BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,

PRINCIPAL BENCH, NEW DELHI

Original Application No. 606/2018

(IA No. 163/2021 & IA No. 299/2024)

In the matter of:

Compliance of Municipal Solid Waste Management Rules, 2016 and other environmental issues.

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2.	**Annexure – I** Copy of order dated 05.09.2024 & 27.03.2025 in Original Application No. 606/2018 (IA No. 163/2021 & IA No. 299/2024).	

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Place: Delhi

Date: 03.11.2025

Report of the Joint Committee

Constituted in O.A. No. 606 of 2018

(IA No. 163/2021 & IA No. 299/2024)

Regarding Compliance with the Municipal Solid Waste Management Rules, 2016 and Other Environmental Issues in the State of Meghalaya

Submitted Before the Hon'ble National Green Tribunal

Principal Bench, New Delhi

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Report of the Joint Committee constituted in the O.A. No. 606 of 2018 ((IA No. 163/2021 & IA No. 299/2024) w.r.t. Compliance of Municipal Solid Waste Management Rules, 2016 and other Environmental issues in respect of State of Meghalaya before the Hon'ble National Green Tribunal, Principal Bench, New Delhi

I. **Background:**

In pursuance to the order of the Hon'ble Supreme Court dated 02.09.2014 in Writ Petition(W.P.) No. 888/1996, in the matter of Almitra H. Patel vs. Union of India & Ors., and Hon'ble Supreme Court order dated 22.02.2017 in W.P. No. 375/2012, in the matter of Paryavaran Suraksha vs. Union of India, the issue of solid and liquid waste management is being monitored by the Hon'ble National Green Tribunal(NGT), Principal Bench, New Delhi in the matter O.A. No. 606 of 2018.

In order to ascertain the correctness of the disclosures made in the six-monthly progress report dated 30.08.2024 filed by the State of Meghalaya, the Hon'ble NGT has directed the followings vide its order dated 05.09.2024 (**Annexure-I**) reproduced below:

> "…5. *We have examined the report. From this report, following position in respect of solid and liquid waste management in the State of Meghalaya is reflected: -*
>
> *We find that no progress has been made after the last order dated 22.12.2022 and deficiencies and the gaps in management of solid waste and sewage are as under:*
>
> *[A] Solid Waste Management*
>
> *(i) There exists a gap in the processing of solid waste to the extent of 114 TPD which is adding to legacy waste every day.*
>
> *(ii) There is no disclosure on the utilisation of 94 TPD compost and its quality. Further, there is no disclosure on the rejects coming out of the process of composting and its disposal.*
>
> *(iii) There is almost no waste processing in other local bodies like; Shillong Cantonment Board, Tura, Jowai, Williamnagar, Resubelpara, baghmara and other three Town Committees and unprocessed waste must be piling up and when dumped down the hills and it may be entering in streams.*
>
> *(iv) We find that no characterisation has been disclosed about inerts being landfilled to ascertain that no other waste is comingled.*

(v) It needs to be ascertained in what manner recycling (scrap -58 TPD) is being carried out by the Recyclers registered with ULBs.

(vi) We find that 5.16,951 lakh MT (Total legacy waste: 5.39,174 minus remediated waste: 22,223MT) of waste is yet to be remediated. Further, timelines stretching up to December 2026 violate MSW Rules, 2016.

[B] Sewage Management

(i) 18.63 MLD black water through septic tanks is either seeping or getting mixed with grey water and being discharged into rivers/streams and drains.

(ii) Performance of existing SBR/ MBBR treating 0.435 MLD has not been disclosed and details of types of de-centralised plants to be set up are not provided.

[C] Ring fence Account

(i) An amount of Rs 48.53 crores has been ring-fenced and expenditure incurred on ongoing projects.

6. In view of finding of gaps and deficiencies, we form a committee of representative of member secretary CPCB and IRO of MoEF&CC to file an independent assessment report on sewage and solid waste management in light of observations made. The Committee may undertake field assessment covering Shillong and other local bodies and also suggest viable options to expedite the remediation of legacy waste and setting up of DSTPs. The report be filed by the committee through CPCB at least one week before the next date of hearing by way of affidavit through e-filing.…"

II. Constitution of the Committee:

In compliance with the directions of the Hon'ble NGT, Competent Authority of CPCB nominated Sh. Anil C. Ranveer, Scientist-E, Regional Directorate (North-East) [RDNE], CPCB-Shillong to represent CPCB in this instant matter.

Further, RDNE, CPCB, Shillong requested Ministry of Environment, Forests and Climate Change (MoEF&CC), Regional Office, Shillong for the nomination of the Officers for the Committee vide letter dated 09.12.2024 **(Annexure-II)**. Additionally, Meghalaya State Pollution Control Board (MSPCB), Shillong was also requested to depute official for co-ordination with concerned Urban Local Bodies (ULBs) in the State.

MoEF&CC, Regional Office, Shillong nominated Dr. V. Saio, Scientist-D as a member of the committee vide letter dated 20.12.2024 (**Annexure-III**). Further,

MSPCB, Shillong nominated Sh. J. F. Lamurong, Environmental Engineer (EE) for coordination with the ULBs (**Annexure-IV**).

Accordingly, the committee was constituted compromising the following nominated officials:

1. Shri. Anil C. Ranveer, Scientist 'E', RDNE, CPCB Shillong
2. Dr. V. Saio, Scientist 'D', MoEF&CC, Regional Office, Shillong.
3. Sh. J. F. Lamurong, EE, MSPCB- for coordination with the ULBs.

III. Mandate of the Joint Committee:

- To verify the data gap of solid waste management in Meghalaya and give the findings based on data submitted to Hon'ble NGT (PB) by State of Meghalaya through six monthly progress report dated 30.08.2024.
- To check on the utilization of compost and its quality, manner of recycling of scrap, remediation of the legacy waste and existing solid waste management process.
- To verify the status of Sewage management and treatment performance of existing SBR/MBBR, the details of types of de-centralized plants to be set up.

IV. Action Taken & Site inspections undertaken and observations of the Joint Committee:

An introductory Committee meeting was held with all the stakeholders of Urban Affairs Department, Meghalaya, Mission director, Swachha Bharat Mission (Urban){SBM(U)}, and the representatives of ULB's on 29.01.2025 (**Annexure-V**) through video conferencing to discuss and decide further course of action. The committee observed that there are 7 Municipal Boards and 3 Town Committees in the state of Meghalaya.

The committee decided to conduct the field visits in the major solid and liquid waste (sewage) generating ULBs in the state of Meghalaya namely, Shillong Municipal Board including Shillong Urban Agglomeration, Shillong Cantonment Board, Tura Municipal Board, Jowai Municipal Board and Williamnagar Municipal Board during 29.01.2025 to 14.02.2025 to verify the factual status and collection of the information in respect of various facilities available.

The city-wise factual observations recorded during the inspection visit are summarized below.

1. **Shillong City:**

Shillong city was visited by the Committee during 29th & 30th January, 2025. Shillong is the capital city of Meghalaya with headquarters at East Khasi Hills district having approx. over 4,40,000 population divided into three areas namely: i) Shillong Municipal Area ii) Shillong Cantonment and iii) Shillong Urban Agglomeration. The generated Solid waste within the city is segregated partially at source and transported to the common waste treatment facility at Marten, Shillong.

Each household is provided with double pit Septic Tank. There is no sewerage pipeline/network facility within the city.

The present status of waste management in the city is summarized in 03 parts i) Municipal Solid Waste (Generation & Collection, Treatment & disposal and proposed facilities, ii) Legacy Waste management and iii) Liquid waste management within the Shillong city as verified by the committee during the visit is summarized below:

A. Municipal Solid Waste Management

i. *Generation and Collection of Municipal Solid Waste:*

Shillong Municipal Board (SMB): Shillong Municipal Area consists of approx. 1,57,731 population (Census,2011: projected up to Dec-2024) and divided into 27 wards generating about 90 TPD of municipal solid waste. The solid waste is partially segregated at source in the municipality area. The door-to-door collection of segregated as well as mixed garbage from all the 27 wards are performed with the help of Thirty-four (34) Garbage Collection Vehicles.

Shillong Cantonment Board (SCB): Shillong Cantonment Area consists of approx. 14,975 population (Census,2011: projected up to Dec-2024) and divided into 7 wards, generating about 9 TPD of municipal solid waste.

Partially segregated at source in this area and door to door collection of segregated garbage from all the 7 wards are performed with the help of Four (4) Garbage Collection Vehicles.

Shillong Urban Agglomeration (SUA): Shillong Urban Agglomeration (i.e. Surrounding villages) consists of approx. 2,73,835 population (Census,2011: projected up to Dec-2024) and these areas are managed by respective village panchayats, generating about 98 TPD of municipal solid waste.

The waste is partially segregated at source in this area and door to door collection of segregated garbage from all areas was found to be performed with the help of Garbage Collection Vehicles and sent to the common treatment facility at Marten for Treatment and disposal.

The cumulative of approx. 175 TPD solid waste (as against estimated total generation of 197 TPD) from all the 03 areas namely SMB, SCB and SUA was found to be collected at the common Treatment Facility located at Marten, Shillong.

The committee also observed a gap of approximately 78 TPD between the solid waste generated (197 TPD) and the waste being processed (119 TPD) in the Shillong City. The unaccounted waste is reportedly diverted to informal channels such as use in piggeries as animal feed, decentralized composting in restaurants, hotels, and household pits, or ends up at the landfill without processing.

