

MIZORAM POLLUTION CONTROL BOARD

No.H.88088/Poltn/18(AR)/2021-MPCB/

:

Dated Aizawl, the 28th July, 2023

To,

The Addl. Director & I/c UPC,
Central Pollution Control Board
(Ministry of Environment and Forest, Govt. of India)
'Parivesh Bhawan', C.B.D. Cum-Office Complex,
East Arjun Nagar, Shahdara, Delhi – 110032

Sub: Submission of Annual Report for 2022-2023 on the implementation of Solid Waste Management Rules, 2016

Sir,

With reference to the subject cited above, may I submit herewith the **Annual Report on implementation of Solid Waste Management Rules, 2016 for the year 2022-2023** for the state of Mizoram (for 1 ULB and 15 urban towns) for your kind information and necessary action.

Yours faithfully,

Enclo: As above.



(C. LALDUHAWMA)

Member Secretary

Mizoram Pollution Control Board

Memo No. H.88088/Poltn/18(AR)/2021-MPCB/

:

Dated Aizawl, the 28th July, 2023

Copy to :

- 1) Smt. Divya Sinha, Additional Director & Incharge UPC-II, Central Pollution Control Board for favour of information and necessary action.
- 2) The Secretary, Urban Development & Poverty Alleviation Department, Government of Mizoram for favour of information.



(C. LALDUHAWMA)

Member Secretary

Mizoram Pollution Control Board

Form - V
[see rule 24(3)]

Format of annual report to be submitted by the State Pollution Control Board or Pollution Control Committee to the Central Pollution Control Board

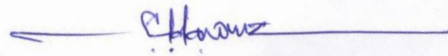
PART A

To,

The Chairman
Central Pollution Control Board
Parivesh Bhawan, East Arjun Nagar
DELHI- 110 0032

1.	Name of the State	:	Mizoram
2.	Name & address	:	Mizoram New Capital Complex, Thlanmual Peng, Khatla, Aizawl, Mizoram-796001 Ph.No.2336590/2334184 Fax:2336591 Email: mpcb@mizoram.gov.in and mizorampcb@gmail.com Website: http://mpcb.mizoram.gov.in
3.	Number of local bodies responsible for management of solid waste in the State/Union Territory under these rules	:	1 and 28 urban towns
4.	No. of authorization application received	:	NIL
5.	A Summary Statement on progress made by local body in respect of solid waste management	:	Attached at Annexure I
6.	A Summary Statement on progress made by local body in respect of waste collection, segregation, transportation and disposal	:	Attached at Annexure II
7.	A summary statement on progress made by local bodies in respect of implementation of Schedule II	:	Attached at Annexure III

Date : 28th July,2023
Place : Aizawl


(C. LALDUHAWMA)
Member Secretary
Mizoram Pollution Control Board

PART B

Towns/cities

Total number of towns/cities	:	1 city and 28 urban towns
Total number of ULBs	:	1
Number of class I & class II cities/towns	:	Class I: 1 (Aizawl) Class II: 1 (Lunglei)

Authorisation status (names/number)

Number of applications received	:	NIL
Number of authorisations granted	:	NIL
Authorisations under scrutiny	:	NIL

SOLID WASTE Generation status

Solid waste generation in the state (TPD)	:	246.82 MTPD [172.38 + 74.44 (for 15 Urban Towns)] MTPD
Collected	:	110.13 MTPD [70 + 40.13 (for 15 Urban Towns)] MTPD
Treated	:	ULB: 104.634 MTPD Urban Town: 7.33 MTPD (for 15 Urban Towns)
Landfilled	:	ULB: NIL Urban Town: 27.15 MTPD (for 15 Urban Towns) dumped at dumpsite.

