



## **CHAPTER-III**

# **INSTITUTIONAL MECHANISMS FOR SOLID WASTE MANAGEMENT IN MEGHALAYA**



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## Institutional Mechanisms for Solid Waste Management in Meghalaya

### 3.1. Introduction

Municipal Solid Wastes (Management and Handling) Rules 2000 apply to every municipal authority as these authorities are responsible for management of municipal solid waste (MSW).

Ministry of Environment, Forests & Climate Change (MoEFCC), Government of India (GoI), amended (8 April 2016) the Municipal Solid Waste (Management and Handling) Rules 2000 and notified the SWM Rules 2016, extending the jurisdiction of SWM Rules beyond ‘municipal area’ to cover the expanding boundaries of urban agglomerations, Census towns, notified areas and notified industrial areas, defence establishments *etc.*

Meghalaya State Waste Management Policy and Strategy was notified on 17 June 2019 under which the roles and responsibilities of different departments/agencies involved in solid waste management were defined. Details are shown in **Table 3.1**.

**Table 3.1: Details showing the functions of different departments/agencies in respect of Solid Waste Management in Meghalaya**

Level/ Responsible Institution	Role and responsibilities of Institution in SWM
<b>State Government (Secretary, Urban Affairs Department and Director, Urban Affairs)</b>	<ul style="list-style-type: none"> <li>• Responsible for overall implementation and enforcement of SWM Rules, 2016.</li> <li>• Prepare State Solid Waste Management Policy and Strategy in consultation with core/key stakeholders.</li> <li>• Ensure identification and allocation of suitable land to ULBs for setting up solid waste processing and disposal/treatment facilities.</li> <li>• Facilitate establishment of Common Regional Sanitary Landfill for group of towns/ULBs falling within 50 kms on cost sharing basis and ensuring professional management of such landfill.</li> <li>• Capacity building of ULBs in SWM, prepare scheme for registration of waste pickers/dealers.</li> </ul>
<b>Meghalaya State Pollution Control Board</b>	<ul style="list-style-type: none"> <li>• Ensure the implementation of SWM Rules, 2016 in the State through ULBs in their respective region and review the implementation /status twice a year in coordination with other stakeholders.</li> <li>• Monitor adherence to Environmental standards as prescribed, examine proposals and authorise ULBs for SWM, monitor compliance standards as laid down in SWM Rules 2016 and offer directions for safe handling/disposal of waste at deposition centres.</li> </ul>

<b>Level/ Responsible Institution</b>	<b>Role and responsibilities of Institution in SWM</b>
<b>Deputy Commissioners of all districts</b>	<ul style="list-style-type: none"> <li>• Facilitate identification and allocation of suitable land to ULBs for setting up solid waste processing and disposal/treatment facilities in their jurisdiction, in coordination with State Secretary and review the performance of ULBs every quarter and take corrective measures.</li> </ul>
<b>Municipal authorities/ Town Committees/ Cantonment Board and traditional institutions (ADCs and Dorbar Shnongs) of census towns</b>	<ul style="list-style-type: none"> <li>• Shall prepare SWM plan as per State policy and strategy and submit to State Government.</li> <li>• Frame bye laws incorporating provisions of these rules and implement them effectively.</li> <li>• Arrange door to door collection of segregated waste from all households, including slums and informal settlements, commercial, non-residential premises, all public institutions, commercial complexes, housing boards <i>etc.</i></li> <li>• Educate, enforce waste generators on five Rs (reduce, reuse, recycle, recover and remove).</li> <li>• Involve communities in waste management and promotion of home composting and de-centralised waste processing at community level and maintain hygienic condition.</li> <li>• Create public awareness through Information, Education &amp; Communication (IEC) and educate public and involve them in SWM at critical levels regarding segregation of waste at source, littering.</li> <li>• Capacity building of SWM workers on all aspects to ensure implementation of the SWM Rules, 2016.</li> <li>• Provide bins for storage of biodegradable/non-biodegradable waste and ensure collection of waste by primary collection system, transfer them through secondary collection mechanism for disposal and treatment at landfill.</li> <li>• Setup material recovery facilities with sufficient space for sorting recyclable waste by waste pickers and recyclers.</li> <li>• Provide proper collection, disposal and set up treatment facilities for city SWM in accordance with the rules, with authorisation from the State authorities.</li> <li>• Implement and ensure all points as per State Policy for effective waste management services in city/ULB.</li> </ul>

*Source: Meghalaya Solid Waste Management Policy & Strategy.*

The 74<sup>th</sup> Constitutional Amendment Act sought to empower ULBs to function as Local Self-Government and to deliver efficient & effective services for economic development

and social justice with regard to 18 subjects<sup>11</sup> listed in XII Schedule of the Constitution. In Meghalaya, functions to the urban local bodies have been carried out under the Meghalaya Municipal Act, since Meghalaya is exempted from implementation of the 74<sup>th</sup> CAA under Article 243 ZC of the Constitution. The Director, Urban Affairs Department, stated (June 2023) that Government of Meghalaya has devolved 16 functions<sup>12</sup> to the ULBs, but it was seen that only three<sup>13</sup> functions have been fully transferred and discharged<sup>14</sup> by the six Municipal Boards of Meghalaya of which solid waste management is one of the fully devolved functions.

This Chapter examines the efficiency and adequacy of institutional mechanisms, as well as the efficiency of the different departments/agencies in carrying out their roles.

### 3.2 Notification of State Policy by Urban Affairs Department

***Delay in notifying the Meghalaya State Waste Management Policy and Strategy, despite the SWM Rules, 2016 reflected lackadaisical approach of Urban Affairs Department in implementing the waste management rules.***

As per Rule 11 of the SWM Rules, 2016, the Secretary, Urban Affairs Department should prepare a state policy and solid waste management strategy for the State in consultation with stakeholders including representatives of waste pickers, self-help group (SHGs) and similar groups working in the field of waste management consistent with these rules, in a period not later than one year from the date of notification of the SWM Rules.