This gap can be attributed to several underlying factors, including:

- Inadequate infrastructure for door-to-door collection and segregation at source, especially in peri-urban and densely populated areas/slums
- Shortage of manpower to ensure regular collection and transport of waste to processing facilities.
- Limited capacity of existing processing units, which are unable to handle the full quantum of waste generated.
- Lack of monitoring and documentation of informal waste handling and decentralized composting activities.

- Absence of integration of the informal sector into the formal waste management system, resulting in untracked diversion of waste.

Due to these challenges, a significant portion of waste remains unaccounted for in official records, highlighting the need for systemic improvements and better tracking mechanisms

ii. Treatment and Disposal of Municipal Solid Waste:

The treatment & disposal of MSW includes composting by Self Help Group, Recycling by Scrap Dealers, Waste Recovery facility, Refused Derived Fuel (RDF), Shillong Landfill Facility (SLF), Leachate treatment etc. as described below:

Common Waste Treatment Facility at Marten, Shillong: The facility **treats and disposes** approx. 175 TPD of cumulative waste from SMB, SCB and SUA. The facility consists of composting plant, waste recovery facility and SLF. Composting and recycling of the scrap are being done with help of the self-help groups and scrap dealers.

Compost Plant: As per the logbook data from October, 2024 to December, 2024 (**Annexure-IX**) submitted by SMB, approx. 102.75 TPD (58.71%) of the collected municipal waste is **composted** in the compost plant at the common waste treatment facility, Marten Shillong. The committee observed that, mixed waste (77.29%) and bio-degradable waste (22.70%) is processed in the compost plant. The Rejects generated during composting {approx. 6.36 TPD (6.19%) of 102.75 TPD processed waste} was found to be dumped in the SLF. It was observed that maximum Capacity of the Compost plant is 170 TPD, but at present the plant is under-utilized.

The committed noted that Generated Compost is not analyzed as per Fertilizer (Inorganic, Organic or Mixed) (Control) Order {FCO}, 1985. The compost bags were found to be stored at the facility. However, no inventorization of the stored compost were provided by the SMB. Compost storage area was found to be adequately covered to prevent exposure to rain and was found to be constructed with an impermeable base to prevent percolation and

contamination of soil and groundwater. The stored compost is reportedly neither utilized nor sold externally.

Waste Recovery Facility & Scrap Dealers:

Recyclable materials like glass, metals, plastic containers, broken furniture etc. are segregated at the Waste Recovery Centre at Marten with the help of the SHG.

As per the logbook data from October,2024 to December,2024 by Shillong Municipal Board, approx. 9.89 TPD (5.65%) of collected municipal waste (175 TPD) the collected municipal waste is **segregated & recycled** with the help of the SHG. Presently, twenty-four (24) employees are working in 03 SHGs (**Annexure-VII**) and 08 Scrap dealers (**Annexure-VIII**) are registered with SMB. However, there is no documentary evidence for the final disposal/recycling of the scrap material.

Refused Derived Fuel (RDF): SMB has signed an MoU with Dalmia Cements Ltd., Meghalaya for utilization of RDF (i.e. plastic materials) in the cement plant for co-processing vide agreement dated 10.01.2022 (**Annexure-X**).

As per the logbook data from October,2024 to December,2024 SMB, approx. 6.36TPD (i.e. 3.63% of the 175 TPD collected waste) is found to be **utilized as RDF** in cement plant.

The committee noted that there is no documented information available regarding:

- The end-point of unaccounted collected waste,
- The utilization or disposal of stored compost, and
- The recyclers involved in processing or managing dry waste from the scrap dealers.

This highlights the need for establishing a formal system for recycling and tracking waste flow, as per the compliance requirements.

Shillong Landfill Facility (SLF): The committee noted that Environmental Clearance (EC) was granted by State Environmental Impact Assessment Authority (SEIAA), Meghalaya for SLF site for non-biodegradable Municipal Solid Waste Disposal and Compost Plant rejects at Marten Mawiong, East Khasi Hills vide letter No. SEIAA/PROJECT-13/2009-8 dated 14.08.2009 (**Annexure-XI**). The said EC has expired for which SEIAA,

Meghalaya directed the Board for application of fresh EC vide letter dated 29.04.2019 (**Annexure-XII**). However, new application for fresh EC has not been done till now.

It was observed that Sanitary Landfill (SLF), Marten, Shillong was developed in two phases. As per the design details submitted by SMB, Phase-I has capacity of 53000T with area being 6500 sq.m and it was handed over to SMB by Shillong SIPMIU, Shillong on 04.10.2017 (**Annexure-XIII**). Phase-II of SLF has capacity of 81129T with area being 8500 sq.m and it was handed over to SMB by State Investment Project Management and Implementation Unit (SIPMIU), Shillong on 30.04.2021 (**Annexure-XIV**).

During the design of the landfill (**Annexure-XV**), it was assumed that Waste generation in 2014 and 2029 as 149 TPD and 240 TPD respectively and waste to be disposed at the landfill site for the same period has been calculated as 29.9 TPD & 24.5 TPD respectively. However, the reason for assumption in decrease in quantity of waste to be disposed in landfill in 2029 could not be explained by the officials of SMB. It may be noted that the actual quantity of waste disposed recorded at land-fill has increased substantially as compared to the design assumption. Quantitatively, approx. 56 TPD (i.e. 32% of 175TPD collected waste) is disposed in the SLF. Moreover, the waste was not found to be compacted to the desired density before dumping into the land-fill, as per the design considerations during the day of visit. Assuming the SLF is operational for 7 years, it can be seen that the total available capacity of the landfill as per the DPR for both phase-I & II is already utilized.

Phase-I of the SLF was observed to be fully utilized and Trommel Screen machine was seen to be sorting out the waste on the day of visit. *Phase-II* of the SLF was seen to be almost full with a little space remaining on the day of visit. Further, traces of e-waste, plastic bags, small packet of multi-layer packaging etc. was observed with the waste disposed at the landfill site, indicating improper segregation of waste. The committee also observed that characterization was not being conducted at the Shillong Landfill Facility (SLF).

Leachate collection and treatment system at SLF: The leachate collection & treatment system was observed by the committee. he committee also noted that MSPCB officials collected samples from the outlet of the leachate treatment facility at the Sanitary Landfill

Facility (SLF) during their visit on 09.10.2024 for analysis in their laboratory. The test results indicated that the treated leachate was not complying with the prescribed standards for land disposal as per the SWM Rules, 2016. Key parameters such as Total Dissolved Solids (8694 mg/l vs. 2100 mg/l), Total Suspended Solids (2705 mg/l vs. 200 mg/l), Chloride (1150 mg/l vs. 600 mg/l), and Biochemical Oxygen Demand (1382 mg/l vs. 100 mg/l) were found to exceed the permissible limits (**Annexure-XXXI**). Moreover, there is no system observed for diversion of storm water to minimize leachate generation and to avoid flooding/water logging as per Schedule 1 (D) (i) of SWM rules, 2016

iii. Proposed Treatment Facility:

The following facilities are proposed by SMB as verified during the committee visit. The present status of each facility is summarized below:

Sl. No	Proposed Facility	Capacity	Current Status
1	MRF, Shillong Cantonment Board	2 TPD	• Land Identified but could not be materialized.
2	Dry Waste Processing Facility	25 TPD	• Work order issued (**Annexure-XVI**)
3	Incinerator at SLF, Marten	04 MT	• Construction Completed but yet not fully operationalized • The unit has obtained authorization from MSPCB under Solid Waste Management Rules, 2016. • The incinerator is under trial run/commissioning. • Pollution control systems are installed as per the following flow diagram to control the pollutants in the fumes: Furnace (Max Temp. 1500 deg C) -> Heat Exchanger -> Cyclone Separator -> Dust Collector ->Wet Scrubber-> Chimney (Height 30 meters) • ETP having 2 KLD capacity is installed to treat the generated effluent.

B. Legacy Waste Management:

Accumulation of about 1,80,042 MT of Legacy waste at the Marten Landfill site was reported in the six-monthly progress report dated 30.08.2024 filed by the State of Meghalaya. Urban Affairs, Meghalaya has engaged M/s CALL & FIX, Guwahati, Assam for execution of Bio-Mining of Legacy waste vide work order DUA (U) Tech/74/2024/37 dated 19.06.2024 (**Annexure-XVII**). However, presently, only a partial segregation of the legacy waste (42,675.36MT), into RDF and C&D waste has been carried out using Trommel Screen machines. No excavation or stabilization steps related to biomining were undertaken on the ground by the agency. M/s CALL & FIX has signed an MoU with M/s Dalmia Cement (Bharat) Limited for utilization of RDF as co-processing in the cement plant (**Annexure-XVIII**).

C. Sewerage System: The committee observed that there is no sewerage pipeline/network in the entire Shillong city at present.