Compliance to Schedule I of SWM Rules (Number/names of towns/capacity)

Good practices in cities/towns	:	Biate Town, Maubuang Village, Leng Village, Khawzawl Village
House-to-house collection	:	ULB : 100% (Done in all 19 wards) Urban Towns: 93.99%

Segregation	:	<u>ULB (Aizawl Municipal Corporation):</u> Fully achieved in all 83 Local Councils <u>Urban Towns:</u> 100% segregation achieved
Storage	:	<u>Storage at source:</u> a) In domestic bins: 98% in ULB & 89% in urban towns b) In commercial bins: 98% in ULB & 82% in urban towns <u>Secondary storage:</u> Practiced in 1 urban town
Covered transportation	:	ULB: 100% Urban Towns: 93.99%

Processing of SW (Number/names of towns/capacity)

Solid Waste processing facilities setup:

Sl. No.	Composting	Vermi-composting	Biogas	RDF/Pelletization
1	1 (Mechanical composting in Aizawl)	ULB(Aizawl): 1 Urban towns: 22	NIL	NIL

Processing facility operational:

Sl. No.	Composting	Vermi-composting	Biogas	RDF/Pelletization
1	1 (Mechanical composting in Aizawl)	NIL	NIL	NIL

Processing facility under installation/planned:

Sl. No.	Composting	Vermi-composting	Biogas	RDF/Pelletization
1	NIL	Urban towns: 3	NIL	NIL

Waste-to-Energy Plants: (Number/names of towns/capacity)

Sl. No.	Plant Location	Status of operation	Power generation (MW)	Remarks
1	NIL	NIL	NIL	NIL

Disposal of solid waste (number/names of towns/capacity):

Landfill sites identified	:	Site is identified for 1 ULB and 22 Urban towns.
Landfill constructed	:	Aizawl with 44 TPD Kolasib with 10 TPD (Env. Clearance sought for) Lunglei (Application submitted through PARIVESH Portal on 09.02.2022)
Landfill under construction	:	NIL
Landfill in operation	:	1 in Aizawl
Landfill exhausted	:	NIL
Landfilled capped	:	NIL

Solid Waste Dumpsites (number/names of towns/capacity):

Total number of existing dumpsites	:	Urban towns: 17 Dumpsites
Dumpsites reclaimed/capped	:	Under process in Aizawl and Kolasib
Dumpsites converted to sanitary landfill	:	NIL

Monitoring at Waste processing/Landfills sites

Sl. No.	Name of facilities	Ambient air	Groundwater	Leachate quality	Compost quality	VOCs facilities
1	Solid Waste Management Center, Tuirial	Within Standard	Within Standard	Being treated	Good	NA

Status of Action Plan prepared by Municipalities

Total Number of Municipalities	:	1
Number of Action Plan submitted	:	8

ANNEXURE - I

A Summary of Statement on progress made by local body in respect of Solid Waste Management

Sl no	Compliance criteria	Remarks
1	Identification and allocation of suitable land for setting up of solid waste management facilities	<p><u>ULB (Aizawl):</u> Solid Wastes Management Centre comprising of Engineered Landfill, Composting (Vermi & mechanical Compost) and Resource Recovery Center is in operation in Aizawl. Three more sites identified within the City and construction is under process.</p> <p><u>Urban towns:</u> Scientific Solid Waste Management Centre, Kolasib is operational with Materials Recovery Facility and Vermi Composting. Proposal is made for extension of the Solid Waste Management Centre with mechanical composting facility.</p> <p>Land for SWMC has been identified in 11 District headquarters and 12 Urban Areas and construction of SWMC is on-going in Lunglei, Champhai, Serchhip, Saitual, Khawzawl, Hnahthial and Mamit.</p> <p>Environmental Clearance for Engineered Landfill for Lunglei is uploaded in PARIVESH Portal and Kolasib is under process.</p>
2	Review performance of local bodies on Solid Waste Management	<p><u>State Level :</u> The following state level committees are formed:</p> <ol style="list-style-type: none"> 1. State Level Monitoring Committee on SWM. 2. Environmental Monitoring Cell in Chief Secretary's office. 3. State Level Advisory Board on Solid Waste Management. 4. Special Task force on Elimination of SUP's. 5. State Advisory Committee on Biomedical Waste Management. <p><u>District level :</u> The following committees are formed in all districts of Mizoram and are actively holding meetings with prompt follow-up actions:</p> <ol style="list-style-type: none"> 1. District Level Committee on Solid Waste Management. 2. Sanitation Task Force.