The SWM Rules were notified in April 2016 whereas the Meghalaya State Waste Management Policy and Strategy which was due to be notified in April 2017 was notified only on 17 June 2019 *i.e.*, after a delay of more than two years.

Delay in notifying the Meghalaya State Waste Management Policy and Strategy indicates lackadaisical approach of the Urban Affairs Department in the implementation of SWM Rules, 2016. As a result of the delay in notifying the Meghalaya State Waste Management Policy and Strategy, it was seen that there was a gap in the implementation

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<sup>11</sup> 1. Urban planning including town planning; 2. Regulation of land-use and construction of buildings; 3. Planning for economic and social development; 4. Roads and bridges; 5. Water supply for domestic, industrial and commercial purposes; 6. Public health, sanitation, conservancy and solid waste management; 7. Fire services; 8. Urban forestry, protection of the environment and promotion of ecological aspects 9. Safeguarding the interests of weaker sections of society, including the handicapped and mentally retarded 10. Slum improvement and upgradation 11. Urban poverty alleviation; 12. Provision of urban amenities and facilities such as parks, gardens, playgrounds; 13. Promotion of cultural, educational and aesthetic aspects; 14. Burials and burial grounds; cremations, cremation grounds and electric crematoriums 15. Cattle pounds; prevention of cruelty to animals; 16. Vital statistics including registration of births and deaths; 17. Public amenities including street lighting, parking lots, bus stops and public conveniences; 18. Regulation of slaughter houses and tanneries.

<sup>12</sup> Except for (i) Fire Service and (ii) Urban Forestry, protection of the environment and promotion for ecological aspects.

<sup>13</sup> (i) Public health, sanitation conservancy and solid waste management (ii) Urban poverty alleviation and (iii) Vital statistics including birth and deaths.

<sup>14</sup> For Public health, sanitation conservancy and solid waste management, all the five MBs were discharging this function except Williamnagar MB.

of the SWM Rules 2016 such as non-integration of informal waste collectors in waste management, delay in imposition of user charges, *etc.* as discussed in the succeeding paragraphs.

The Department accepted the observation during the Exit Conference held on May 2023.

### **3.3. Framing of Bye Laws**

***None of the Municipal Boards in Meghalaya, and two autonomous district councils, namely, JHADC and GHADC, had framed bye-laws for implementing SWM Rules 2016, while the KHADC had only notified the Khasi Hills Autonomous District (SWM) Act, 2020 in February 2022, rendering the implementation of SWM Rules 2016 ineffective due to the absence of legally empowering bye-laws.***

As per Rule 15(e) of the SWM Rules, 2016, Local authorities were required to frame bye-laws incorporating provisions of SWM Rules 2016, within one year from the date of notification of these rules.

Meghalaya State Waste Management Strategy and Policy of June 2019 stipulated that the local authorities will frame bye laws incorporating the provisions of State Policy & Strategy document for implementing the same in their respective jurisdictions.

Audit noticed that none of the Municipal Boards in Meghalaya had framed any bye-laws for implementation of SWM Rules 2016 as of 31 March 2022. Further, Audit noticed that though the ADCs were to formulate bye laws under SWM Rules 2016, JHADC and GHADC were yet to comply with these directions till the date of audit (November 2022) while the KHADC had notified the Khasi Hills Autonomous District (SWM) Act, 2020 only in 10 February 2022.

The Shillong Cantonment Board reported (January 2023) that they had forwarded the draft bye laws to the higher authority in December 2022 and were awaiting approval, it was however seen that draft bye laws of Shillong Cantonment Board were yet to be approved till January 2023.

Thus, the implementation of SWM Rules 2016 in Meghalaya remained a pipe dream in the absence of relevant bye-laws of the local authorities which would have legally empowered them to implement the SWM Rules.

### **3.4 Preparation of Solid Waste Management Plans by Urban Local Bodies**

***ULBs in Meghalaya were required to prepare comprehensive short-term and long-term Solid Waste Management (SWM) plans aligned with the State policy. However, the selected Municipal Boards, Town Committees, and Census Towns have failed to develop such plans within the stipulated timelines, with only Shillong having submitted a City Solid Waste Action Plan that awaits approval. Absence of SWM Plans indicated that ULBs had not set any short-term or long-term goals and targets absence of targets and goals for implementing the SWM Rules in Meghalaya.***

As per the Municipal Solid Waste Management (MSWM) Manual, 2016 (Section 1.4.5 and 1.4.6), ULBs were required to prepare a detailed SWM plan, with short term (2-5 years) and long-term (20-25 years) actions. Short-term plans were to cover aspects of institutional strengthening, community mobilisation, waste minimisation initiatives, waste collection and transportation, treatment and disposal, and financial outlay, while long term plans were to consist of four-five short term planning cycles. Actions to be undertaken in each of these short term planning cycles should be clearly identified in the long term plans and the short term plans should lead to achievement of the long term plan. Moreover, as per the Meghalaya State Waste Management Policy and Strategy which was approved by the State Government and notified on 17 June 2019, each city/town/census town was to prepare its own Waste Management Plan which should be in tandem with the objectives of the Policy and Strategy document.

The status of preparation of plans in the selected Municipal Boards, Town Committee or Census Town is detailed in **Table 3.2**.

**Table 3.2: Status of preparation of SWM plan by selected Municipal Boards, Town Committee and Census Towns**

Area/ Jurisdiction	Responsible Agency	Timelines as prescribed in State Policy and Strategy document	Current Status
<b>Shillong Municipal Area</b>	Shillong Municipal Board	By September 2019	City Solid Waste Action Plan prepared and sent to Urban Affairs Department on 20 June 2022 but approval was awaited
<b>Jowai Municipal Area</b>	Jowai Municipal Board	By September 2019	Yet to be prepared
<b>Tura Municipal Area</b>	Tura Municipal Board	By September 2019	Yet to be prepared
<b>Nongpoh Area</b>	Nongpoh Town Committee	By November 2019	Yet to be prepared
<b>Mawlai and Umpling Census Towns</b>	Khasi Hills Autonomous District Council	By November 2019	Yet to be prepared

Source: Reply furnished by SMB, JMB, TMB, Nongpoh Town Committee and KHADC.

