CHAPTER-I
INTRODUCTION

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1.1   Definition and classification of waste

Waste are materials that are not prime products (that is, products produced for the market) for which the generator has no further use in terms of his/her own purposes of production, transformation or consumption, and of which he/she wants to dispose[1]. Waste Management is the collection, transportation, recovery and disposal of waste, including the supervision of such operations and after-care of disposal sites. Waste accumulation and its improper handling and disposal represent a major threat to the environment as also to the health of all living organisms. Waste is generally classified into municipal solid waste (MSW), bio-medical waste (BMW), construction and demolition (C&D) waste, *e*-waste, plastic waste, industrial waste and hazardous waste by virtue of their nature. Inadequate management of waste has significant negative externalities in terms of public health and environmental outcomes. Besides, it has an adverse impact on the aesthetic appearance of the surroundings.

1.2   Waste Management hierarchy

An ideal waste management strategy requires that municipal waste generated should not be simply disposed. Efforts should be made to recover value from the waste by various methods - recover for energy resource, composting *etc*. A typical waste management hierarchy is shown in **Chart 1.1**:

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Chart 1.1: Waste Management Hierarchy[2]

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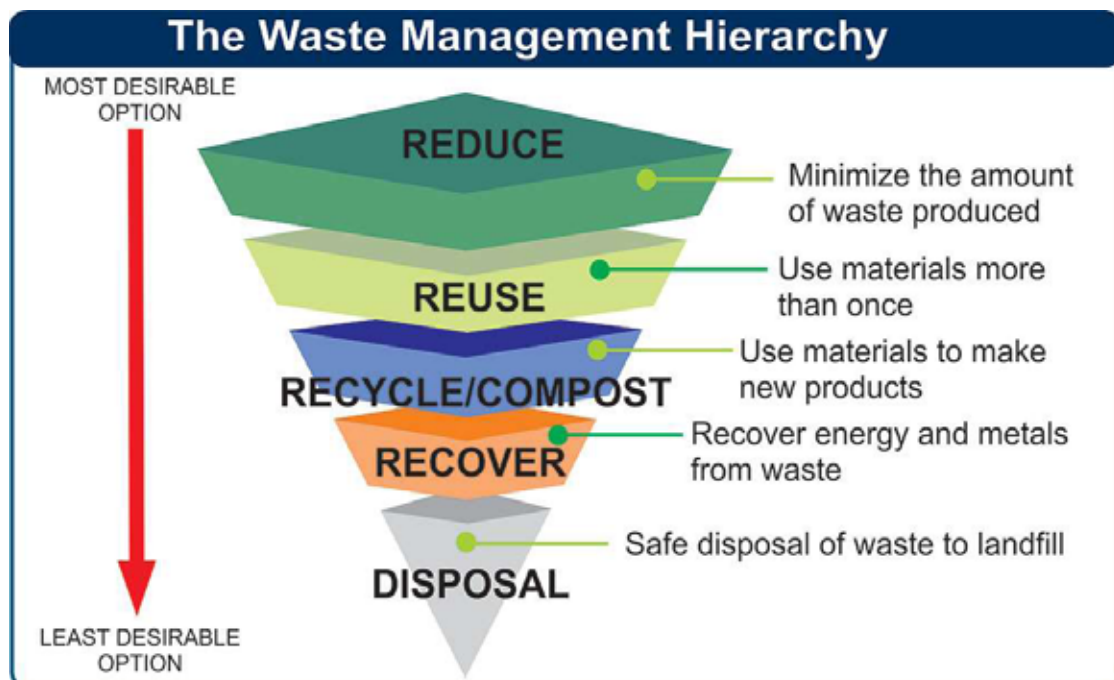
[1]   Definition as per United Nations Statistics Division.

[2]   'Types of Recycling' published by Nord Holding AD – https://nordholding.bg/en/news-en/types-of-recycling.

1.3   Regulatory Framework

The Central Government has issued several notifications to regulate the prevention and control of waste in the country under the provisions of the Environment (Protection) Act, 1986. These cover the management and handling of municipal, biomedical, hazardous and plastic waste, *etc*. Some of the Act and Rules enacted by GoI are given below:

➢ Environment (Protection) Act, 1986 (EP Act) was enacted by GoI as an umbrella Act to cover all the specific and general provisions relating to pollution of the environment including the management of hazardous, bio-medical and solid waste. Under this Act, GoI also notified the Environment (Protection) Rules in 1986;

➢ The Bio-Medical Waste (Management and Handling) Rules, 2016;

➢ Solid Waste Management (SWM) Rules, 2016;

➢ Plastics Waste Management Rules, 2016;

➢ E-Waste (Management) Rules, 2016.;

➢ Construction and Demolition Waste Management Rules, 2016.

In conformity with the Solid Waste Management Rules, 2016, Government of Meghalaya (GoM) had notified the Meghalaya State Waste Management Policy and Strategy in Urban Areas on 17 June 2019 and also framed the Meghalaya Solid Waste Management Bye Law, 2020 on 19 May 2020.

