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SOLID WASTE MANAGEMENT : **BENGALURU'S APPROACH**

AUTHORED BY - PRANJALI G HEGDE

Abstract

As the world progresses, the amount of waste generated increases, leading to the need for efficient waste management. Each country has its own approach to waste management, and India is no exception. Various laws and policies are enacted and implemented for effective waste management in the country. The Solid Waste Management Rules, 2016, aim to regulate the management of solid waste in an environmentally sound manner. The rules apply to every urban local body, every operator of a waste processing or disposal facility, and every generator of solid waste. The rules provide for the source segregation of waste, setting up of waste processing facilities, and the use of environmentally friendly technologies for waste management.

In India, every state has its own civic body for administering its infrastructure. In Bengaluru, the Bruhat Bengaluru Mahanagara Palike is responsible for basic amenities and waste management. However, Bengaluru has faced several problems in solid waste management, with illegal landfills being a major issue. In light of the Solid Waste Management Rules, 2016, it is imperative that the civic body ensures proper implementation of the rules and enforces stricter regulations.

This paper aims to examine the waste management system in Bengaluru, focusing on the problems associated with it in relation to the Solid Waste Management Rules, 2016. It also discusses two incidents of illegal waste dumping in Mavallipura and Mittaganahalli, which violate the rules.

Introduction

To begin with the controversies in association with waste management. We must understand the different kinds of waste and its management for the same.

Solid waste includes types of garbage, trash, refuse or discarded material. Depending on where such

waste is generated it is further classified into municipal solid waste, health care waste and e-waste. Improper disposal of such wastes can lead to adverse health outcomes¹. Thus it becomes crucial to manage these solid wastes in an appropriate manner.

In addition to this definition, An american approach to defining solid waste has broadened its meaning. The Resource Conservation and Recovery Act, 1976 established a framework for hazardous hazardous and non-hazardous waste management programs. In this the RCRA explicitly stated that solid waste does not limit itself to wastes that are physically solid but also includes wastes in liquid semi-solid, or contained gaseous material.² India sees solid waste as wastes from animal, hazardous wastes, industrial and non-infectious medical wastes, food wastes, mineral wastes, and non-hazardous waste.³ Therefore stating that wastes not only include human waste but also animal and other wastes. Thus, it is very essential for solid waste management to be maintained. There are 8 major steps of solid waste management. Namely, Generation, storage, transportation and disposal.

Generation- At this stage the waste becomes of no use to the owner and wants to dispose of it.

Storage- At this stage, Before disposing, the waste needs to be stored in a container.

Transportation- Is the stage where the wastes are collected from the containers and transported to the final destination.

Disposal- This bears as an important stage of solid waste management as the whole purpose of waste management lies in the safe and reliable long term disposal of waste.⁴

Solid waste management - From the eyes of law

Management of Solid Waste has been highlighted in our Constitution Indian Penal Code as well as code of criminal procedure.

The constitution of India has various provisions such as Article 48A that “the state shall endeavor to

¹ World Health Organisation, <https://www.who.int/tools/compendium-on-health-and-environment/solid-waste#:~:text=Solid%20waste%20refers%20to%20any,trash%2C%20refuse%20or%20discarded%20material.>

² United States Environmental Protection Agency, <https://www.epa.gov/hw/criteria-definition-solid-waste-and-solid-and-hazardous-waste-exclusions>, last updated on January 26, 2023

³ https://www.nhp.gov.in/solid-waste_pg

⁴ Sneha Maji, Collaboration of Technology and Law for Solid Waste Management in India, 6 INDIAN J.L. & PUB. POL'y 48 (2019).

protect and improve the environment and to safeguard the forests and wildlife of the country” which imposes duty and responsibility on the state to protect and preserve the environment.⁵ Consequently Article 51(a)(g) “It shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures.” thereby the citizens have the duty to protect and preserve the environment. In addition to that Article 253 of the Constitution of India states that ““Parliament has power to make any law for the whole or any part of the country for implementing any treaty, agreement or convention with any other country.” Implying that International treaties, conventions, agreements either national or international can be implemented i.e made into laws and give effect to it. One such example is the implementation of the Air Act and Environment Act through Article 253.⁶

Moving on to the provisions in the Environmental laws prevailing in India. The Environment (Protection) Act, 1986 was enacted in advancement of The Stockholm Conference in June 1972. This Act included major provisions such as Section 3 (Central government's power to take measure and improve the environment), Section 6 (Rules to regulate environmental pollution, in order to ensure quality of waste, air as well as regulation of hazardous substances)⁷