While the approval of City Solid Waste Management Plan (which is a short term plan) was awaited (May 2023) in case of Shillong Municipal Board, none of the other selected Municipal Boards, Town Committee or Census Town had prepared any short-term or long-term plans.

In the Exit Conference (May 2023), the Director, Urban Affairs Department stated that the City Solid Waste Action Plan was prepared (April 2023) for all the ULBs under Swachh Bharat Mission and the same was under consideration of the Ministry of Housing and Urban Affairs for approval. The Department, however did not provide any copies of the Action Plan submitted to the Ministry of Housing and Urban Affairs to audit. Also, no action was being undertaken for preparation of long term plans.

Absence of SWM Action plans of the Municipal Boards resulted in there being no short-term or long-term planned interventions for solid waste management in the urban areas of Meghalaya.

### **3.5 Role of Town Committees in Census Town Areas**

***There were no functional Town Committees in the Census Towns, under the jurisdiction of the ADCs, test checked by Audit. Lack of coordination between the Urban Affairs Department, the ADCs, and the State Pollution Control Board was evident from the non-submission of annual reports on waste management by Dorbar Shnongs under the Town Committees and Census Towns to the MSPCB. Absence of data on solid waste collection and disposal in these areas indicated that SWM Rules 2016 had not been implemented.***

In Meghalaya, the Town Committees and Census Towns do not fall under the administrative control of the Urban Affairs Department. Rather, these areas (47 per cent of the total urban population<sup>15</sup>) are governed by the respective ADCs, under whose jurisdiction the Town Committees are set up. As per the Meghalaya Solid Waste Management Bye Law, 2020, the responsibility for collection, transportation, processing, of solid waste in the Census Towns outside the Municipal Area lies with local traditional institutions (called the Dorbar Shnongs) in association with ADCs.

Rule 15 (za & zb) of SWM Rules, 2016 stipulates that the local authorities and village panchayats of census towns and urban agglomerations shall prepare and submit annual reports on SWM and submit the same to the Director, Urban Affairs Department who will then forward it to the Commissioner & Secretary, Urban Affairs Department and the respective State Pollution Control Board by the 31<sup>st</sup> May of every year.

Audit found very little documentation of the SWM activities being carried out by the ADCs through Dorbar Shnongs. For example, no data was available on the number of households under the Town Committees/Census Towns, quantum of waste generated, segregated and collected, dumping sites and waste processing facilities.

During site visit of seven Dorbar Shnongs, Audit found that Dorbar Shnong were using trucks/pick up for doing house to house collection of waste. Audit also noticed that Dorbar Shnongs were collecting user charges from households for waste collection at the rate of ₹ 40 - ₹ 130 per household under the Mawlai and Umpling Census Towns. However, no user charges were collected by the Dorbar Shnongs concerned under the Nongpoh Town Committee.

In a meeting (August 2019) chaired by the Chief Secretary, the Deputy Commissioners of all concerned districts were directed to ensure timely submission of Annual Reports by all Town Committees under their respective jurisdiction. The Chief Secretary advised the concerned Deputy Commissioners and representatives of the KHADC to explore constitution of a Town Committee in each of the 12 Census Towns. He suggested that since the Dorbar Shnongs of the 10 census towns within the Shillong Urban Agglomeration are already undertaking various activities for management of

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<sup>15</sup> Total urban population of Meghalaya – 5,95,450, Town Committee and Census Towns 2,79,680.



wastes, they may be recognised as institutional structures for implementation of waste management till a town committee is established. He further suggested that the SMB may provide necessary help to the Dorbar Shnongs of the Census Towns in preparation of the Annual Report.

However, despite the directions from the Chief Secretary in August 2019, Audit found that till date, the Town Committees (Nongpoh, Mairang and Nongstoin) and Census Towns were not submitting the annual reports to the Urban Affairs Department.

The MSPCB stated (December 2022) that the list of Town Committees and Census Towns was yet to be shared by the Urban Affairs Department and as such, monitoring of Town Committees and Census Towns was not carried out by them.

The absence of a functional Town Committees in Census towns, absence of data on SWM from the ADCs and no reporting on SWM activities as per SWM Rules 2016, are indicators that the Census Towns were still to be on boarded into the mainstream institutional framework for SWM.

As a result, the MSPCB did not have any data on the generation, collection and transportation of waste from these town committee/census town areas. This indicates absence of monitoring of the local traditional bodies by the MSPCB and also lack of coordination between the Urban Affairs Department and the ADCs in the implementation of SWM Rules, 2016.

### 3.6 Preparation of Contingency Plans

*The failure of the test-checked urban areas in Meghalaya to develop contingency plans for waste storage, as stipulated by the MSWM Manual 2016, left them unprepared to address unforeseen crises like waste transportation disruptions and waste accumulation on streets of Jowai leading to public protest.*

MSWM Manual 2016 (Section 5.4) stipulated that ULBs should prepare contingency plans for appropriate storage of waste, to tide over situations of non-performance of processing/treatment/disposal facilities. Requirement of a contingency plan was neither envisaged in the Meghalaya State Waste Management Policy and Strategy nor addressed by any of the test-checked urban areas. As a result, ULBs were not prepared to tackle any unforeseen situation or crisis such as public protest in Jowai Municipal Area when the villagers did not allow passage of waste transportation vehicles, resulting in piling up of waste on streets, which is discussed in **Para 6.4.3.2**.

