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An overview of legal framework for waste management system in india with special allusion to SWM rules, 2016

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Abstract

In early times, the disposal of human and other wastes did not pose a significant problem because the population was small and the amount of land available for assimilation of wastes was large. But the increasing and diversified wastes resulted from the rapid economic growth and overpopulation have made management of solid wastes one of the major concerns of many Municipal Authorities and Urban Local Bodies for the responsibility of supervising public health and sanitation as unhealthy disposal of solid waste is responsible for severe health, environmental and aesthetic problems. The present paper reviews the legal frameworks and profiles available for waste management in India. This paper specially brings to light the reasons and likely implications of solid waste management rules, 2016 and highlights the shortcomings of the rule.

Keywords: Legal framework, waste management, India, SWM-2016

Introduction

In early times, the disposal of human and other wastes did not pose a significant problem because the population was small and the amount of land available for assimilation of wastes was large[1]. But the increasing and diversified wastes resulted from the rapid economic growth and overpopulation have made management of solid wastes one of the major concerns of many Municipal Authorities and Urban Local Bodies for the responsibility of supervising public health and sanitation[2,3]; as unhealthy disposal of solid waste is responsible for severe health, environmental and aesthetic problems[4]. Inadequate infrastructure and financing, lack of definite responsibilities and roles of the authorities, insufficient rules, legal framework and poor enforcement have made the problem alarming, more complex and challenging in developing countries[5,6]. In India, unplanned rapid urban growth and extension of slums due to a desirable rapid industrialization and an undesirable population explosion have produced growing public concern with exponential increase in sanitation and environmental concerns [7, 8].

Waste management system and institutional structure in India

The management system of solid wastes in India covers the full cycle from waste generation, collection, resource recovery and recycling, transportation to processing or disposal of waste[9,10]. At present, 62 million tones of waste is generated annually in the country, out of which 5.6 million tones is plastic waste, 0.17 million tones is biomedical waste 7.90 million tones per annum and 15 lakh tones is e-waste. Only about 75-80 percents of the municipal wastes get collected and only 22-28 percents of this waste is processed and treated[18]. The generation of solid waste is projected to increase significantly as the country strives to attain the status of an industrialized nation by the year 2020[11, 16]. The waste generation rates in India are lower than the low-income countries in other parts of the world and much lower compared to developed countries[25]. However, lifestyle changes, especially in the larger cities, are leading to the use of more packaging material and per capita waste generation is increasing by about 1.3 per cent per year[17]. Physical and chemical characteristics of solid waste in Indian cities vary depending on population size and geographical location. Though composition of urban waste is changing with increasing use of packaging material and plastics, yet, as compared to developed countries, Indian solid waste

still comprises mostly, of large proportions of organic matter as well as inert material[14, 12]. The institutional framework on solid waste management is still in development (fig. 1).