Shillong Municipal Board

- Sewage Generation (estimated): 17.03 MLD
- Sewage Treatment: Each household is provided with double pit septic tanks. In-situ remediation for 1.27 MLD of grey and black water
- Remaining untreated discharges into drains mixing with rivers Umkhrah and Umshypri: 15.76 MLD

Shillong Cantonment Board:

- Sewage Generation (estimated): 1.62 MLD
- Sewage Treatment: 0.62 MLD (Black water sent to Septic Tank with Soak Pit)
- Remaining untreated discharges into drains mixing with river Umshyrpi: 1 MLD (grey water discharges into drains(rivers)

Shillong Urban Agglomeration:

- Sewage Generation (estimated): 15.33 MLD
- Sewage Treatment: 5.83 MLD Each household is provided with double pit septic tanks(Black water sent to Septic Tank with Soak Pit)
- Remaining untreated: 9.51 MLD remaining grey water discharges into drains mixing with rivers (Umkhrah and Umshypri)

In-Situ Remediation in 5 drains inside the Shillong City:

It was informed by Urban Affairs, Meghalaya that in- remediation works are being carried out in the five (5) drains on a pilot Scale, having approximate total capacity to treat 1.27MLD water under Smart City Project. The works has been outsourced to SINE IIT Bombay Company (EMERGY Enviro Private Limited) that has an exclusive implementation right of the Decentralized in-situ remediation.

These drains carry domestic grey-water from adjacent localities, along with effluents from commercial establishments. The technical details of the remediation at the drains undertaken for the pilot study are attached **at Annexure-XIX.**

Proposed Facilities: It was informed by the officials of MSPCB and Urban Affairs Department that, Two Faecal Sludge Treatment Plants (FSTPs) having cumulative capacity of 0.465MLD and three (3) nos of Sewage Treatment Facilities (STP) having cumulative capacity of 11.14MLD are under construction. The details of the same is as below:

Sl. No	Proposed facility	Location	Capacity	Remark
1.	Faecal Sludge and Septage Management (FSSM)	Bomfyle Road, Behind SMB Complex, Shillong:	0.35MLD	The unit has a valid Consent to Establish (CTE) from MSPCB (**Annexure-XX)**. The unit has applied for CTO from MSPCB on 11.02.2025 (**Annexure-XXI**)
2.	Faecal Sludge Treatment Plant (FSTP)	Marten, Shillong	115KLD	The unit has a valid CTE from MSPCB (**Annexure-XXII**). The unit has applied for CTO from MSPCB on 11.02.2025 (**Annexure-XX**I).
3.	STP	Jaiaw, Shillong, East Khasi Hills District	0.85MLD	Under Construction
4.	STP	Wahingdoh, Shillong, East Khasi Hills District	7.12MLD	Under Construction
5.	STP	Laban, Shillong, East Khasi Hills District	3.17MLD	Under Construction

D. Recommendations for Shillong City:

a. Environmental Clearance for landfill site (SLF) to be obtained as per provisions under EIA Notification, 2006.

b. Out of total estimated generation of 197 TPD, 175 TPD Solid waste is collected in Shillong city. Out of the collected waste, only 119 TPD of waste is being treated/utilized/ recycled. SMB should characterize the waste ending up in the landfill and ensure that only inert (generally 15%-20%) should end up in the landfill site. Inerts may be utilized in road construction activities after characterization of the inserts to reduce the load on landfill.

c. The proposed facilities of Waste treatment is inadequate against the existing gap in treatment i.e. 78 TPD (between generation and processing). Development of infrastructure for treatment of entire waste generated to be done by concerned departments like Urban Affairs, Municipal Authority, District Council in line with the shared responsibility under SWM, Rules,2016.

d. Door-to door collection facility and proper source segregation shall be ensured by concerned Municipal Authority in the city

e. An inventory of the stored compost at the Common Treatment Facility, Marten, should be carried out without delay. In line with the SWM Rules, 2016, the Municipal Board must ensure that the compost is utilized or disposed of properly, following guidelines on compost quality and application ratios as provided by the Ministry of Agriculture. Additionally, compost usage should be duly permitted by the relevant authority, and records of quantity, quality, and end-use should be maintained. Furthermore, Municipality should consider formally integrating informal sector participants in compost processing and utilization to ensure inclusive and systematic management.

f. Waste Recycling Facility should be operated to reduce the load of unprocessed waste into the landfill and to prevent entering into the nearby streams.

g. Urban Affairs, Municipal Board and Meghalaya SPCB shall jointly prepare the Standard Operating Procedure for registration of scrap dealers and proper procedure for scrap disposal should be enforced by Urban Local Body (ULB), State Pollution Control Board (SPCB), and the State Urban Development Department as per the Solid Waste Management Rules, 2016.

h. FSTP/STP Shall be operated with valid CTO from MSPCB.

i. Performance audit of all the FSTPs Shall be carried out by SMB through reputed institutions/organizations.

j. SBM shall expedite the construction as well as operations of the proposed STPs.

k. Concerned Authority shall expedite the expansion of the in-situ remediation networks to the all-possible drains to minimize the organic loads in the nearby rivers.

2. Jowai Town

Jowai is Third largest urban agglomeration in the state of Meghalaya with headquarter at West Jaintia Hills district. Jowai was visited by the Committee on 05.02.2025.

A. Municipal Solid Waste Management:

i. *Generation and Collection of Municipal Solid Waste:*

Jowai consists of approx. 33,921 population (Census,2011: projected up to Dec-2024) and divided into 13 wards. It generates about 20TPD of municipal solid waste. Door to door collection of segregated as well as mixed garbage from all the 13 wards are performed with the help of Ten (10) Garbage Collection Vehicles in the town as informed by Jowai Municipal Board (JMB).

JMB only collects approx. 10 TPD (as against estimated generation of 20 TPD) of solid waste. The committee observed a gap of approx. 15.8 TPD of solid waste between generation (20TPD) and processing (4.2 TPD) of solid waste which is going into the informal sectors like utilization in piggeries for food of the animals, composting in restaurants & hotels and residential pits or ending up in the dumpsite. This gap can be attributed to several underlying factors, including:

- Inadequate infrastructure for door-to-door collection and segregation at source, especially in peri-urban and densely populated areas/slums
- Shortage of manpower to ensure regular collection and transport of waste to processing facilities.
- Limited capacity of existing processing units, which are unable to handle the full quantum of waste generated.
- Lack of monitoring and documentation of informal waste handling and decentralized composting activities.
- Absence of integration of the informal sector into the formal waste management system, resulting in untracked diversion of waste.

JMB reported that waste pick-up points and waste collection frequency were being increased and they were trying to support sanitation workers under the *NAMASTE* scheme.

ii. Treatment and Disposal of Municipal Solid Waste:

Scrap Dealers: The JMB segregated about 2.2TPD of recyclable solid waste like metals, glass, wooden furniture, plastic containers etc. with the help of eleven (11) scrap dealers registered with JMB. The details of the scrap dealers are enclosed at **Annexure-XXIII**. However, there is no documentary evidence about the final disposal/recycling of the scrap material.

Composting Plant: Presently, Compost plant having capacity of 2TPD is operational at the Waste Processing facility in Sabahonuswang Village, Jowai. It was informed that processing time for 3MT of waste for making compost is about 14-21 days. Lactic Acid Bacteria is utilized for bacterial culture in composting process.

However, the committee observed that generated Compost is not analyzed as per FCO, 1985 norms. The compost bags were found to be stored at the facility. However, no inventorization of the stored compost were provided by the JMB. Compost storage area was found to be adequately covered to prevent exposure to rain and was found to be constructed with an impermeable base to prevent percolation and contamination of soil and groundwater. The stored compost is reportedly neither utilized nor sold externally.

Dump Site: As informed by the JMB, presently, approx. 5.8TPD waste is disposed in the dump site having area of 2 Acres located near the at Mynkjai. No Sanitary Landfill Site was found to be operational or formally identified by the concerned authority.

iii. Proposed Treatment Facilities:

The following facilities are proposed but yet to be operationalized by the Municipal Board as verified during the visit. The present status of the facilities is summarized below:

Sl. No	Proposed Facility	Capacity	Current Status
1	Material Recovery Facility (MRF), Waste Processing facility in Sabahonuswang Village, Jowai	4TPD	Construction Completed but yet not operationalized
2	Compost Plant, Waste Processing facility in Sabahonuswang Village, Jowai	6TPD (2 Nos of 3 TPD capacity each)	Construction Completed but yet not operationalized Selling network for the final products are yet to be finalized
3	Integrated Solid Waste Management Facility, Khleriat, Umlamng, Jowai	10TPD	Land Identified and Proposal accepted by Government. (**Annexure-XXIV**)

B. Legacy Waste Management:

There is one dump site in Jowai town, having area of 2 Acres located at Mynkjai village. Total Legacy waste quantified for the dumping site is around 63,900MT (**Annexure-XXV**). Municipal Board officials informed the committee that hiring of agency for bio-mining of the legacy waste is ongoing. Characterization of the dumped waste has not been conducted by JMB.

C. Sewerage System:

- Sewage Generation (estimated): 1.9 MLD
- Sewage Treatment: Each household is provided with double pit septic tanks (Black water sent to Septic Tank with Soak Pit)
- Remaining untreated discharges into rivers
- The committee found that there is no sewerage pipeline/network in Jowai.

In- situ remediation in 11 drains for localities:

The committee noted that in-situ remediation works are being carried out in the 11 drains, to treat the waste water from various localities of Jowai city and ultimately mixed with the Myntdu river. These drains carry domestic grey-water from adjacent localities, along with effluents from commercial establishments and spring water.

The committee notes that physical constructions have been completed in these drains, however, the drains will be commissioned and operationalized by March,2025.

Details of the outfall drains as provided by JMB are provided at **Annexure-XXVI.**

Proposed Facility:

55KLD Faecal Sludge Treatment Plant (FSTP), Sabahmuswang Village, Jowai: One FSTP with capacity 55KLD was established by the Board at Sabahonuswang Village.