### 3.7 Periodical review of SWM Rules by Urban Affairs Department

*Though the Urban Affairs Department in charge of implementing SWM and Plastic Waste Management Rules established State Level Advisory Committees for periodic review of implementation of SWM Rules 2016, absence of records of such meetings indicated that these committees were largely non-functional.*

As seen from **Table 3.1**, Urban Affairs Department was responsible for overall implementation and enforcement of SWM Rules, 2016. Moreover, Rule 23 of the SWM Rules, 2016 stipulates that the Department in-charge of local bodies of the concerned

State Government shall constitute a State Level Advisory Body within six months from the date of notification (April 2016) of these rules.

Scrutiny of records revealed that the Urban Affairs Department vide Notification No UAU.9/2015/565 dated 25 April 2017 constituted the State Level Advisory Committee chaired by the Commissioner & Secretary, Urban Affairs Department. The State Level Advisory Committee was to meet at least once in every six months to review the matters related to implementation of the SWM rules, 2016.

Similarly, scrutiny of records revealed that the Urban Affairs Department vide Notification No UAU.70/2016/81 dated 25 January 2018 constituted the State Level Advisory Committee for monitoring of Plastic Waste Management Rules, 2016 chaired by the Commissioner & Secretary, Urban Affairs Department. The State Level Advisory Committee was to meet at least once in every six months for the purpose of effective monitoring of implementation of the Plastic Waste Management Rules 2016.

However, the Director, Urban Affairs Department failed to produce any records showing the number of meetings being conducted by the two Advisory Boards during the period covered by Audit and copy of minutes of meetings held by these Committees (if any), was also not furnished though called for (June 2022<sup>16</sup>). In absence of such basic information/ records, Audit could not ascertain whether proper monitoring has been ensured in the implementation of the SWM Rules, 2016 and the Plastic Waste Management Rules, 2016 by the State Level Advisory Committees.

### **3.8 Assessment of waste generation in urban areas**

***A comprehensive assessment of waste generation using well-defined metrics is crucial for effective Solid Waste Management; however, lack of reliable data collection and periodic surveys in urban areas, along with discrepancies in waste estimation methods, indicated deficiencies in planning and coordination.***

A comprehensive assessment of waste generation determined by well-defined metrics is imperative for efficient Solid Waste Management. Section 1.4.3.3.1 of the Solid Waste Management Manual, 2016 stipulates that the average amount of waste disposed by a specific class of generators may be estimated by averaging data from several samples to be collected continuously for a period of seven days at multiple representative locations within the jurisdiction of the ULB, in each of the three main seasons *viz.* summer, winter and rainy season. Waste should then be aggregated over the seven-day period, weighed and averaged. These quantities could then be extrapolated to the entire ULB/urban area and per capita generation assessed. This should be repeated once every 3-5 years.

Under the NERCCDIP, Shillong, the capital city of Meghalaya, was to be provided with the SWM facilities including an engineered sanitary landfill site with improvements in primary and secondary collection, transportation and disposal. In connection with the programme, it was required to quantify and characterize municipal solid waste from residential and institutional sources. As such, Audit noticed that survey for quantification and characterisation of waste (Solid Waste Quantification & Characterisation study)

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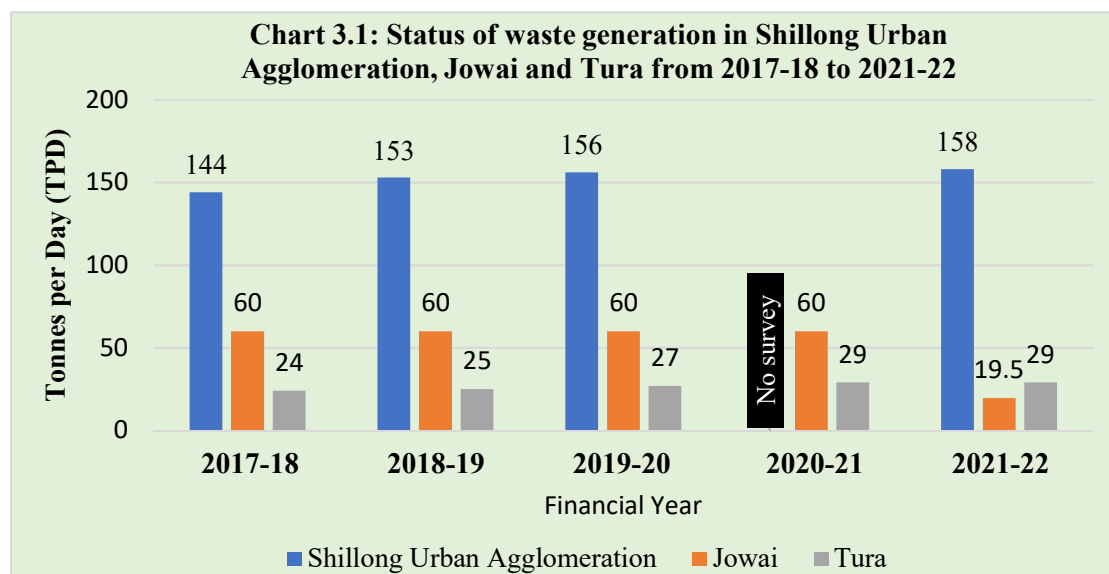
<sup>16</sup> Reminders were also issued during September 2022 & February 2023, but reply was not furnished.

was conducted for the Shillong Urban Agglomeration (SUA) area by the Department of Environmental Studies, North Eastern Hills University during 2010-11. During the period covered by audit (except for 2020<sup>17</sup>) annual surveys on waste generation, segregation at source and transportation in the Shillong Urban Agglomeration (SUA) area were conducted by SIPMIU. There were no records, however, to indicate that these annual survey reports were submitted by SIPMIU to MSPCB or Urban Affairs Department. As a result, neither the MSPCB nor the Urban Affairs Department used these reports for extrapolation of per capita SWM generation resulting in lack of viable data.