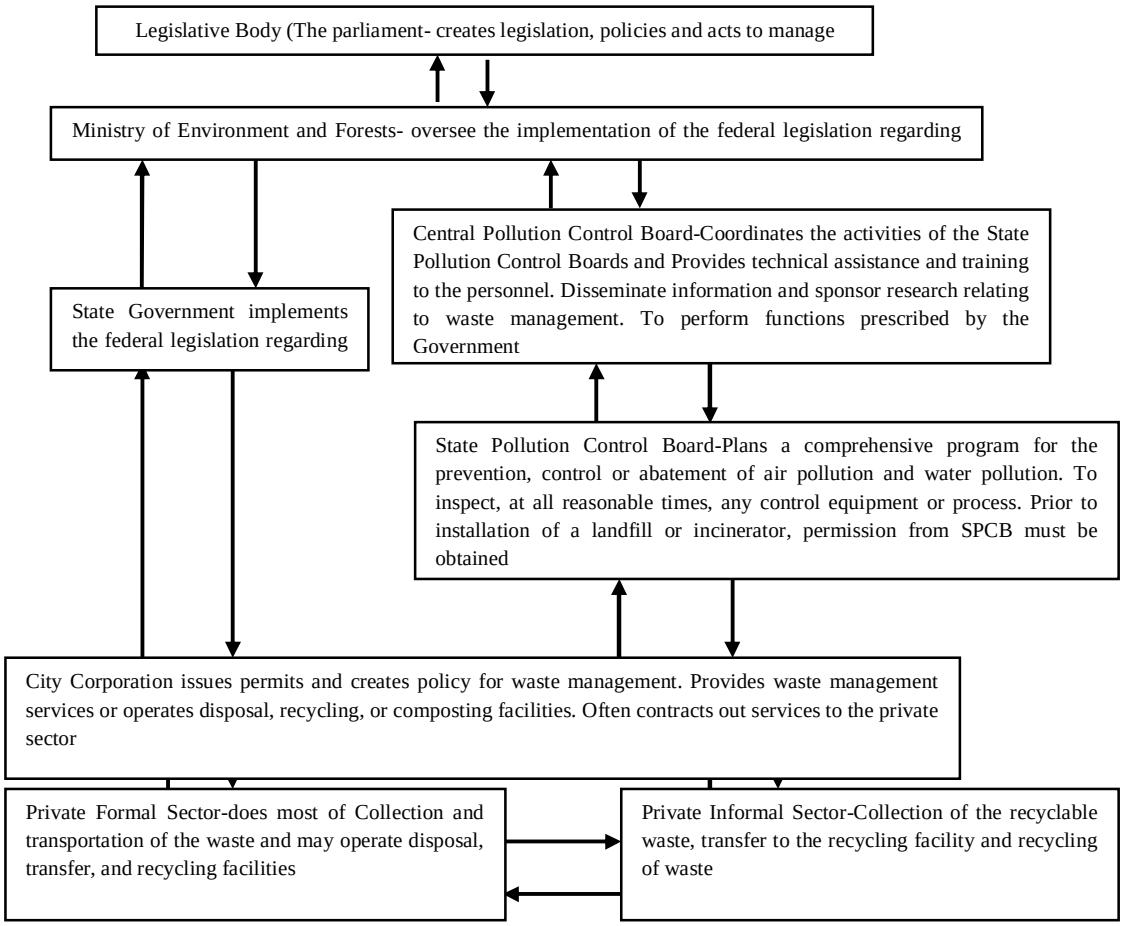

Fig. 1 Municipal Solid Waste Management (MSWM) system in India[6]

Rules, legislation and legal provisions regarding waste management in India

The management of solid wastes is one of the basic responsibilities provided by respective Urban Local Bodies to keep urban environment clean in India[19]. However, it is among the most poorly rendered services in the basket—the systems applied are unscientific, outdated and inefficient; population coverage is low; and the poor are marginalized[4]. One of the foremost regulations in the waste management sector was the Hazardous Waste (Management & Handling) Rules, 1989 followed by Bio-Medical Waste Handling Rules, 1998. However, the specifications regarding the roles and responsibility of waste management and the protocol to be followed in municipal waste collection, segregation, processing and disposal were missing. As a result, the sanitation standards in cities were not up to the mark. It was observed that often the waste from all over the city was dumped at the periphery of cities in low lying area which later got inhabited slums and unauthorized colonies for picking up recyclable waste. As the waste was not segregated and included biomedical, industrial and e-waste, it was a serious threat to public health. Thus public interest litigation (PIL) was filed in the Supreme Court in 1996 against the Government of India and municipal corporations responsible for solid waste management; following which a committee was appointed to look into the matter. The committee submitted the final recommendation in

1999. The Ministry of Environment and Forest was then directed to act on the recommendations and develop appropriate rules for management of municipal solid waste[13].

Table 1: Major Legal Landmarks in the history of waste management in India

Year	Rules/Acts/Criminal Laws	Salient feature
1860	Indian Penal Code, 1860	Deals with solid waste management under Chapter XIV 'of offences affecting the public health, safety, convenience, decency and morals'. Since, solid waste gives rise to various type of diseases and is dangerous to public health, it has been treated as 'public nuisance' and has been made punishable. But there is no direct section in the Code which deals with the problem of solid waste[20].
1973	Criminal Procedure Code, 1973	Deals with 'removal of nuisance' under Section 133 and empowers the Sub-Divisional Magistrate or any executive Magistrate, on receiving information to order the removal of the public nuisance and desist from carrying any trade, business that is causing public nuisance[21].
1974	The Waste Act (Prevention and Control of Pollution), 1974	The Act has been created for protection and control of water pollution in country. Gives power to Central and State boards to monitor, maintain and restore the quality of water, prevent and control water pollution and impose penalty of defaulters[15].
1977	The Water (Prevention and Control of Pollution) Cess Act, 1977	The only aspect that should be considered in this law in regard to MSWM is provision for levying and collection of cess on water consumed for the sanitary land filling, composting and anaerobic digesters[14].
1989	Hazardous Wastes (Management and Handling) Rules, 1989	It has provided, a list of 44 processes which generate hazardous wastes and a details relating to collection, reception, treatment, storage, transportation and disposal of hazardous wastes[22].
1998	The Biomedical Waste (Management and Handling) Rules, 1998	It was a legal binding on the health care institutions to streamline the process of proper handling of hospital waste such as segregation, disposal, collection, and treatment[23].
2000	Municipal Solid Wastes (Management and Handling) Rules, 2000	All the municipal authorities in country were directed to manage solid waste in their respective jurisdiction according to the rules. The MSW rules cover all the aspects of solid waste from collection to waste disposal[24]. ➢ Collection: A door-to-door collection must be done by the municipal authorities including in unauthorized areas like slums. The collected waste must include both bio-degradable and non-bio-degradable waste. There must be no littering on the streets; separate bio-degradable and non-bio-degradable dustbins must be installed at convenient locations. Street sweeping drives must cover all kinds of areas and on all days. ➢ Transportation: The transportation of the waste must be in closed trucks.

