MPCB). Online Continuous Effluent Monitoring System (OCEMS) installed as per the specific conditions of the CTO. Copy attached. |

Details of under construction STPs in the State

| <i>No.</i> | <i>Location</i> | <i>Capacity of the plant in MLD</i> | <i>Physical Progress in %</i> | <i>Status of I&D or House sewer connections</i> | <i>Completion Timeline</i> |
|------------|-----------------------------|-------------------------------------|-------------------------------|---|---|
| 1. | Bethlehem Vengthang, Aizawl | 10 MLD | Sewerage network – 75.23% | 3074 registered Households | Although STP has started operation, additional network connection is still ongoing to utilize the full capacity of the STP. |

Details of proposed STPs in the State

| <i>No.</i> | <i>Location</i> | <i>Capacity of the STP proposed in MLD</i> | <i>Status of Project (at DPR Stage/ Under Tendering/ Work to be Awarded)</i> | <i>Likely Date of Completion</i> |
|------------|-----------------|--|--|----------------------------------|
| 1. | | | <ul style="list-style-type: none"> 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 | |

| | | | | |
|--|--|--|--|--|
| | | | <p>approval and instruction from the State Govt.</p> <ul style="list-style-type: none"> • Seeing the scope of much needed urban infrastructure (Urban Water/Solid Waste Management/Drainage/ Urban Roads/ Sewerage) for Tier-II cities and towns, the State Government had formulated and submitted a Preliminary Project Proposal Report (PPR) to the Central Ministry, MoHUA for NERUDP type financing scheme. • State Investment Program Management & Implementation Unit (SIPMIU), UD&PA, is also entrusted to prepare action plan for the pilot Pey Jal Survekshan under Jal Jeevan Mission (JJM) recently launched in selected cities with an objective to ascertain the equitable distribution of water, reuse of waste water and mapping of water bodies with respect to quantity and quality of water through a challenging process. Anticipating the launch of JJM for Mizoram, concept note Preliminary Report will be prepared for additional Sewerage system and septage management in Aizawl and other notified urban towns for a wider coverage of wastewater treatment and to ensure 100% treatment of sewage. | |
|--|--|--|--|--|

IV. Details of Industrial Pollution:

- No. of industries in the State:
 - 735units
- 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:
 - 56units
- 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
 - 22 Urban Towns with Population:278,355 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 : 44TPD & 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
 - iii. Kolasib Town: Vermi-composting Plant of - 20 TPD is under construction.
 - iv. Champhai Town: Vermi-composting Plant of - 25 TPD is under construction
 - v. Remaining 19 Urban towns: Vermi-composting Plant - 0.5TPD each are operational
 - vi. 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.
 - vii. Out of the 23 Urban towns, only 4 (Four) Urban Towns have SWM Center under implementation stage. Therefore, Concept Note have been submitted to various Ministries/Agencies for consideration under the following schemes such as
 - 1. NLCPR, 2. NEC, 3. NITI Ayog etc for remaining 19 Urban Towns.
- Action plan to bridge gap between Installed Capacity and Current Utilization of processing facilities (if Gap > 20%):
 - ❖ Solid Waste Management Center at Tuirial, Aizawl started functioning since 12th December, 2019 which caters a total of 214 TPD including 44 TPD capacity Landfill, 74 TPD capacity Material Recovery Facility, 50 TPD Mechanical Composting Plant and 46 TPD Vermicomposting Plant.
 - ❖ In order to bridge the gap of Solid Waste Management at Urban Towns, UD&PA Department have prepared and submitted Concept Note as well as Detailed Project Report to various Ministries/Agencies for consideration under the following schemes such as 1. NLCPR, 2. NEC, 3. NITI Ayog etc
- 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)