As per Section 1.4.3.3.1 of the Solid Waste Management Manual 2016, the practice of an eye estimate of waste quantity transported is not reliable as many times, trucks carrying waste are half full or carry light material. Further, the quantity of waste measured at transfer stations or processing and disposal sites also does not accurately reflect waste generation rates, since these measurements do not include waste disposed at unauthorised places, waste recovered by informal waste collectors or waste pickers from the streets, bins, and intermediate transfer points, *etc.*

No surveys were conducted in Jowai, Tura and Nongpoh municipal areas, Audit noticed that for these areas, assessment of per capita waste generation was arrived at based on approximation of quantity of transported waste. Thus, it implies a lack of reliable data and absence of planning mechanism in the ULBs and Town Committee with regards to SWM as discussed in the succeeding paragraph.

Per day waste generation in the test checked urban areas<sup>18</sup> for the period from 2017-18 to 2021-22 as per the survey conducted by SIPMIU in Shillong Urban Agglomeration and assessment by per capita based estimates and/or estimation of quantity of transported waste information in Jowai and Tura<sup>19</sup> is given in **Chart 3.1**.



Source: Information furnished by SIPMIU, JMB and TMB.

<sup>17</sup> Due to Covid-19 pandemic.

<sup>18</sup> Shillong Municipal Area, Census Towns within Shillong Urban Agglomeration but outside Shillong Municipal Area, Jowai Municipal Area, Tura Municipal Area, Nongpoh Town.

<sup>19</sup> Data was not available with respect to Nongpoh town.

During Exit Conference (17 May 2023), the Department stated that during the preparation of the City Solid Waste Action Plan under SBM, a survey on quantum of waste generated was conducted in all Municipal areas recently. However, on being asked whether this is a regular periodical exercise, the Department stated that the current exercise was solely done for the purpose of preparation of the Action Plan. However, the Department will consider conducting periodical surveys.

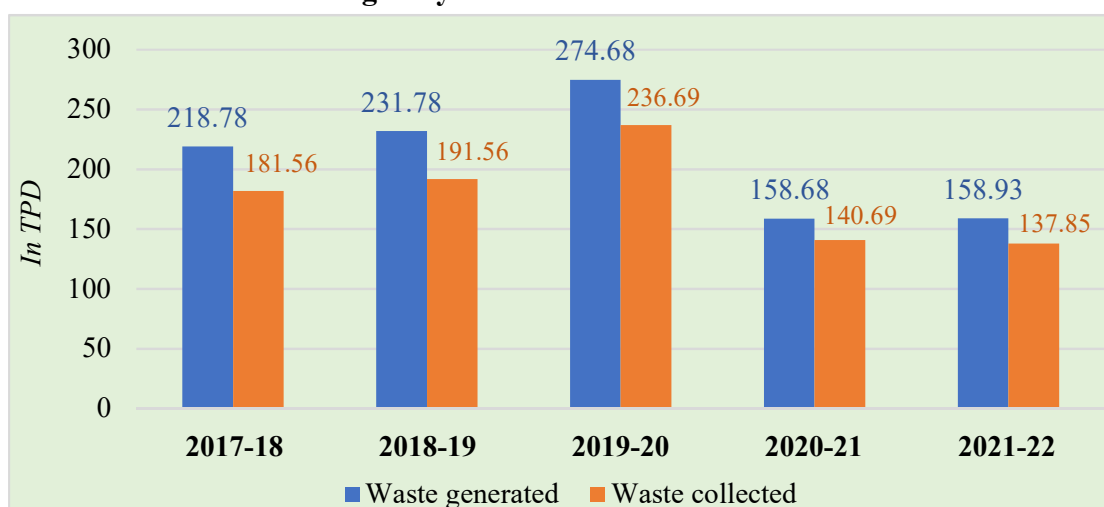
### 3.9 Maintenance of SWM data by MSPCB

*The effective management of solid waste relies on accurate data collection and analysis, yet discrepancies between waste generation and collection figures reported by the Meghalaya State Pollution Control Board and information provided by tested Urban Local Bodies, along with the absence of data from Town Committees and Census Towns, underscore issues of data accuracy, completeness, and reliability.*

As per Section 6.1.3 of the SWM Manual 2016, collection and analysis of data related to SWM is required to assess the existing situation and propose adequate measures for improving service delivery. A good management information system helps in establishing a strong and reliable information database necessary to facilitate planning, midcourse corrections, and decision making. Further, as per Rule 15 (zb) of SWM Rules 2016, the annual reports prepared by the ULBs shall be sent to the Secretary -in-Charge of the State Urban Development Department and to the respective State Pollution Control Board by the 31st May of every year.

As per information obtained from MSPCB, the position of waste generation and collection in the six ULBs of Meghalaya for the audit period is shown in **Chart 3.2** below. It may be mentioned here that MSPCB does not collect the data on waste generation and collection from town committees and census towns.

**Chart 3.2: Position of waste generation and collection in the six ULBs of Meghalaya from 2017-18 to 2021-22**



From **Chart 3.2**, it could be seen that there was an increase of nine *per cent* of waste generation per day between 2017-18 and 2019-20. However, closer scrutiny of the figures revealed that there were discrepancies between the data shown by MSPCB in their Annual Reports and the figures furnished by the test checked ULBs to Audit.

A comparison of data shown by MSPCB and data provided to audit by the test-checked ULBs (Shillong, Jowai and Tura Municipal Boards) with regards to waste generation and collection for the audit period is shown in **Table 3.3** and **Table 3.4**.