The facility treats the sewage collected by the three (3) cesspool trucks, having capacity of 6000 liters, 3000 liters and 1000 liters respectively, from the septic tanks of the residential properties in response to demand.

Anaerobic-Aerobic continuous process technology was used to build this Septage Treatment Plant having the following units:

Bar-screen -> Anaerobic Tank -> Equalization Tank -> Primary settling ->Aeration Tank (MBBR) -> Secondary Settling Tank -> Clear water Tank ->Filter Feed Pump ->Multigrade Filter -> Activated Carbon Filter -> outlet treated water to septic tank with one pit system.

Sludge Drying Bed was observed to be installed at the site. Further, the joint committee noted that the treated water discharge line is onto the open land slopes that lead to agricultural fields.

D. Recommendations for Jowai Town:

a. Out of total estimated generation of 20 TPD, 10 TPD Solid waste is collected in Jowai. Out of 10TPD collected Solid waste, only 4.2TPD of waste is being treated/utilized/ recycled. The committee observed a gap of approx. 15.8 TPD of solid waste between generation (20TPD) and processing (4.2 TPD) of solid waste which is going into the informal sectors like utilization in piggeries for food of the animals, composting in restaurants & hotels and residential pits or ending up in the dumpsite. The proposed infrastructure is found to be sufficient to cover the gap. Concerned Authority should expedite the completion of these facilities at the earliest. Further, JMB should characterize the waste ending up in the dumpsite and ensure to utilize/treatment of the waste as per the provisions of SWM Rules,2016.

b. Waste Treatment Facility (e.g. MRF, composting etc.) along with SLF facility should be established to reduce the load of unprocessed waste into the dumpsite and to prevent entering into the nearby streams.

c. Prior Environmental Clearance should be obtained before establishing scientific land-fill site.

d. Urban Affairs, Municipal Board and Meghalaya SPCB shall jointly prepare the Standard Operating Procedure for registration of scrap dealers and proper procedure for scrap disposal should be enforced by Urban Local Body (ULB), State Pollution Control Board (SPCB), and the State Urban Development Department as per the Solid Waste Management Rules, 2016

e. FSTP/STP Shall be operated with valid CTO from MSPCB.

f. JMB shall ensure to operationalize the in-situ remediation to the drains to minimize the organic loads in the nearby rivers.

3. Williamnagar Town

Williamnagar is 4th largest urban agglomeration in the state of Meghalaya, situated at the bank of River Simsang, a major tributary of the Brahmaputra River. Williamnagar was visited by the Committee during 12.02.2025.

A. Municipal Solid Waste Management

i. *Generation and Collection of Municipal Solid Waste:*

Williamnagar consists of approx. 31,768 population (Census,2011: projected up to Dec-2024) and divided into 10 wards. It generates about 12TPD of municipal solid waste. However, door to door collection of mixed garbage is performed only in 7 wards with the help of 6 vehicles and 2 dumper trucks in the town as informed by Williamnagar Municipal Board (WMB).

WMB only collects approx. 7TPD (as against estimated generation of 12TPD) of solid waste. The committee observed a gap of approx. 9 TPD of solid waste between generation (12TPD) and processing (3 TPD) of solid waste going into the informal sectors like utilization in piggeries for food of the animals, composting in restaurants & hotels and residential pits or ending up in dumpsite. However, there is no documentary evidence/record for the same. In Williamnagar, the waste collection gap is mainly due to inadequate infrastructure, manpower shortage, and limited processing capacity. Additionally, lack of monitoring and exclusion of the informal sector from formal systems hinder effective waste tracking and management.

ii. Treatment and Disposal of Municipal Solid Waste:

Scrap Dealers: The WMB segregated about 3 TPD of solid waste with the help of six registered scrap dealers. The details of the scrap dealers are enclosed at **Annexure-XXVIII**. However, there is no documentary evidence about the final disposal/recycling of the scrap material.

Dump Site at Balsri Gittim: As informed by the Municipal Board, 4 TPD waste is disposed in the dump site at Balsri Gittim since the year 2015. WMB Board is in the process of establishment of integrated waste management facility at Rongakgre, for which land has been identified by the Board (relevant documents attached at **Annexure-XXIX).**

iii.Proposed Treatment Facility:

The following facilities are proposed but yet to be operationalized by the Municipal Board as verified during the visit. The present status of the facilities is summarized below:

Sl. No	Proposed Facility	Capacity	Current Status
1	Compost Plant	5.5 TPD	Construction Completed, not yet operationalized
2	Material Recovery Facility	3.5 TPD	Construction Completed, not yet operationalized

B. Legacy Waste Management:

38,400MT of **legacy waste was** quantified for the dump site at Balsri Gittim utilized for dumping of waste since the year 2015(**Annexure-XXX**). Prior to the year 2015, Municipal Board used to dump at another dump site near District Jail. However, information regarding the inventories of legacy waste prior to 2015 could not be furnished by the officials of Municipal Board. The committee observed fumes/fire-flames coming out of the legacy waste dump at the dumpsite operational since 2015 during the day of inspection (Photographs enclosed). **No treatment has been undertaken for remediation of the legacy waste.**

C. Sewerage System:

- Sewage Generation (estimated): 1.78 MLD
- Sewage Treatment: 0.65 MLD Each household is provided with double pit septic tanks (Black water sent to Septic Tank with Soak Pit)
- Remaining untreated discharges into river Simsang: 1.1 MLD (remaining grey water discharges into drains)
- There is no sewerage pipeline/network in Williamnagar

Only one FSTP with capacity 0.03MLD was established by the Board at Balsri Gittim. The unit has applied for Consent to Operate from MSPCB (**Annexure-XXXI)** However, it was not operational during the day of

visit. The facility treats the sewage collected by the cesspool trucks from the septic tanks of the residential properties in response to demand.

Further, the joint committee found that the inlet tanks were dry (Photographs enclosed) and it gave an impression that the FSTP was not operational since long. Only sewage from 10 cesspool vehicles has been treated since its operation from November 2024 as informed by Municipal Board.

D. Recommendations for Williamnagar Town:

a. Out of total estimated generation of 12 TPD, only 7 TPD Solid waste is collected in Williamnagar. Out of 7 TPD collected Solid waste, only 3TPD of waste is being recycled. Rest 4 TPD of waste, i.e. approx. 57% of the collected waste is going into dumpsite. The committee observed a gap of approx. 9 TPD of solid waste between generation (12 TPD) and processing (3 TPD) of solid waste which is going into the informal sectors like utilization in piggeries for food of the animals, composting in restaurants & hotels and residential pits or ending up in the dumpsite. The proposed infrastructure was found to be sufficient to cover the gap. Hence, Concerned State Authority like Urban Development Department, ULB, District Council shall take immediate step to ensure that all the proposed facilities are operational at the earliest. Further, WMB should characterize the waste ending up in the dumpsite and ensure to utilize/treat the waste as per the provisions of SWM Rules,2016.

b. Waste collection in Williamnagar can be improved by strengthening door-to-door collection systems, increasing manpower, and deploying more collection vehicles. Integrating informal waste workers and enhancing community participation will also ensure better coverage and efficiency.

c. Waste Treatment Facility (e.g. MRF, composting etc.) along with Scientific Land-fill facility should be established to reduce the load of unprocessed waste into the dumpsite and to prevent entering into the nearby streams.

d. To remediate the fumes and fire from the legacy waste dump at the site operational since 2015, immediate measures should be taken by WMB

including fire suppression using soil cover and water spraying, followed by bioremediation or bio-mining of the waste. Long-term remediation involves capping the dump with inert material, installing gas venting systems, and establishing a scientific landfill or processing facility to prevent recurrence.

e. Prior Environmental Clearance should be obtained before establishing scientific land-fill site or common waste treatment facility.

g. Urban Affairs, Municipal Board and Meghalaya SPCB shall jointly prepare the Standard Operating Procedure for registration of scrap dealers and proper procedure for scrap disposal should be enforced by Urban Local Body (ULB), State Pollution Control Board (SPCB), and the State Urban Development Department as per the Solid Waste Management Rules, 2016

f. FSTP/STP Shall be operated with valid CTO from MSPCB.

g. The town may be adopted for underground sewerage system.

4. Tura City

Tura is 2nd largest urban agglomeration in the state of Meghalaya, situated at the foothills of the Nokrek range of Garo Hills. Tura was visited by the Committee during 13.02.2025.

A. Municipal Solid Waste Management

i. Generation and Collection of Municipal Solid Waste:

Tura consists of approx. 94,321 population (Census,2011: projected up to Dec-2024) and divided into 11 wards. It generates about 36.5TPD of municipal solid waste. Door to door collection of mixed garbage from all the 11 wards is performed with the help of 17 Garbage Collection Vehicles.

Tura Municipal Board (TMB) only collects approx. 24TPD (as against estimated generation of 36.5TPD) of solid waste. The committee observed a gap of approx. 12.5TPD of solid waste between generation (36.5TPD) and collection (24TPD) of solid waste going into the informal sectors like utilization in piggeries for food of the animals, composting in restaurants & hotels and residential pits. However, no documentary evidence for the same was provided by Urban Affairs department, Meghalaya.

ii. Treatment and Disposal of Municipal Solid Waste:

Scrap Dealers: The TMB segregated about 4TPD of recyclable solid waste like metals, glass, wooden furniture, plastic containers etc. with the help of five (5) scrap dealers registered with the Board. The details of the scrap dealers are enclosed at **Annexure-XXXII**. However, there is no documentary evidence about the final disposal/recycling of the scrap material.