The Status of ongoing and pipeline SWM Projects in Mizoram Urban Areas are:

| Sl. No | Name of city /Town | 2020 Population Projected | Projected SW Generation Per/capita/Day(TPD) | Plant Capacity | | Funding | Project Amount | Status |
|--------|--------------------|---------------------------|---|----------------|--------------|---|-----------------|--|
| | | | | Existing TPD | Pipeline TPD | | | |
| 1 | Aizawl | 343619 | 178.68 | 190 | | ADB | 34 Cr. (Approx) | Functioning since 12 th December,2019 |
| 2 | Lunglei | 66766 | 34.72 | 0.0 | 45 | NLCPR (MoDONER) | 600 Lakhs | Under construction 1 st Instalment pending with the ministry) |
| 3 | Champhai | 38335 | 19.93 | 0.0 | 25 | SBM (U) (MoHUA) | 667 Lakhs | Under construction (90%Physical Progress completed) |
| 4 | Kolasib | 28425 | 14.78 | 0.0 | 20 | NEDP 2018-2019 (State Fund) | 400 Lakhs | Under construction (30%physical progress completed) |
| 5 | Serchhip | 24778 | 12.88 | 0.5 | 20 | Rs.60 Lakhs each for Land Development have been received under special Assistance under Capital Expenditure Free Loan | Rs. 60 Lakhs | Budget Allocation Received and Sanctioned order awaited |
| 6 | Mamit | 9233 | 4.80 | 0.5 | 15 | | Rs.60 Lakhs | |
| 7 | Saitual | 13607 | 7.08 | 0.5 | 15 | | Rs.60 Lakhs | |
| 8 | Khawzawl | 12908 | 6.71 | 0.5 | 15 | | Rs.60 Lakhs | |
| 9 | Hnahthial | 8417 | 4.38 | 0.5 | 15 | | Rs.60 Lakhs | |
| 10. | Siaha | 29406 | 15.29 | 0.5 | 20 | Concept Note Submitted to NEC, | | Existing facilities for Wet waste (vermin composting) and Dry Waste (WasteResource Management) |
| 11 | Lawngtlai | 24394 | 12.68 | 0.5 | 20 | | | |
| 12 | Zawlnuam | 4372 | 2.27 | 0.5 | 10 | | | |
| 13 | Vairengte | 12360 | 6.43 | 0.5 | 10 | | | |
| 14 | Lengpui | 3844 | 2.00 | 0.5 | 10 | | | |
| 15 | N.Kawnpui | 9055 | 4.71 | 0.5 | 10 | | | |
| 16 | Thenzawl | 8501 | 4.42 | 0.5 | 10 | | | |
| 17 | Sairang | 6968 | 3.62 | 0.5 | 10 | | | |

| | | | | | | | |
|----|--------------|------|------|-----|----|---|---|
| 18 | Tlabung | 5333 | 2.77 | 0.5 | 10 | NESIDS, NITI Aayog Etc for Solid Waste Management Centre | Centre) has been in placed in all urban towns. Response awaited from Government of India |
| 19 | Bairabi | 5059 | 2.63 | 0.5 | 10 | | |
| 20 | Darlawn | 4414 | 2.30 | 0.5 | 10 | | |
| 21 | N.Vanlaiphai | 4218 | 2.19 | 0.5 | 10 | | |
| 22 | Khawhai | 2923 | 1.52 | 0.5 | 10 | | |
| 23 | Biata | 2667 | 1.39 | 0.5 | 10 | | |

- No. and area (in acres) of uncontrolled garbage dumpsites and Sanitary Landfills:
 - One at Tuiriial Dumping Ground having approximately 487 sq.m. It has been closed recently since 1stNovember 2020 following the commissioning of the newly constructed Waste Management Centre at Tuiriial.
- 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

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 1st 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 20th 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:

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

- 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 was held on 2nd 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 February 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:

- Although e-flow is not yet assessed, discharge of streams/rivers are never fully diverted for irrigation purposes.
- Guidelines for 'Environment Health & Social Safety' is incorporated in the Dept'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:

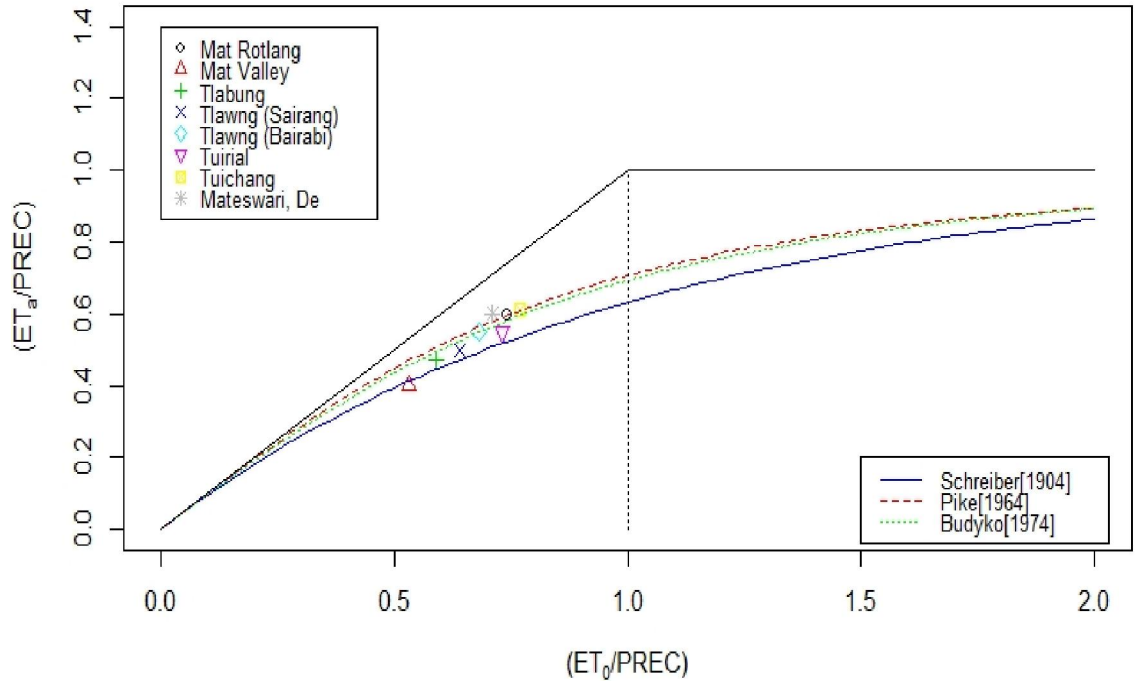
- Not relevant for the state as Mizoram is a hilly region and has no floodplain zone.

XVIII. Maintaining minimum e-flow of river:

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

- A climatic classification based on the observation i.e. the ratio of $ET_o/PREC$ and $ET_a/PREC$ are calculated and plotted as shown in Figure. It tends to be viewed from the anticipate that all the gauged catchments are in the same category with dry report. Regardless of the way that each of the gauged catchments fall inside the same classification, they have been simply utilized in one pool for regionalization investigation on account that they have virtually equal to evaporative records. This verifiable the likeness of atmosphere in the catchments with respect to relative water and energy accessibility and consequently utilized of different local conditions to demonstrate parameters for different catchments isn't required. Subsequently, each one of the gauged catchments had been chosen as donor catchments and the total parameter set had been used to be migrated from these catchments to the ungauged catchments. The 1:1 line elucidate the available energy limit to evapotranspiration ($ET_o/ PREC$), while the horizontal line elucidate the available water limit ($ET_a / PREC$).

Climatic Classification



The 5-, 50-, 90- and 95-percent-flow duration ($q_5, q_{50}, q_{90}, q_{95}$) notwithstanding the slope of the flow duration curve (FDC_{slp}) which have been evaluated prior for the gauging stations will be used as dependent variables for regression analysis. Specific high flow discharges q_i ($l/s/ km^2$) had been figured by using standardizing Q_i values through individual catchment areas to make the flow quantile values more comparable throughout scales.

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.

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:

The treated sewage water shall be utilized as per the action plan such as agriculture, irrigation/horticulture, and industrial re-use, construction activities, fire tender and urban reuse when the STP is fully operation.

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

- Review meeting under the Chairmanship of Chief Secretary, Govt. of Mizoram with Secretaries of the concerned departments held on 2nd February 2021 identified **Chite stream as a model polluted river in Mizoram.**

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:

- During the reporting month, a fine amounting to Rs 5000/- was imposed to one identified polluter due to open burning of solid & demolition wastes.