**Table 3.3: Comparison of quantum of waste generated in the test-checked ULBs with MSPCB data**

(in TPD)

Year	SMB		JMB		TMB	
	As per MSPCB	As per information furnished to audit by ULBs	As per MSPCB	As per information furnished to audit	As per MSPCB	As per information furnished to audit
2017-18	56.08	62	56	60	65	24
2018-19	56.08	66	60	60	75	25
2019-20	59.95	69	60	60	75	27
2020-21	59.95	NA	19.50	60	35	29
2021-22	85.40	70	19.50	19.50	35	29

**Table 3.4: Comparison of quantum of waste collected in the test-checked ULBs with MSPCB data**

(in TPD)

Year	SMB		JMB		TMB	
	As per MSPCB	As per information given to audit	As per MSPCB	As per information given to audit	As per MSPCB	As per information given to audit
2017-18	44.86	59	50	60	45	23
2018-19	44.86	62	56	60	50	23
2019-20	50.96	63	56	60	50	23
2020-21	50.96	DNA	15.50	60	30	23
2021-22	68.32	67.50	15.50	Not Available	23	23

During the Exit Conference (May 2023), the Member Secretary, MSPCB admitted that the MSPCB was collecting the data from different ULBs but they had no mechanism to verify the validity of information. Moreover, the MSPCB did not collect data from the Town Committees and Census Towns which means that the data maintained by MSPCB was neither complete nor reliable.

### 3.10 Availability of supervisory posts for SWM purposes

*The inadequate availability of supervisory staff, falling significantly short of the recommendations outlined in the MSWM Manual 2016, has adversely affected the ability of the selected Urban Local Bodies and Town Committee in Meghalaya to effectively manage solid waste activities, including collection and disposal.*

Section 1.4.5.4 of MSWM Manual, 2016 strongly recommends that ULBs should have an SWM cell or SWM department having staff with technical and managerial skills specific to MSW management. Based on an expert committee report, the MSWM manual recommended hiring professionals in MSW services to scientifically manage the waste issues.

The recommendations from the expert committee report are given below:

❖ **Towns below 1 lakh Population**

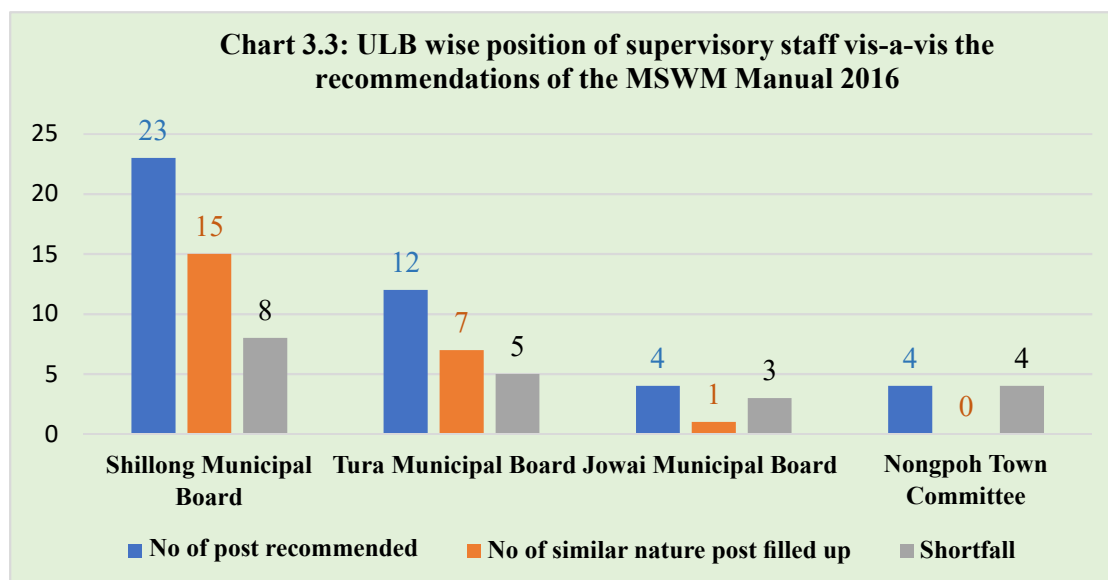
One experienced Junior Engineer, if the population is more than 50,000 or in places with high floating population.

- One qualified sanitation diploma holder or Chief Sanitary Inspector or as Sanitary Officer if the population is more than 50,000.
- One qualified Sanitary Inspector per 50,000 population.
- One qualified Sanitary Sub-inspector per 25,000 population.
- One Sanitary Supervisor per 12,500 population.

❖ **Cities between 1 and 2.5 lakh Population**

- One experienced graduate engineer or Equivalent Health Officer.
- One experienced Junior Engineer per 1 lakh population.
- Qualified sanitation diploma holder Chief Sanitary Inspector or Sanitation Officer to look after the collection, transportation, processing and disposal of waste.
- Qualified sanitation diploma holder Sanitary Inspector: 1 per 50,000 population.
- Qualified sanitation diploma holder Sanitary Sub-inspector: 1 per 25,000 population.
- Sanitary Supervisors (a person who can read, write, and report): 1 per 12,500 population.

The position of supervisory staffing in the test checked ULBs/Town Committee *vis-à-vis* the recommendations of the MSWM manual are shown in **Chart 3.3**.



It is seen from the **Chart 3.3** that there was shortage of supervisory posts in all the selected ULBs and Town Committee ranging from 35 *per cent* (SMB) to 100 *per cent* (Nongpoh Town Committee). Details of the position of supervisory posts is shown in **Appendix II**. The shortage of personnel had an adverse impact on the ULBs ability to

meet the rigorous demands of SWM activities, particularly collection and disposal of solid waste in ULBs.

### 3.11 Training of SWM Staff

*Unsatisfactory training and capacity-building initiatives for staff involved in Municipal Solid Waste Management activities across various selected Urban Local Bodies in Meghalaya, resulted in operational inefficiencies and issues like mixing of segregated waste during collection, transportation, and processing.*

As per clause 1.4.5.5 of Municipal Solid Waste Management (MSWM) Manual, 2016, there is an urgent need to train and enhance the capacities of staff in MSWM activities since capacity building of staff is essential for enhancing their skills for monitoring provision of SWM services. The various capacity building approaches that can be adopted by the ULBs for different stakeholders are shown in **Chart 3.4**.