One such registered scrap dealer named Mr. Sapan Rishi (Mob: 7005108625) was interacted by the committee and it was found out that the scrap dealer collects around 1.4 Tonnes per day of Scrap consisting of glass, plastics, broken furniture items, metallic items from the dump site and sells them to the informal sectors in nearby Guwahati city. Additionally, it was informed that banned Single Use Plastic (SUP) items like carry bags, forks, plates etc. were also collected at the dump site by the Scrap dealers for reselling, that may be a **gross violation under Plastic Waste Management Rules,2016** as amended.

Dump Site: The committee noticed that approx. 20TPD waste is disposed in the dump site having area of 5.74 Acres located at Rongkhonsongital, Tura. There is **no scientific land-fill site in Tura**. Tura Municipal Board is in the process of establishment of integrated waste management facility at Wakkagre, Tura, for which land having area of 21 Acres has been identified by the Board (relevant documents attached at **Annexure-XXXIII).**

Further, the committee observed the dumping of color-coded bags of biomedical waste collected from research institutes and health care facilities (Photographs attached) in the dump site that is a gross violation of Biomedical Waste Management Rules, 2016.

iii. Proposed Treatment Facility:

The following facilities are proposed but yet to be operationalized by the Municipal Board as verified during the visit. The present status of the facilities is summarized below:

Sl. No	Proposed Facility	Capacity	Current Status
1	Material Recovery Facility (MRF)	10.5TPD (3 nos, 3.5TPD each)	• Construction Completed for 2 nos of MRFs, 1 no of MRF is under-construction. • MRFs are not yet operationalized
2	Briquetting Plant	10TPD	• Machine Installed, Trail Run done, yet to obtain valid consents from MSPCB • Selling network for the final products are yet to be finalized

B. Legacy Waste Management:

Total Legacy waste quantified as on date is 1,62,126MT. The committee noted that biomining is ongoing in the dumpsite by the agency Call & Fix, Assam since 21.09.2024 (**Annexure-XXXIV**). It was found that 29,135.36MT has been remediated till now (**Annexure-XXXV**). A trommel machine having capacity of

300 TPD was found to be operational on the site. As per the Characterization of the legacy waste provided by the agency shows presence of around 12 % of C&D waste, 42.15 % of compost materials, 7.45% of RDF and 16.25% Inert Waste in the legacy waste. An MoU has been signed by Dalmia Cements Ltd., Meghalaya with the agency Call & Fix, Assam (**Annexure-XVIII**) for utilization of the RDF in the cement plant for co-processing. However, MSPCB officials informed that the biomining agency is operating without **obtaining valid consent** from the board. No records of utilization of the screed portions were present during the inspection.

C. Sewerage System:

- Sewage Generation (estimated): 7.55MLD
- Sewage Treatment: 2.82 MLD Each household is provided with double pit septic tanks (black water sent to Septic tank with soak pit)
- Remaining untreated discharges into rivers Simsang or River Ganol 4.68 MLD (remaining grey water discharges into drains)
- There is no sewerage pipeline/network in Tura.

50KLD Septage Treatment Plant at Doldegre:

One Septage Treatment Plant with capacity 50KLD was established by the Board at Doldegre. The unit has a valid Consent to Operate from MSPCB till 31st July,2025 (copy enclosed at **Annexure-XXXVI)**.

The facility treats the sewage collected by the three (3) cesspool trucks, having capacity of 6000liters, 3000liters and 1000liters respectively, from the septic tanks of the residential properties in response to demand. The unit was operated by M/s Greentech Enterprises. The unit was commissioned on August,2024.

Anaerobic-Aerobic continuous process technology was used to build this Septage Treatment Plant having the following units:

Bar-screen -> Anaerobic Tank -> Equalization Tank ->Primary settling ->Aeration Tank (MBBR) -> Secondary Settling Tank -> Clear water Tank -> Filter Feed Pump -> Multigrade Filter -> Activated Carbon Filter -> outlet treated water to septic tank with one pit system.

Further, the committee noted that the treated water is put back into the septic tank present at the site. Log-book was found to be maintained at the field (copy enclosed at **Annexure-XXXVII**).

Sludge Drying Bed was observed to be installed at the site, although generation inventory of sludges was not maintained at the site. It was informed that sludges collected from the settling tanks were spread in the nearby land, that is a violation under HoWM rules.

Proposed Treatment Facility:

It was informed by the officials of Tura Municipal Board that, 10 number of common Sewage Treatment Facilities (STP) covering about 100+ localities are proposed to be constructed under SBM 2.0.

D. Recommendations for Tura City:

a. Out of total estimated generation of 36.5 TPD, only 24 TPD Solid waste is collected in Tura. Out of 24TPD collected Solid waste, only 4TPD of waste is being recycled with the help of scrap dealers. Rest 20TPD of waste, i.e. approx. 83.33% of the collected waste is going into dumpsite. The proposed infrastructure was not found to be sufficient to cover the gap including the further projections. Hence, Concerned State Authority like Urban Development Department, ULB, District Council shall take immediate step for establishing sufficient processing facility and ensure that all the proposed facilities are operational at the earliest. TMB should characterize the waste ending up in the dumpsite and ensure to utilize/treatment of the waste as per the provisions of SWM Rules,2016.

b. Source Segregation at source should be carried out before collection of the garbage.

c. Prior Environmental Clearance should be obtained before establishing scientific land-fill site or common waste treatment facility.

d. Waste Treatment Facility (e.g. MRF, Briquetting Plant) along with Scientific Land-fill facility should be established to reduce the load of unprocessed waste into the dumpsite and to prevent entering into the nearby streams.

e. A proper action plan should be prepared at the earliest for the safe disposal or gainful utilization of the inorganic fraction recovered

through bio-mining of legacy waste, such as its use in construction, roadwork, or as refuse-derived fuel (RDF), ensuring compliance with environmental and regulatory standards.

f. Urban Affairs, Municipal Board and Meghalaya SPCB shall jointly prepare the Standard Operating Procedure for registration of scrap dealers and proper procedure for scrap disposal should be enforced by Urban Local Body (ULB), State Pollution Control Board (SPCB), and the State Urban Development Department as per the Solid Waste Management Rules, 2016

g. TMB shall expedite the construction as well as operations of the proposed STPs in the town.

SUMMARY OF SOLID WASTE MANAGEMENT IN MEGHALAYA

Name of ULBs	Generation (TPD)	Collection (TPD)	Treatment/Utilization			Dumpsite/Land-filling (TPD)	Proposed /Under -construction facility	Remark
			Composting (TPD)	RDF (TPD)	Scrap Recycling (TPD)			
Shillong (SMB+SCB+SUA)	197	175	102.75	6.36	9.89	Land-fill: 56	MRF: 2TPD Dry-Waste Processing Facility: 25 TPD Incinerator: 4 MT	• The committee observed a gap of approx. 87 TPD of solid waste between generation (311 TPD) and collection (224 TPD) of solid waste in the seven major municipal areas and three town committees of Meghalaya going into the informal sectors like utilization in piggeries for food of the animals, composting in restaurants & hotels and residential pits. • Further, out of the generated 311 TPD waste only 138.2 TPD waste is processed/treated, rest 172.8 TPD of waste is either going into landfill/dumpsite or being unaccounted for. • The committee observed that proposed facilities may not be adequate to handle the solid waste generation load in Shillong and Tura considering the population growth in future. However, the proposed facilities seem to be adequate in rest of the towns. • The committed noted that Generated Compost at SMB & JMB are not analyzed as per Fertilizer (Inorganic, Organic or
Jowai	20	10	2	-	2.2	Dumpsite:5.8	Compost: 6 TPD MRF: 4 TPD Integ. SWM facility: 10 TPD	
Williamnagar	12	7	-	-	3	Dumpsite: 4	Compost: 5.5 TPD MRF: 3.5 TPD	
Tura	36.5	24	-	-	4	Dumpsite: 20	MRF: 10.5 TPD Briquetting Plant: 10 TPD	

Resubelpara	10	2.5			2.5	-	MRF: 3 TPD Composting: 4.5 TPD	Mixed) (Control) Order {FCO}, 1985. The compost bags were found to be stored at the facility. However, no Inventorization of the stored compost were provided by the respective Municipal Bodies. The compost bags were found to be stored at the facility. Compost storage area was found to be adequately covered to prevent exposure to rain and was found to be constructed with an impermeable base to prevent percolation and contamination of soil and groundwater. The stored compost is reportedly neither utilized nor sold externally.
Baghmara	6.5	-	-	-	-	-	MRF: 2 TPD Composting: 3 TPD	
Nongstoin Town Committee	15	3			3		MRF: 4.5 TPD Composting: 7 TPD	
Mairang Town Committee	7	0.5			0.5		MRF: 2 TPD Composting: 3.5 TPD	
Nongpoh Town Committee	7	2			2		MRF: 2 TPD Composting: 3 TPD	
Total	**311**	**224**	**104.75**	**6.36**	**27.09**	**85.8**		

a. A significant unaccounted gap of approximately 87 TPD between waste generation and collection was observed across nine ULBs in Meghalaya. It is recommended that each ULB develop and implement a targeted action plan to bridge this gap by enhancing door-to-door collection, increasing manpower and vehicles, integrating informal waste collectors, and ensuring regular monitoring and reporting as per SWM Rules, 2016.