Furthermore, we have The Solid waste (management and municipal handling) Rules, 2016. These rules deal with the duties of the waste generators and other concerned authorities such as Ministry of Environment, Forest and Climate Change, Ministry of Urban Development, Department of Fertilizers, Ministry of Chemicals and Fertilizers, Ministry of Agriculture, Government of India, Ministry of Power, Ministry of New and Renewable Energy Sources and so on to ensure adequate waste management for various other wastes generated and supervision of the same.⁸

⁵ India CONST. Art. 48A

⁶ constitutional provisions for the protection of environment with relevant case laws, <https://www.indianbarassociation.org/wp-content/uploads/2013/02/environmental-law-article.pdf>

⁷ Vatsala Mishra & Mayank Singh, *Municipal Solid Waste Management: An Analysis of Current State of Affairs in India*, 13 INDIAN J.L. & Just. 302 (2022).

⁸ Ministry of environment, forest and climate change notification, s.o. 1357(e), 8th april, 2016

Bengaluru's approach towards waste management

Bengaluru holds the position of the fourth largest municipal corporation in India. Thus, to manage Bengaluru's civic body and infrastructure, The Bruhat Bengaluru Mahanagara Palike was established. Its main objective is to look after the basic amenities of the people as well as obligatory functions such as cleaning and construction of roads, clearing of sewage and garbage, waste disposal, maintenance of drains, bridges and pavements and tree planting among others.⁹

Bengaluru generates about tons of solid waste on a daily basis. Most of the wastes are generated from household, commercial establishments and street sweeping. 309g of per capita waste generation in the city is from households in the city and 300g from slums. Wastes collected are of different types. Wet waste, dry waste, sanitary waste, Hazardous waste, Sanitary waste, C&D waste and mix waste.¹⁰ The structure of the Bruhat Bengaluru Mahanagara Palike is headed by the commissioner. Under the commissioner is the special commissioner for solid waste management. Further The Joint Commissioner (Health & SWM) works closely with the health department to ensure that waste is being managed in a way that does not pose a risk to public health.

The CEO Plants and Plant Managers, Chief Marshal and Marshal Supervisors, Chief Marshal and Marshal Supervisors, Solid Waste Inspector/Junior Health Inspector, Lastly the largest group in the hierarchy are the Pourakarmikas.¹¹

These Pourakarmikas collect all the wastes from households, Institution and markets, Hotels and restaurants, street sweeping. These wastes are further taken to waste processing units after which the leftover Non-recyclable, Non- Compostable and permanent processing are dumped in landfills.¹²

Although there are various authorities to look into the administration of processing solid waste management, Bengaluru has had plenty of illegal landfills where waste collected is being dumped for

⁹ Bengaluru smart city, Government of Karnataka, <https://blrsmartcity.karnataka.gov.in/page/About+Us/About+BBMP/en>, last updated 29-03-2023

¹⁰ Bruhat Bengaluru Mahanagara Palike, <https://site.bbmp.gov.in/departmentwebsites/swm/index.html>,

¹¹ Bruhat Bengaluru Mahanagara Palike, <https://site.bbmp.gov.in/departmentwebsites/swm/orgchart.html#>

¹² B.P. Naveen and P.V. Sivapullaiiah, Solid Waste Management: Current Scenario and Challenges in Bengaluru, *Intechopen*.90837, DOI: 10.5772

example, The Mavallipura Landfill - The illegal dumping of municipal solid waste in Mavallipura, a village north of Bangalore, highlights the larger systemic failure in the management of waste disposal in urban areas. With over 3000 tonnes of waste generated daily in Bangalore, uncontrolled dumping in peri-urban areas, including farmlands and wetlands, has become a common practice, with land leasing for dumping becoming a profitable venture for some landowners. Mavallipura's troubles began when a local landowner leased his farmland to the Bengaluru Mahanagara Palike to dump solid waste from the city. With no safeguards in place, the landfill contaminated the area, polluting the air, soil, and water, and causing health problems for the villagers. Protests were launched against the landfill, and documents revealed that the landowner had fraudulently claimed forest land as his own, and practiced callous dumping of waste. The BBMP canceled the agreement, and the Forest Department claimed its land by burning off the massive mountains of waste. The Karnataka State Pollution Control Board initiated criminal action against the landowner but did not hold the BBMP responsible for any wrongdoing. This incident serves as a reminder of the urgent need to address the waste disposal problem in urban areas and take responsibility for its consequences. Despite this a second illegal landfill which has been receiving wastes in 2007.¹³

Mittaganahalli- In March 6, 2020, a court ruling was issued stating that if the Karnataka State Pollution Control Board (KSPCB) failed to provide authorization within three weeks, the disposal of solid waste at the Mittaganahalli quarry site in northeastern Bengaluru must be halted. The ruling was made in response to a PIL petition filed in 2012 regarding the non-compliance of the Municipal Solid Waste (Management and Handling) Rules, 2000, and the Solid Waste Management Rules, 2016. The state pollution control board has notified the court that they have not given authorization concerning this matter. Despite this, the disposal of mixed waste has persisted in the aforementioned area.¹⁴ As a result, Bengaluru experiences persistent challenges with regards to illegal landfilling, and efforts to address this issue remain ongoing.