**Chart 3.4: Capacity building of SWM Staffs**



Source: MSWM Manual 2016.

#### ❖ *Training in Shillong Municipal Board*

Scrutiny of records revealed that in Shillong, training to SMB staff on the above topics had been imparted by SIPMIU. Though training was imparted to SWM staff in SMB, it was seen that municipal staff engaged in collection and transport of municipal waste ended up mixing all the waste at the collection stage, even if the same was segregated by the households. Thus staff seemed to be unaware and untrained for keeping the waste segregated at the collection stage.

**Exhibit 3.1 Unsegregated garbage being dumped into a compactor**



❖ ***Training in Tura Municipal Board***

In TMB, training had been imparted for senior officers, collection and transportation staff but no training was provided to staff at processing plant.

❖ ***Training in Jowai Municipal Board***

In JMB, no training was imparted to staff regarding collection, transportation and processing. As a result, there was mixing of segregated waste during collection and transportation in Jowai.

❖ ***Training in Nongpoh Town Committee***

No training was conducted in Nongpoh Town Committee since no staff has been employed for the purpose of SWM by Nongpoh Town Committee. The respective Dorbar Shnongs of Nongpoh Town are managing the SWM activities on their own. There was nothing on record to indicate that these Dorbar Shnongs of Nongpoh were trained in any of the above parameters.

### **3.12 Integration of informal waste collectors in waste management**

***The recognition and integration of the informal waste sector, including waste pickers and collectors, into the formal waste management system has been inadequately addressed in Meghalaya.***

SWM Rules, 2016 (Clauses 11(c) and 15(c)) and MSWM Manuals, 2016 (Section 2.3.7) acknowledged the primary role played by the informal sector of waste pickers, waste collectors and recycling industry in reducing waste. SWM Rules, 2016 requires the State Government to provide broad guidelines regarding integration of waste pickers or informal waste collectors with the waste management system. The ULBs are expected to establish an integrated system involving informal organisations of waste pickers or



informal waste collectors and facilitate formation of Self Help Groups (SHGs) to promote community participation in solid waste management including door to door collection of waste.

There were several examples of good practices being adopted by ULBs in small and medium cities, one such study being done by the Niti Aayog<sup>20</sup>.

It was observed that though the Meghalaya State Waste Management Policy and Strategy (2019) proposed utilising the services of NGOs/SHGs to provide support to the informal sector, no guidelines were issued by the Urban Affairs Department in this regard. In the test checked municipal boards and town committee, only one SHG viz., Ianehskhem SHG was recognised by Shillong Municipal Board. The other test-checked urban areas (TMB, JMB and Nongpoh Town Committee) failed to recognise organisations of informal waste collectors and integrate them in SWM.

During the Exit Conference (May 2023), the Department while accepting the audit finding, stated that the matter will be taken up with all Municipal Boards to come up with likely strategies for the integration of the informal sector with the governmental interventions in SWM.

### Best Practices - Ambikapur

Before 2015, Ambikapur displayed the usual manifestations of a town – overflowing community bins and waste dumped indiscriminately near roads, streets and a garbage mountain containing legacy waste. With the intervention of the local administration and women self-help groups and inspired by the concept of the Garbage Clinic Model, the city is now able to achieve 100 per cent segregation, collection and processing of waste. The waste is brought to the Solid and Liquid Resource Management (SLRM) Centre, where the recyclables are first extracted into 20 inorganic fractions by secondary segregation, followed by 156 categories in the tertiary segregation. The legacy waste dumpsite is cleared by the urban local bodies and now being used as waste recycling centre.

*Source: NITI Aayog's Waste Wise Cities- Best Practices (Pg-24).*

### 3.13 Achievement of Service Level Benchmark

***Service Level Benchmarking initiative launched by the Ministry of Urban Development aims to monitor urban services, but despite notification for Shillong Municipal Board, SLBs for other Municipal Boards were not established, and SMB's performance in meeting SLB targets was generally below benchmarks.***

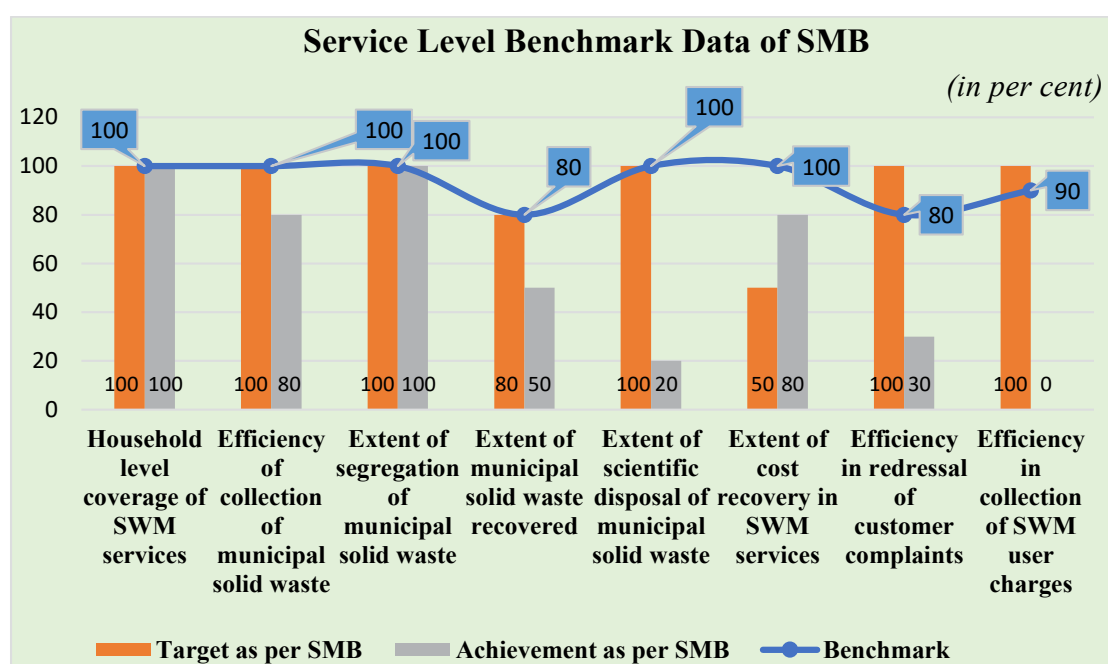
Ministry of Urban Development (MoUD), Government of India, launched (2008) the Service Level Benchmarking (SLB) initiative covering water supply, waste water, SWM and storm water drainage. The 13<sup>th</sup> and 14<sup>th</sup> FCs have also endorsed the principle of benchmarking and included SLB as one of the conditions for the allocation