		<ol style="list-style-type: none"> 3. Special Task Force to create awareness on SWM Rules 2016. 4. District Level Committee for Auditing Performance of Garbage vehicles. 5. District Level Committee on elimination of SUP. 6. District Level Committee for Bio Medical Waste Management.
3	Identification of Model towns/Villages	<p>36 Model Towns/Villages have been identified in 10 districts which further be models for other town and these towns are actively moving forward in management of waste, namely –</p> <ol style="list-style-type: none"> 1. Aizawl District: Maubuang, Darlawng & Muthi 2. Lunglei District: Tlabung(Town), Diblibagh, Thenhlum, Thaizawl 3. Champhai District: Champhai (Town), Zawlse, Lungphunlian, Leithum 4. Kolasib District: Kolasib (Town), Thingdawl, Lungdai, Bilkhawthlir 5. Serchhip District: Champhai (Town), Zawlse, Lungphunlian, Leithum 6. Mamit District: Mamit (Town), Tuahzawl, Kawnmawi, Zawlnuam Vengpui 7. Lawngtlai District: Electric Veng(locality) 8. Khawzawl District: Biate, Khawzawl, Khualen, Arro 9. Saitual District: Saitual, Tualbung, NE Khawdungsei, Suangpuilawn 10. Hnahthial District: Hnahthial (Town), Khawhri, Rotlang East, Chhipphir
4	Implementation of various provisions of Solid Waste Management	<p>Trainings on Waste Management to Waste pickers, collectors and workers were conducted in several districts. Instructions were regularly given to waste collectors on how to properly and efficiently dispose collected waste.</p> <p>Awareness on proper management of waste (3R), waste segregation and treatment is carried out through public notice, cleanliness drive, cleanliness campaign, mass media awareness, workshop, social media, hoarding board, newspaper, social work and wall painting.</p> <p>Photography, videography, musical skills, slogan, poster and painting competition is organized for various age groups, NGO's and village councils.</p>

		<p>“Waste to Wealth” exhibition is conducted multiple times for promotion of 4R.</p> <p>Home composting is promoted and practised extensively in the state. Many educational institutions and offices have their own composting sheds. In Maubuang village and Leng village 100% home composting units is installed. Promotion of home composting is carried out in collaboration with SGH(s) in Lunglei and also in collaboration with KVK in Khawzawl and more than 700 compost pits are constructed within Khawzawl district. In Champhai, selected households in Tlangsam VC and Chhungle VC carried out home composting as pilot project. All households within Saitual Town are requested to practice home composting and positive response is being witnessed from Rulchawm VC area in which 94.44% of the total households have segregated wastes at source and wet wastes are managed by composting at home and animal feed. Trainings are given to Government Offices, Schools, Village Council members, SBM(U) Local Ambassadors, Youth and Children of different churches, Street Vendors and SHG members under DAY-NULM within Lawngtlai. Stakeholders are given training on Home Composting conducted by ATMA, Agriculture Department, and World Vision in rural areas.</p>
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ANNEXURE - II

Summary on progress made by local body in respect of waste collection, segregation, transport and disposal

Sl no	Criteria	<u>Status</u>
1	Waste collection	<p><u>ULB (Aizawl):</u> Waste collection points are identified in every locality and it is ensured that no individual household brings their domestic waste more than 100 metres.</p> <p>PPP mode is used. GPS installation in all garbage trucks is under process and has been installed in 140 trucks so far.</p> <p>Wet and dry wastes collected separately in alternate days.</p> <p>100% Door-to-door collection is achieved.</p> <p><u>Urban Towns:</u> 93.99 % Door-to-door collection is achieved.</p> <p>Wet and dry waste collected separately on alternate days.</p>
2	Segregation of Solid Waste	<p><u>ULB (Aizawl):</u> 100% segregation of waste at source/SWMC achieved. 3 bin system viz. biodegradable, non-biodegradable and plastic wastes. Electronic wastes were collected in large number by an authorised firm (Karo Sambhav).</p> <p><u>Urban Towns:</u> Wastes are segregated into two bins: biodegradable, non-biodegradable wastes.</p>
3	Transportation of Solid Waste	<p><u>ULB (Aizawl):</u> Wastes are transported by hired vehicles majority of which are specially designed for garbage collection.</p> <p><u>Urban Towns:</u> Wastes are transported by hired vehicles and Village Council owned vehicles.</p>
4	Disposal and Treatment of Solid Waste	<p><u>ULB (Aizawl):</u> _____</p>