b. The committee observed that processing facilities were operational in only 5 out of the 9 Urban Local Bodies (ULBs). It is recommended that the remaining ULBs establish waste processing units at the earliest to ensure proper treatment of waste, in compliance with the SWM Rules, 2016.

c. An inventory of the stored compost at SMB & JMB should be carried out without delay. In line with the SWM Rules, 2016, the Municipal Board must ensure that the compost is utilized or disposed of properly, following guidelines on compost quality and application ratios as provided by the Ministry of Agriculture. Additionally, compost usage should be duly permitted by the relevant authority, and records of quantity, quality, and end-use should be maintained. Furthermore, Municipality should consider formally integrating informal sector participants in compost processing and utilization to ensure inclusive and systematic management.

d. Only Shillong has a scientific landfill site, while other ULBs doesn't have any land-fill site. It is recommended that all other ULBs take necessary steps to identify, acquire, and develop scientific landfill sites in accordance with the SWM Rules, 2016.

e. The committee observed that proposed facilities may not be adequate to handle the solid waste generation load in Shillong and Tura considering the population growth in future. Hence, Concerned State Authority like Urban Development Department, ULB, District Council shall take immediate step for establishing sufficient processing facility and ensure that all the proposed facilities are operational at the earliest

f. To remediate the fumes and fire from the legacy waste dump at the Williamnagar operational since 2015, immediate measures should be taken by WMB including fire suppression using soil cover and water spraying, followed by bioremediation or bio-mining of the waste. Long-term remediation involves capping the dump with inert material, installing gas venting systems, and establishing a scientific landfill or processing facility to prevent recurrence.

g. Urban Affairs, Municipal Board and Meghalaya SPCB shall jointly prepare the Standard Operating Procedure for registration of scrap dealers and proper procedure for scrap disposal should be enforced by Urban Local Body (ULB), State Pollution Control Board (SPCB), and the State Urban Development Department as per the Solid Waste Management Rules, 2016

SUMMARY OF LEGACY WASTE MANAGEMENT IN MEGHALAYA

Name of ULBs	Site	Area Covered	Quantity of waste as on 30.08.2024 (MT)	Quantity of waste as on 15.02.2025 (**as per the documents provided)	Process adopted	Timeline for remediation (as informed)
Shillong	Marten	2.37 Acres	1,80,042	1,37,366.64	Partial Segregation (42,675.36 MT) into RDF & C&D waste. Biomining under process.	Dec-26
Jowai	Mynkjai	2 Acres	63,900	63,900	Nil, Biomining not started	Dec-26
Williamnagar	Upper Balsrigittim	0.74 Acres	36,210	38,400	Nil, Biomining not started	Dec-26
Tura	Rongkhon Songitalre	5.74 Acres	1,62,216	1,38,840	Bio-mining initiated	Dec-26
Resubelpara	Mongpongro	0.59 Acres	33,485	33,485	Nil, Biomining not started	Dec-26
Baghmara	Arapara	0.5 Acres	13,411	13,411	Nil, Biomining not started	Dec-26
Town Committee						
Nongstoin Town Committee	Mawsmai and Mawkadiang	1.44 Acres	20,000	22,160	Nil, Biomining not started	Dec-26
Mairang Town Committee	Pyndengumiong	1.2 Acres	20,000	21,170	Nil, Biomining not started	Dec-26
Nongpoh Town Committee	Umshangling	0.5 Acres	10,000	10,900	Nil, Biomining not started	Dec-26
Total			**5,39,174**	**4,79,632.64**		

RECOMMEDEDATIONS FOR LEGACY WASTE MANAGEMENT IN MEGHALAYA

a. Biomining process has only started in Shillong and Tura. However, full-scale bio-mining activities, including excavation and stabilization of legacy waste need to be expediated at the earliest. A proper action plan should be prepared at the earliest for the safe disposal or gainful utilization of the inorganic fraction recovered through bio-mining of legacy waste, such as its use in construction, roadwork, or as refuse-derived fuel (RDF), ensuring compliance with environmental and regulatory standards.
b. Other ULBs shall take up the bio-ming of legacy waste at the earliest.

SUMMARY OF PRESENT LIQUID WASTE MANAGEMENT IN MEGHALAYA

Name of ULBs	Sewerage Generation (MLD)	FSTP/STP	In-situ Remediation	Final Discharge
Municipal Board				
Shillong Municipal Board	17.03	FSTP: 0.465 MLD (CTO Applied)	1.27 MLD	6.45 MLD black water to Septic tank with soak pit 9.29 grey water discharged into the drains
Shillong Cantonment Board	1.62	-		0.62 MLD black water to Septic tank with soak pit 1 MLD grey water discharged into the drains
Shillong Urban Agglomeration	15.33			5.83 MLD black water to Septic tank with soak pit 9.51 MLD grey water discharged into the drains
Jowai	1.9	0.055 MLD (CTE Applied)		0.67 MLD black water to Septic tank with soak pit 1.23 MLD grey water discharged into the drains
Williamnagar	1.78	0.03 (CTE Applied)		0.65 MLD black water to Septic tank with soak pit 1.1 MLD grey water discharged into the drains
Tura	7.55	0.05 (CTE/CTO granted, operational)		2.82 MLD black water to Septic tank with soak pit 4.68 MLD grey water discharged into the drains

Resubelpara	1.45	0.03		0.52 MLD black water to Septic tank with soak pit 0.9 MLD grey water discharged into the drains
Baghmara	0.93	0.015		0.34 MLD black water to Septic tank with soak pit 0.57 MLD grey water discharged into the drains
Nongstoin	2.17			0.82 MLD black water to Septic tank with soak pit 1.35 MLD grey water discharged into the drains
Mairang	1.08			0.41 MLD black water to Septic tank with soak pit 0.67 MLD grey water discharged into the drains
Nongpoh	1.02			0.39 MLD black water to Septic tank with soak pit 0.63 MLD grey water discharged into the drains
Total	**51.86**	**0.645**	**1.27**	**19.52 MLD black water to Septic tank with soak pit** **30.93 MLD grey water discharged into the drains**

V.Committee's Recommendations on the observations of the Hon'ble NGT order dated 05.09.2024

Sl. No.	Observations of the Hon'ble NGT in the Order dated 05.09.2024	Comments/ Views of the Committee	Viable Solution/Recommendations
1	There exists a gap in the processing of solid waste to the extent of 114 TPD which is adding to legacy waste every day	The committee observed a gap of approx. 172.8 TPD of solid waste between generation (311 TPD) and processing (138.2 TPD) of solid waste in the state of Meghalaya going into the informal sectors like utilization in piggeries for food of the animals, composting in restaurants & hotels and residential pits or ending up in landfill.	Treatment facilities like MRF, Composting, RDF, recycling by authorized recyclers/SHGs shall be improved in the entire state of Meghalaya to reduce the burden on land-filling.
2	There is no disclosure on the utilization of 94TPD compost and its quality. Further, there is no disclosure on the rejects coming out of the process of composting and its disposal.	The committed noted that Generated Compost at SMB & JMB are not analyzed as per FCO, 1985. The compost bags were found to be stored at the facility. However, inventorization of the stored compost was not found by the committee.	The generated compost shall be analyzed for the parameters as per FCO, 1985 standards and may be utilized after permission from concerned authority of Meghalaya Government. The rejects coming out of the process of composting may be utilized as RDF in cement plants for co-processing or other option may be explore after analyzing.
3	There is almost no waste processing in other local bodies like; Shillong Cantonment Board, Tura, Jowai, Williamnagar, Resubelpara, baghmara and other three Town Committees and unprocessed waste must be piling up and when dumped down the hills and it may be entering in streams.	The committee observed that waste processing facilities are not operational in all the municipal boards except Shillong and Jowai.	Construction & operation of the proposed waste processing facilities like MRF, Composting etc. shall be expedited to reduce piling up of un-processed waste.

4	We find that no characterisation has been disclosed about inerts being landfilled to ascertain that no other waste is comingled.	The committee observed that characterization for waste reaching to the land fill has been carried out by all the municipal boards. However, all the mixed waste was found to be dumped in the land-fill/dumpsite.	All the Municipal Board should characterize the waste ending up in the landfill/dump-site and ensure that only inert (generally 15%-20%) should end up in the landfill site.
5	It needs to be ascertained in what manner recycling (scrap - 58 TPD) is being carried out by the Recyclers registered with ULBs.	• The committee observed that collected municipal waste is recycled with the help of the self-help group/scrap dealers registered with ULBs. • Twenty-four (24) employees are working in 03 SHGs (Annexure-VII) and 08 Scrap dealers (Annexure-VIII) are registered with SMB. The details of the scrap dealers registered with JMB are enclosed at Annexure-XXIII. The details of the scrap dealers registered with WMB are enclosed at Annexure-XXVIII.The details of the scrap dealers are enclosed at Annexure-XXXII. • However, the department of urban affair, Meghalaya is unable to provide documentary evidence about the final disposal/recycling of the scrap material with the recyclers.	ULBs should be directed to prepare the Standard Operating Procedure for registration of scrap dealers and proper procedure for scrap disposal should be enforced by concerned authority.
6	We find that 5.16,951 lakh MT(Total legacy waste : 5.39,174 MT minus remediated waste : 22,223MT) of waste is yet to be remediated. Further, timelines stretching up to December,2026 violate MSW Rules, 2016.	The committee noted that 4,79,632.64 lakh MT legacy waste during visit in Meghalaya State and only 23,376MT of legacy waste has been bio-mined in Tura.	All ULBs shall ensure all the legacy waste is bio-mined as per SWM Rules,2016/CPCB legacy waste guidelines within stipulated time frame.