¹³ "Bangalore's toxic legacy: Investigating Mavallipura's illegal landfills" (no date) "Bangalore's Toxic Legacy: Investigating Mavallipura's Illegal Landfills" | Environment Support Group. Available at: <http://www.esgindia.org/resources/reports/press/bangalores-toxic-legacy-investigating-ma.html> (Accessed: April 25, 2023).

¹⁴ "Bangalore's toxic legacy: Investigating Mavallipura's illegal landfills" (no date) "Bangalore's Toxic Legacy: Investigating Mavallipura's Illegal Landfills" | Environment Support Group. Available at: <http://www.esgindia.org/resources/reports/press/bangalores-toxic-legacy-investigating-ma.html> (Accessed: April 25, 2023).

Solid Waste Management Rules, 2016

The Ministry of Environment, Forests and Climate Change (MoEFCC) issued guidelines for managing various types of waste, including plastic, hazardous waste, construction and demolition waste, and solid waste. The Solid Waste Management (SWM) rules, 2016 replaced the previous Municipal Solid Wastes (Management and Handling) Rules, 2000. The SWM rules promote scientific methods of waste disposal, including source segregation of waste into organic, dry, and hazardous categories before handing it over to waste collectors. The rules require proper disposal mechanisms for sanitary waste and mandate that hotels and restaurants set up systems for proper disposal of food waste. Municipalities are authorized to charge fees for collecting and disposing of solid waste and impose fines for violations of the SWM rules. The rules also promote the development of infrastructure for eco-friendly waste disposal mechanisms like composting and bio-methanation and incentivize their implementation. The government established a central monitoring committee to oversee the implementation of the SWM rules, chaired by the Secretary of MoEFCC and comprising stakeholders from the center and states.¹⁵ Thus, Solid Waste Management Rules, 2016 is an essential legal tool that regulates solid waste management throughout India.

One of the most significant points emphasized in the Solid Waste Management Rules, are The location designated for the landfill must be at least 100 meters distant from the river, 200 meters away from ponds and highways, as well as any residential areas, public parks, or water supply sources. Additionally, the landfill site should be situated at least 20 kilometers away from airports or air bases.¹⁶

Referring to the instance of illegal landfilling in Mavallipura and Mittaganahalli, it is evident that this act was a direct violation of the aforementioned rule.

The MoHUA has acknowledged that uncovered garbage dumps are responsible for polluting the air and water, and pose significant long-term health and environmental risks.¹⁷ on the same light The

¹⁵ NAVEEN, B.P. (2021) "Scenarios of waste management nexus in Bangalore," *Energy Nexus*, 1, p. 100004.

¹⁶ Supra 8

¹⁷ Singh, Richa. "Introduction." *TOOLKIT: LEGACY WASTE MANAGEMENT AND DUMPSITE REMEDIATION TO SUPPORT SWACHH BHARAT MISSION 2.0*, edited by Archana Shankar and Arif Ayaz Parrey, Centre for Science and Environment, 2022, pp. 9–20. *JSTOR*, <http://www.jstor.org/stable/resrep43557.3>. Accessed 25 Apr. 2023.

Solid Waste Management Rules, 2016 says that Old dumps must be closed and rehabilitated in the manner prescribed.¹⁸ Hence, it is possible to establish a comparison between the unauthorized disposal of waste in Mittaganahalli and the necessity of removing that mixed waste from the site since it may result in health and ecological concerns in the region.

Conclusion

As the world progresses, it becomes crucial for countries to adopt proper waste management systems to protect the environment and the health of current and future generations. In India, several laws regulate waste management, including the Environmental law, Indian Penal Code, and the Constitution. One of the significant laws that govern solid waste management is The Solid Waste Management Rules, 2016. These rules define the roles and responsibilities of various authorities and encourage public participation in efficient waste management.

Bengaluru, being one of the biggest municipal corporations in India, has encountered challenges in implementing effective Solid Waste Management. Despite the close administration of waste management by the Bruhat Bengaluru Mahanagara Palike, the city is still grappling with the problem of illegal landfills. Therefore, I believe that there is a dire need for the proper implementation of The Solid Waste Management Rules, 2016 and stricter administration to combat this issue.

¹⁸ Supra note,16