		<p><u>Wet wastes:</u></p> <ol style="list-style-type: none"> 1. At source, wet wastes are segregated and used as pig feeds/animal feeds and also disposed by way of home composting. 2. At SWMC, wet wastes are disposed by way of vermi-composting and mechanical composting under a private company called 'Waste Tech and Bio Energy' producing manure which is then sold to the public at Rs. 10/Kg. <p><u>Dry wastes:</u></p> <ol style="list-style-type: none"> 1. Managed at Material Recovery Facility and recycling through PRO's. 2. Bailed for co-incineration in Dalmia Cement Plant, Meghalaya. <p><u>Urban Towns:</u></p> <p><u>Wet wastes:</u></p> <ol style="list-style-type: none"> 1. At source, most of wet waste generated goes to pig feeds and home composting. 2. At SWMC, wet wastes are treated in vermi-compost plant. <p><u>Dry wastes:</u></p> <ol style="list-style-type: none"> 1. Recyclables except plastic wastes are sold to authorized scrap dealers. 2. Bailed for co-incineration in Cement Plant
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ANNEXURE - III

A summary statement on progress made by local bodies in respect of implementation of Schedule II

I. Composting:

The waste processing facilities include 22 TPD vermin Composting and 50 TPD Mechanical composting facilities in Aizawl and 3 + 3 TPD vermin Composting in Kolasib.

In order to prevent pollution from compost plant, the following are complied with namely:-

(a) Properly covered storage area is constructed for incoming organic waste which is *provided with impermeable base with facility for collection of leachate* .

(b) To minimise nuisance of odour, flies, Eco Micro Organism Solution is used.

(c) Wastes were store in separated cells for further process while in maintaining the plants.

(c) Pre-process and post-process rejects are removed on daily basis. Recyclables like Plastics are sent through PROs. Total Quantity of 13.197 TPD is collected by seven PROs for recycling. Initiatives are also being taken with Dalmia Cements for co-incineration of plastic wastes.

(e) The windrow area is also provided with RCC base with niche for leachate collection. A treatment tank is also constructed a little downhill for the leachate to collect by gravity.

(f) After second segregation of municipal solid wastes the inert materials are dumped into the landfill.

(g) Ambient air quality monitoring for **PM10, PM2.5, SO2, NOx** and **CO** was done in November 2022, March and May 2023 by Eco-Management Services (ECOMS) Mizoram. All parameters were found to be within CPCB prescribed limits.

(h) Compost quality is regularly checked and meet the standard prescribed under Fertilizer Control Order.

II. Standards for treated leachates:

Leachate quality test conducted by ECOMS on 17.11.2022 and found that the quality failed to meet the standards for **Ammonia, Chlorides, BOD** and **COD**. Regarding this, Mizoram PCB via *letter dated 4th January 2023* directed AMC to look into the issue

and take corrective measures. Leachate collection point is made along with EMP for treatment.

II. Standards for incinerations:

- Not application as no incinerator is used.

Summary of best practices in respect of Solid Waste Management and SUP's

I. Best Practices in Model Towns/Villages:

1. Maubuang village received national Panchayat Award, Deen Dayal Upadhyay Sashaktikaran Puraskar (DDUPSP) in 2021 & 2022. All the prize money of the award exclusively utilised for sanitation and waste management.
2. Leng village received a number of Awards on cleanliness at state and at National level. Separate waste bins for wet and dry waste at each household and for community. Garbage truck procured by Gram Panchayat from prize money of state and national awards and from sanitation fees collected from community.
3. In Biate town, reuse non-biodegradable waste for beautification of the town in the most colourful and attractive manner. First to achieve 100% segregation at source in the state. First to identify land for treatment of waste in the state. All wet wastes are used for organic fertilizers. 100% individual households having sanitary toilet. 100% door to door collection of waste achieved. Management of solid waste run by community through public contribution. Recycled plastic waste are converted into decorative tiles, for making flower bed, construction of public toilet, etc. Waste to Art Park is being developed where non-biodegradable wastes are to be re-used for decoration purposes.

II. Best Practices in the State:

1. A team of government officials visited Odisha and Punjab to study the best practices in these states for replication in Mizoram wherever applicable.
2. Practice Garbage fencing to eliminate throwing/dumping of solid wastes in places other than Solid Waste Management Centers.
3. Specially designed vehicles for more efficient garbage collection in narrower roads is explored as a pilot project.
4. Prize distribution programme for best segregation of waste to Local Councils in Aizawl.
5. A monthly review meeting with District Authorities on the compliance of Municipal Solid Waste Management Rules 2016 is held in the office of the Chief Secretary. Deputy Commissioners from all districts attend the meeting and is chaired by the Chief Secretary.
6. 'Waste to Wealth' exhibition organised by Mizoram Pollution Control Board to promote waste reduction and creative reuse.