7	18.63MLD black water through septic tanks is either seeping or getting mixed with grey water and being discharged into rivers/streams and drains.	The committee observed that 19.52 MLD black water to Septic tank with soak pit and 30.93 MLD grey water discharged into the drains.	The proposed FSTP/STP shall be made operational with valid CTO at the earliest.
8	Performance of existing SBR/ MBBR treating 0.435 MLD has not been disclosed and details of types of de-centralized plants to be set up are not provided.	The committee observed one Faecal Sludge and Septage Management (FSSM) plant of capacity 0.35 MLD at Bomfyle Road, Behind SMB Complex, Shillong and one Faecal Sludge Treatment Plant (FSTP) of capacity 0.115 MLD at Marten, Shillong. The same were under trial run. However, committee observed that both the STPs were working on MBBR treatment technology for treatment of sewage.	Committee has not identified any existing STP treating 0.435 MLD of Sewage in operational conditions.
9	An amount of Rs 48.53 crores has been ring-fenced and expenditure incurred on ongoing projects.	The committee observed that Rs. 21,51,60,965/- was utilized from ring fenced account for solid and liquid waste management.	

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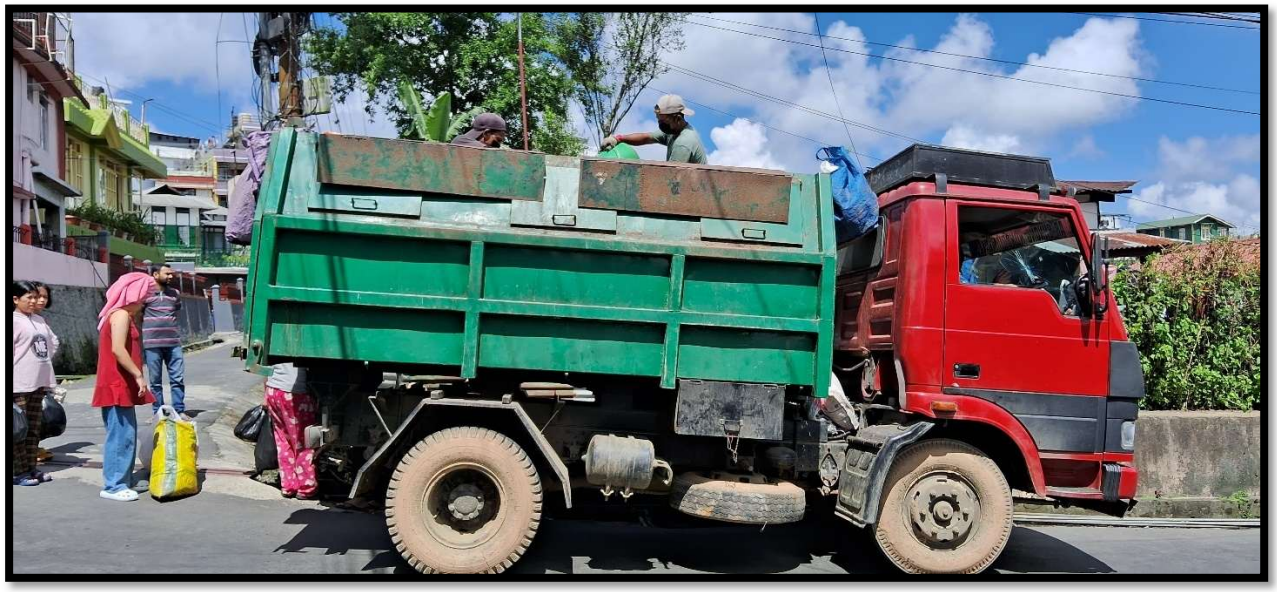
PHOTOGRAPHS FOR SHILLONG CITY



Photograph-1: Door to Door Collection by Shillong Municipal Board (Partially

Photograph-2: Door to Door Collection by Shillong Cantonment Board (Partially

Photograph-3: RDF segregation at Waste Processing Site, Marten (Shillong)

Photograph-4: Compost Yard at Waste Processing Site, Marten (Shillong)

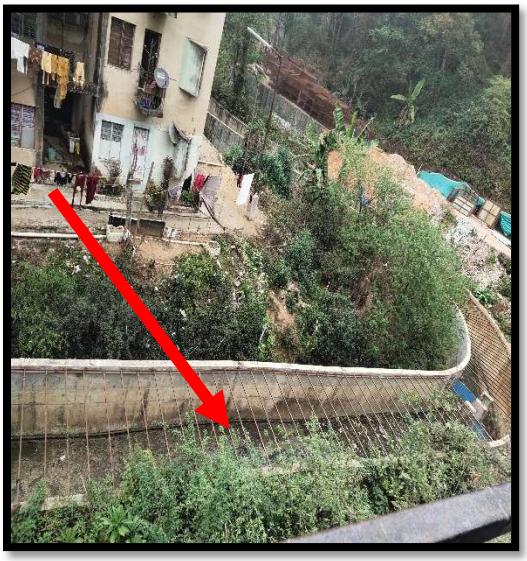
Phase-I of Shillong Land-fill Facility

Phase-II of Shillong Land-fill Facility

Leachate Collection System at Shillong Land-fill Facility

Leachate Tretment Plant at Shillong Land-fill Facility

Biological Membranes



Baffles for Physical

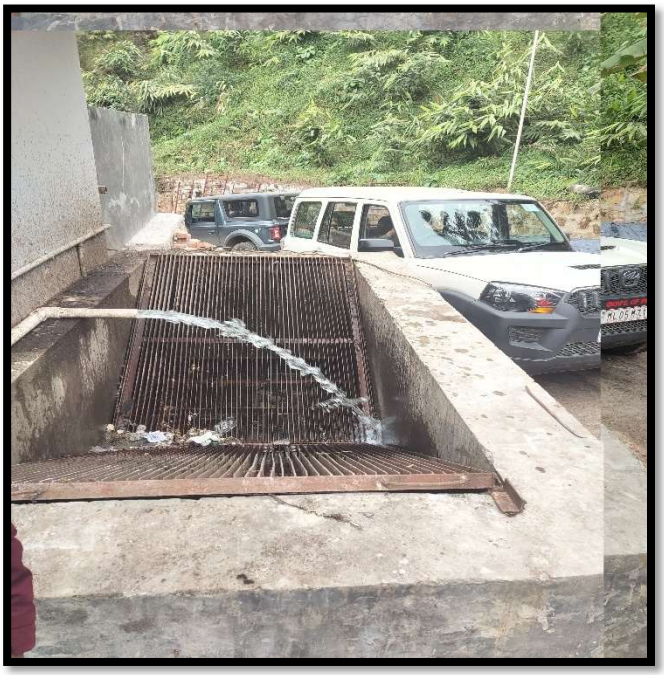
Floating Tretment Unit (FTU)

s

In-situ Remediation at drains in Shillong

Sludge De-watering

0.115 MLD FSTP at Marten, Shillong (Under trial run)



0.35 MLD FSTP at Bomfyle Road, Shillong (Under trial run)

PHOTOGRAPHS FOR JOWAI TOWN

MRF at Sabahmuswang Village, Jowai (Not Operational)

Composting plant at Sabahmuswang Village, Jowai

55 KLD FSTP, Sabahmuswang Village, Jowai

PHOTOGRAPHS FOR WILLIAMNAGAR TOWN

Dumpsite at Balsri Gittim, Williamnagar

0.03 MLD FSTP at Balsri Gittim, Williamnagar (Not operational)

PHOTOGRAPHS FOR TURA CITY

Dump-site Rongkhonsongital, Tura

Color coded bags of Bio-medical waste at the Dump-site Rongkhonsongital, Tura

Briquetting Plant at the Dump-site Rongkhonsongital, Tura (not operational)

50 KLD Septage Treatment Plant at Doldegre , Tura (operational)

Sludge from Septage Treatment Plant at Doldegre , Tura spread on nearby Lands

Annexure-I

Item No. 19 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 606/2018
(IA No. 163/2021 & IA No. 299/2024)
(**In respect of State of Meghalaya**)

Compliance of Municipal Solid Waste Management Rules, 2016 and other environmental issues.

Date of hearing: 05.09.2024

CORAM: HON'BLE MR. JUSTICE PRAKASH SHRIVASTAVA, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL JUDICIAL MEMBER
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER

Respondent: Mr. Amit Kumar, Advocate General & Mr. Avijit Mani Tripathi, Adv. with Dr. D. Vijay Kumar, Commissioner & Secretary, Urban Affairs Dept. (Through VC)
Ms. Isawanda Laloo, Director, Urban Affairs (Through VC)
Mr. R. Nainamalai, Secretary, Forest & Environment Deptt. (Through VC)
Mr. K.R. Nongrum, Jt. Secretary, Finance Deptt. (Through VC)
Mr. M.B.K. Reddy, Addl. PCCF (Through VC)
Mr. J.P. Lakiang, MCS, Mission Director, Swach Bharat (Through VC)
Mr. G. Chyrmang, MFS, Member Secretary, MSPCB (Through VC)
Ms. K. Enatoli Sema, Adv. for Meghalaya SPCB

ORDER

1. In this original application, Tribunal is monitoring the issue of solid as well as liquid waste management as per orders of the Hon'ble Supreme Court dated 02.09.2014 in *Writ Petition No. 888/1996, Almitra H. Patel vs. Union of India & Ors.,* with regard to solid waste management and order dated 22.02.2017 in *W.P. No. 375/2012, reported in (2017) 5 SCC 326, Paryavaran Suraksha vs. Union of India*, with regard to liquid waste management (sewage).