<sup>20</sup> NITI Aayog's Waste Wise Cities- Best Practices, (2021).  
(website link - <https://www.niti.gov.in/sites/default/files/2021-12/Waste-Wise-Cities.pdf>)

of performance-based grants to ULBs. MoUD defined (2008) a common minimum framework for monitoring and reporting on performance indicators;

As mentioned in Chapter 2 of Annual Technical Inspection Report (ATIR) 2016-17, the State Government notified the SLBs for four basic services viz., (i) water supply, (ii) sewerage, (iii) storm water drainage and (iv) solid waste management in March 2012. However, these SLBs were notified only for Shillong Municipal Board. It has still not notified the SLBs for the other five<sup>21</sup> MBs. The extent of achievement by the SMB (submitted in June 2022) vis-a-vis the targets and benchmarks are shown in Chart 3.5.

**Chart 3.5: Targets and achievement of Shillong Municipal Board (SMB) in June 2022**



Source: Information furnished by Shillong Municipal Board.

It is evident from the **Chart 3.5** that SMB has set targets at par with the Benchmark except for ‘extent of cost of recovery in SWM services’, where SMB had set a lower target of 50 against the benchmark of 100, ‘efficiency in redressal of customer complaints’ where SMB had fixed a higher target of 100 as compared to the benchmark of 80 and ‘efficiency in collection of SWM user charges’ where SMB had fixed a higher target of 100 against the benchmark of 90. As per the SMB’s declarations, efficiency of collection, extent of recovery, extent of disposal, and collection of user charges were below the targets/benchmarks.

Audit verified the claims made by SMB regarding achievement of Service Level Benchmarks with that of annual survey data conducted by SIPMIU. It was noticed that the SIPMIU data showed a lower achievement of targets for collection of waste (74 per cent) and segregation at source (70 per cent) during 2022 as against the claim of 80 per cent and 100 per cent made by SMB respectively.

<sup>21</sup> Jowai, Tura, Williamnagar, Baghmara and Resubelpara MBs.

### 3.14 Conclusion

The function of Municipal Waste Management in the state of Meghalaya is severely hampered due to weak institutional mechanism that is manifested in none of the multiple agencies involved in this process being compliant with the responsibilities assigned to them under the Meghalaya SWM Rules. SWM functions are further hampered by the fact that though a state wise policy has been put in place, none of the agencies involved, *i.e.* Municipal Boards, Cantonment Board (in Shillong) and Autonomous District Councils had formulated their Bye Laws respectively. The Town Committees were found to be practically non-existent as a result of which habitations covered under the census towns were completely deprived of functional waste management systems. At the government level, Urban Affairs department was hamstrung with lack of data on municipal waste generation to be in any position to take effective policy based initiatives to handle the municipal waste scientifically and effectively. Periodic Surveys for assessment of waste generation was not conducted in the test checked ULBs/Town Committee except in Shillong. As a result, inaccurate methods of evaluation such as per capita estimation and estimation of quantity of transported waste was adopted in Tura and Jowai. Data was unavailable for Nongpoh Town with regard to waste generation, segregation, collection, and disposal from 2017-18 to 2020-21. Similarly, MSPCB's role making effective intervention in controlling pollution in and around dumping ground seemed ineffective since it had no reliable data on waste generated and collected.

Waste Management Plans (either short term or long term) were not prepared in the test checked ULBs/Town Committee except for Shillong Municipal Area, where a City Solid Waste Action Plan had been prepared by the Shillong Municipal Board (SMB) but the same was still awaiting approval. A contingency plan was neither envisaged in the Meghalaya State Waste Management Policy and Strategy nor addressed by any of the test checked ULBs/Town Committee. These delays in preparation and approval of requisite legislations and plans had inhibited the implementation of SWM activities. Further, shortage of supervisory staff in the Municipal Boards and Town Committees as well as lack of trained staff for collection and transport of municipal waste resulted in unscientific management of municipal waste in the urban areas.

#### ***Recommendations:***

- 1. The State Government may ensure that the required Bye laws under the Solid Waste Management Rules, 2016 are framed and implemented by the ULBs and ADCs in the State. The State Government may take up the matter with Shillong Cantonment Board for effective implementation of the SWM Act and Rules.***
- 2. The Urban Affairs Department needs to assist ULBs/ local traditional bodies involved in SWM for preparation of Long-term, Mid-term and Short-term action plans to enhance the efficacy of solid waste management.***

- 3. The Urban Affairs Department should encourage and promote involvement of informal sector in solid waste management (SWM) activities to increase efficiency of SWM.***
- 4. Considering the intricate administrative framework encompassing agencies engaged in solid waste management (SWM) activities within urban areas of Meghalaya, it is imperative for the State Government to establish robust coordination among these entities and ensure vigilant monitoring of the diverse provisions pertaining to SWM.***