III. Best Practices in elimination of SUP:

1. As mandated by CPCB, joint inspection teams were formed in all districts with Deputy Commissioner as the team leader. All teams, led by respective DC's have been regularly conducting inspections on ban of SUP's within the period of October 2022 to December 2022 and from April 2023 to August 2023 during which considerable fines have been imposed and items seized. Reports on these inspections are regularly furnished to CPCB.
2. A pilot project developed and promoted by Mizoram Start-Up Mission Society for possible alternative of SUP through entrepreneurs was initiated by the Planning Department such as alternative for plastic crockeries, plastic bags, alternative for plastic bottles, plastic files and folders, etc. using bamboo, areca nuts, papers, pineapple peels and other biodegradable materials.
3. Consultation Meeting workshop on manufacturing of alternative to Single Use Plastics was held on 06.05.2022 under the chairmanship of Member Secretary, Mizoram PCB. The workshop was attended by entrepreneurs, Financial Institution, Commerce and Industries Department and Bamboo Development Agency. Firms promoting alternative for SUPs are contacted regularly and their problems were also heard.
4. Single Use Plastic free day was observed on 02.12.2022 to mark the **National Pollution Control Day, 2022** by Mizoram State Government by organising various events as follows:
 - a. A short programme was organized at the court yard of the Secretariat building, MINECO, Khatla. The programme was attended by various departments heads and graced by, Shri TJ Lalnuntluanga, Minister of State for Environment Forest & Climate Change as the Chief Guest.
 - b. Observance function of Single Use Plastic free Day were organised at Govt. Mizo Higher Secondary School and Hrangbana College, Chanmari. Participants included eco-club students and teaching staff of the school/college. Dr. Alfred Malsawmsanga, Sc. 'B', Mizoram Pollution Control Board, resource person delivered a speech on plastic pollution and elimination of SUPs.
 - c. Mizoram ENVIS Hub along with Mizoram Pollution Control Board collaborated with Chawnpui H/S eco club, Chawnpui Local Council and two local environmental related NGOs namely Youth for Environment Justice and Save Mizoram Rivers in organizing awareness campaign on elimination of SUPs cum River Cleanliness Drive at Tuikual Lui, Chawnpui.
 - d. Different activities were taken up by 2351 Eco clubs schools and colleges register under the National Green Corps, Mizoram Pollution Control Board to mark Single Use Plastic Free Day on the occasion of National Pollution Control Day, 2022. Several activities such as competitions, pledge taking, cleanliness drive, lectures *etc* were carried out to promote the elimination of Single Use Plastics.

5. Plastic wastes collected are shredded and used in road construction.
6. River cleaning was conducted by Mizoram Pollution Control Board on 02.12.2022 and 21.06.2023 and also by various NGO's.
7. MoU signed by Govt. College Khawzawl with District Authority for elimination of Single Used Plastic.
8. Introduced Ecobrick i.e., plastic Bottle packed with used plastic to set density. Used for building blocks and various items, including furniture, garden walls and other structures.
9. In Lunglei District, Armed Paramilitary and Police Forces have been incorporated in maintaining cleanliness and imposing ban of SUP's and also to prevent influx of banned SUP's across the border.
10. Counter-Insurgency and Jungle Warfare School (CIJWS), Vairengte were engaged in the matter of Solid Waste Management in Kolasib District.
11. Assam Rifles, Police personnel and all other entities were requested to stop the influx of banned SUP's across the border in Champhai District.
12. Multi-layered Plastic (MLP)/Refuse Derived Fuel (RDF) of 221.83MT has been sent out to cement plant in Meghalaya from Aizawl District.
13. For alternative to plastic carry bags, AMC has negotiated with ZOHANDCO. Consultation for MOU is under process to replace plastic carry bag with non-woven fabric bags at local level.
14. A large number of offices and educational institutions have been declared as SUP free premises in the state.
15. Plastic waste was collected and procured by Govt. Saitual College out of which plastic tiles and brooms were made.
16. Plastic Waste Management Center was set up under SBM(Gramin) at Thenzawl.
17. Plastic Bailing Machine was procured by PHE Department and placed at Aibawk and plastic wastes are bailed for further transportation.