2. Today, matter has been taken up in respect of compliance by **State of Meghalaya.**

3. We have heard Mr. Amit Kumar, Advocate General and Mr. Avijit Mani Tripathi, Advocate for State of Meghalaya with Dr. D. Vijay Kumar, Commissioner & Secretary, Urban Affairs Dept., Ms. Isawanda Laloo,

Director, Urban Affairs, Mr. R. Nainamalai, Secretary, Forest & Environment Deptt., Mr. K.R. Nongrum, Jt. Secretary, Finance Deptt., Mr. M.B.K. Reddy, Addl. PCCF, Mr. J.P. Lakiang, MCS, Mission Director, Swach Bharat, Mr. G. Chyrmang, MFS, Member Secretary, MSPCB virtually and Ms. K. Enatoli Sema, Adv. for Meghalaya SPCB.

4. After the previous order, the six monthly progress report dated 30.08.2024 has been filed by the State of Meghalaya.

5. We have examined the report. From this report, following position in respect of solid and liquid waste management in the State of Meghalaya is reflected:-

We find that no progress has been made after the last order dated 22.12.2022 and deficiencies and the gaps in management of solid waste and sewage are as under:

[A] Solid Waste Management

(i) There exists a gap in the processing of solid waste to the extent of 114 TPD which is adding to legacy waste every day.

(ii) There is no disclosure on the utilisation of 94 TPD compost and its quality. Further, there is no disclosure on the rejects coming out of the process of composting and its disposal.

(iii) There is almost no waste processing in other local bodies like; Shillong Cantonment Board, Tura, Jowai, Williamnagar, Resubelpara, baghmara and other three Town Committees and unprocessed waste must be piling up and when dumped down the hills and it may be entering in streams.

(iv) We find that no characterisation has been disclosed about inerts being landfilled to ascertain that no other waste is co-mingled.

(v) It needs to be ascertained in what manner recycling (scrap - 58 TPD) is being carried out by the Recyclers registered with ULBs.

(vi) We find that 5.16,951 lakh MT(Total legacy waste : 5.39,174 minus remediated waste : 22,223) of waste is yet to be

remediated. Further, timelines stretching up to December 2026 violate MSW Rules, 2016.

[B] Sewage Management

(i) 18.63 MLD black water through septic tanks is either seeping or getting mixed with grey water and being discharged into rivers/streams and drains.

(ii) Performance of existing SBR/ MBBR treating 0.435 MLD has not been disclosed and details of types of de-centralised plants to be set up are not provided.

[C] Ring fence Account

(i) An amount of Rs 48.53 crores has been ring-fenced and expenditure incurred on ongoing projects.

6. In view of finding of gaps and deficiencies, we form a committee of representative of member secretary CPCB and IRO of MoEF&CC to file an independent assessment report on sewage and solid waste management in light of observations made. The Committee may undertake field assessment covering Shillong and other local bodies and also suggest viable options to expedite the remediation of legacy waste and setting up of DSTPs. The report be filed by the committee through CPCB at least one week before the next date of hearing by way of affidavit through e-filing.

7. Let a fresh action taken report be filed by the State of Meghalaya covering the aspects noted above at least one week before the next date of hearing by way of affidavit through e-filing.

8. List the matter on 27.03.2025 for consideration of report in respect of State of Meghalaya.

9. For State of Tamil Nadu, matter be listed on 12.09.2024 as per earlier direction.

Prakash Shrivastava, CP

Sudhir Agarwal, JM

Dr. A. Senthil Vel, EM

September 05, 2024
Original Application No. 606/2018
(IA No. 163/2021 & IA No. 299/2024)
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Item No. 16 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 606/2018
(IA No. 163/2021, IA No. 299/2024, IA No. 20/2025)
(In respect of State of Meghalaya)

Compliance of Municipal Solid Waste Management Rules, 2016 and other environmental issues.

Date of hearing: 27.03.2025

CORAM: **HON'BLE MR. JUSTICE PRAKASH SHRIVASTAVA, CHAIRPERSON**
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER

Respondents: Mr. Amit Kumar, Advocate General (Through VC) & Mr. Avijit Mani Tripathi, Adv. with
Mr. D. Vijay Kumar, Commissioner & Secretary, Urban Affairs Dept. (Through VC)
Mr. Pravin Bakshi, Commissioner & Secretary, Forest & Environment Dept. (Through VC)
Mr. W.A.M. Booth, Secretary, Urban Affairs (Through VC)
Mr. R. Nainamalai, Secretary, Forest & Env. Dept. (Through VC)
Mr. P.K. Boro, Director, Urban Affairs (Through VC)
Mr. M.B.K. Reddy, Addl. PCCF (Through VC) &
Mr. T.V. Krishna Murthy, CEO, Shillong Smart City Project (Through VC)
Ms. K. Enatoli Sema, Adv. with Mr. George Chyrmang, Member Secretary, Meghalaya SPCB (Through VC)
Mr. Raj Kumar, Adv. for CPCB (Through VC)

ORDER

1. In this original application, Tribunal is considering the issue of solid as well as liquid waste management as per orders of the Hon'ble Supreme Court dated 02.09.2014 in *Writ Petition No. 888/1996, Almitra H. Patel vs. Union of India & Ors.,* with regard to solid waste management and order dated 22.02.2017 in *W.P. No. 375/2012, reported in (2017) 5 SCC 326, Paryavaran Suraksha vs. Union of India*, with regard to liquid waste management (sewage).

2. Today, matter has been taken up in respect of compliance by **State of Meghalaya.**

3. We have heard learned AAG and the Senior officers of the State present virtually to proceed on assessing status of solid and liquid waste management. Status report under the signature of Secretary, Urban Affairs, Government of Meghalaya has been filed on 22.3.2025 disclosing status as on March 2025. We, on examining the report found following deficiencies:-

[A] Solid Waste Management

I. Nine local bodies (including SMB, SCB, SUA) generates 314.5 TPD waste and processing 173.7 TPD and unprocessed waste is 140.8 TPD.

II. Disclosure of waste processing made in Tabulated statement (page 366) reveals that, except Shillong and Jowai, no local body is processing waste in the form of compost and therefore, this raises question on legacy waste in each ULB and all possibilities of rolling down waste by the Communities down the hill or burning it. We require clear factual statement to this effect.

III. We also find that inerts are shown only in respect of Shillong and no other body has disclosed on Inerts and RDF going to Cement plant. Further, we could not get response on operation of Incineration plant currently using 3 TPD with consent to operate and compliance with the standards. We also could not get response on ash management. Therefore, we direct that the observed deficiencies be responded with remedial actions taken.

IV. Annexure IV (page 383) has indicated timelines for setting up of compost plants and other required facilities but, it has not been disclosed that the coming up facilities would cater the need to plug the gap of 140.8 TPD. We also find that, except Shillong, all ULBs generates waste < than 50 TPD and such waste can be stabilised by designing appropriate modules and utilising compost at local level.

V. Processing of legacy waste has been very slow as evidenced that 4.47 LMT of legacy waste is yet to be remediated. Further, it is not clear that how waste in Nongpoh town has increased from 10,000 to 55,000 Tonnes in six months. We also direct that next report should disclose quantities of unprocessed waste and correspondingly, legacy waste existing in each town.

IV. To expedite bio mining process, next report should show work allotted to Executing Agencies on Processing and bioremediation for each town. Rejects out of bio mining should be properly managed particularly for landfilling inerts as per MSW Rules and not co disposing any other waste which is not permissible. Residues should be properly managed with identifying users/processors with defined manifest system.

[B] Sewage management

I. Estimated sewage generation is 53.30 MLD with 6.74 MLD treatment facilities in the form of FSTP, individual ETPs by Establishments and in-situ remediation. We find distinction made between Black and Grey water and accordingly, treating/disposing through Septic tanks and soak pits, and grey water getting disposed in drains, streams and rivers.

II. Towns other than Shillong are comparatively having lower estimated quantity of sewage and as per location of residential establishments, it will be prudent to go for decentralised sewage systems as disclosed on page 381 (para iii) and we direct that before next hearing, such facilities with due performance tested should be established in 10 towns and other appropriate locations.

III. Since, grey water is discharged into streams and rivers, we direct to disclose quality of grey water particularly for faecal coliform. It should also be disclosed that no faecal contents are disposed to streams and rivers particularly those residential establishments on the banks of streams and

rivers. This issue was also directed under para 35 of the order dated 22.12.2022.

[C] Ring Fenced Account

Ring fenced amount be allocated to each ULB and the executing agencies should be finalised and not to delay in land requirement and other issues.

4. Let a fresh action taken report be filed by the State of Meghalaya covering the aspects noted above at least one week before the next date of hearing by way of affidavit through e-filing.

5. Learned counsel appearing for the CPCB also seeks two weeks' time to file report in terms of the order dated 05.09.2024.

6. List the matter on 03.11.2025 for consideration of report in respect of State of Meghalaya.

7. For the State of UP the matter be listed on 03.04.2025 as per the earlier direction.

Prakash Shrivastava, CP

Sudhir Agarwal, JM

Dr. A. Senthil Vel, EM

March 27, 2025
Original Application No. 606/2018
(IA No. 163/2021, IA No. 299/2024, IA No. 20/2025)
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