1.4   Organisational Set-up for Management of Solid Waste in the Urban Area

As per Census 2011, Meghalaya has 22 urban areas (settlement/towns), predominant being Shillong Urban Agglomeration which comprises of 12 towns *viz.,* the Shillong Municipality, Shillong Cantonment and 10[3] census towns.

**Chart 1.2: Map of urban areas in Meghalaya as per Census 2011**

Source: Information available in department's website.

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[3]   (i) Mawlai, (ii) Pynthorumkhrah, (iii) Nongmynsong, (iv) Mawpat, (v) Umpling, (vi) Nongthymmai, (vii) Madanriting, (viii) Lawsohtun, (ix) Nongkseh & (x) Umlyngka.

The Urban Affairs Department, along with its parastatals is the nodal department for implementing policies and schemes pertaining to waste management in the urban areas. The administration of solid waste management is vested in the Municipal Boards. In Shillong, these responsibilities vest with Shillong Municipal Board for Shillong Municipal area and with the Cantonment Board in Shillong Cantonment area. The urban areas outside the Shillong Municipal Board or the Shillong Cantonment Boards, *i.e.* the census towns fall within the jurisdiction of the Khasi Autonomous District Council (as per Sixth Schedule provisions) which has delegated the task of solid waste management to the local traditional bodies, referred to as Dorbar Shnongs.

Among the 10 other urban areas in the State, five fall under municipal boards, three are under town committees and two are census towns. The total population covered under these notified urban areas was 5,95,450 out of the total population of the state which was 29,66,889 *i.e.* 20 *per cent* (**Appendix I**).

As per the study conducted by North Eastern Hill University[4], average waste generation per person per day in an urban area was estimated at 341 gms./capita/day. Trend in quantum of solid waste generated in the urban areas[5] over past ten years is shown in **Chart 1.3**.

Chart 1.3: Status of waste generation in Meghalaya (in TPD)
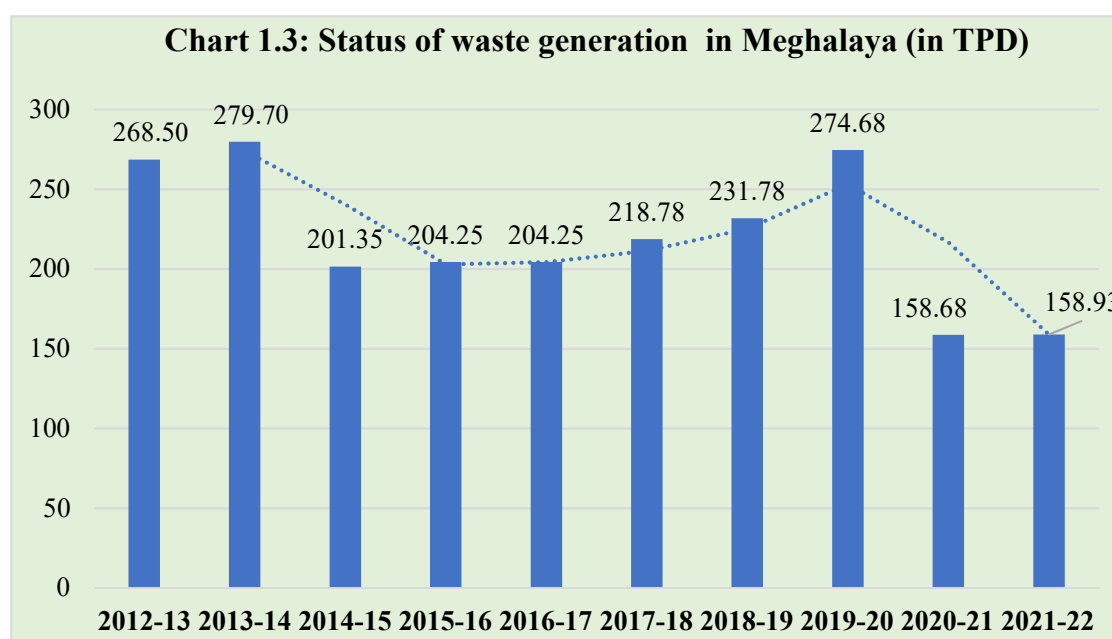
Source: Meghalaya State Pollution Control Board[6].

Fluctuating trend in average tonnes per day (TPD) of urban waste generation is a reflection on unreliability/incompleteness of available data, rather than a real decrease in the quantum of urban waste generated, as commented later in this Report. According

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[4] Estimate as per the Solid Waste Quantification & Characterisation study conducted by the Department of Environmental Studies, North Eastern Hill University, Shillong, Meghalaya during 2010 – 2011.
[5] Figures submitted by MSPCB includes status of waste generation of six Municipal Boards and Shillong Cantonment Board.
[6] In cases where the Annual Reports for a particular year were not submitted to MSPCB by ULBs, the figures of the previous year have been taken into account.

to the latest census projections available, the urban population of Meghalaya increased by 31.12 *per cent* during 2001-2011, and is expected to rise further. Accordingly, the urban waste is also likely to shown in increasing trend.