		➢ Treatment: The bio-degradable waste collected must be either composted or used in waste-to-energy plants. ➢ Disposal: Only the inert material or waste from treatment plants should end up in the landfills. The rule also specifies the standards for waste disposal in landfills.
2001	The Batteries (Management and Handling) Rules, 2001	It shall apply to every manufacturer, importer, re conditioner, assembler, dealer, auctioneer, consumer, and bulk consumer involved in the manufacture, processing, sale, purchase, and use of batteries or components so as to regulate and ensure the environmentally safe disposal of used batteries[26].
2011	Plastic Waste Rules, 2011	These rules mainly specify the minimum thickness of plastic bags as to be of 40 microns as opposed to the previous 20 microns specified by Plastics Rules, 1999. These rules do not allow the carry bags for consumers, co-retailers at free of cost. As per these rules, use of recycled or compostable plastics for storing, carrying or packing foodstuffs is prohibited[27, 30].
2011	E-waste Rules, 2011	The rules gives the definition of terms mainly authorization, bulk consumer, historical e-waste, environmentally sound management, e-waste, electrical and electronic equipment, recycler etc. It is the duty of producer to carry out recycling or disposal, collection of e-waste generated from 'end of life' of their products in line with the principle of 'Extended Producer Responsibility'[28, 31].

Solid waste management rules, 2016

The Union Ministry of Environment, Forest and Climate Change (MoEF&CC) revised Solid Waste (Management and Handling) Rules 2016 after 16 years replacing Municipal Solid Wastes (Management and Handling) Rules 2000. The jurisdiction of the rules have been extended beyond Municipal area to cover , outgrowths in urban agglomerations, census towns, notified industrial townships, areas under the control of Indian Railways, airports, airbase, Port and harbour, defense establishments, special economic zones, State and Central government organizations, places of pilgrims, religious and historical importance; hence the word 'municipal has been removed'. Some significant facets of these rules are:

i. Source segregation of waste and Duties of waste generator

The SWM rules, 2016 emphasizes source segregation of waste, a basic need for channelizing the waste to wealth by recovery, reuse and recycle. Waste generator (individual; event or gathering organizer; hotels and restaurants; all resident welfare and market associations, gated communities and institution with an area more than 5000 sq. m and SEZ) have to segregate waste into three streams- Biodegradable, Dry (plastic, paper, metal, wood, etc.) and domestic Hazardous Waste (diapers, napkins, mosquito repellents, etc.) before handing it to authorized rag pickers or waste collectors or local bodies.

ii. Introduction of the concept of partnership in Swachh Bharat

The concept of partnership in Swachh Bharat has been introduced. Bulk and institutional generators, market associations, event organizers and hotels and restaurants have been made directly responsible for segregation and sorting the waste and manage in partnership with local bodies.

iii. Collection and disposal of sanitary waste

The manufacturers or brand owners of sanitary napkins and diapers shall provide a pouch or wrapper for disposal of each napkin or diapers along with the packet of their sanitary products. Used sanitary wastes should be wrapped securely in pouches provided by manufacturers or brand owners of the products or in a suitable wrapping material and shall place the same in the bin meant for dry waste/ non-biodegradable waste.

iv. Collect back scheme for packaging waste

As per the rules, all brand owners who sale or market their products in such packaging material which are non-biodegradable should put in place a system to collect back the packaging waste generated due to their production.

v. User fee and spot fine

The new rules have given power to the local bodies across India to decide the user fees. Generator will have to pay 'user fee' to waste collector and a 'spot fine' for littering and non-segregation. The rules also stipulate zero tolerance for throwing; burning, or burying the solid waste generated on streets, open public spaces outside the generator's premises, or in the drain, or water bodies.

vi. Promotion of marketing and utilization of compost

The Department of Fertilizers, Ministry of Chemicals and Fertilizers shall provide market development assistance on city compost and ensure promotion of co-marketing of compost with chemical fertilizers in the ratio of 3 to 4 bags: 6 to 7 bags by the fertilizer companies to the extent compost is made available for marketing to the companies. The Ministry of Agriculture shall provide flexibility in fertilizer control order for manufacturing and sale of compost, propagating utilization of compost on farm land set up laboratories to test quality of compost produced by local authorities or their authorized agencies. This will make the compost plants economically viable and improve the gainful utilization of waste.

vii. Promotion of waste to energy

Ministry of Power shall fix tariff or charges for the power generated from the waste to energy plants based on solid waste and ensure compulsory purchase of power generated from such waste to energy plants by DISCOMs. The Ministry of New and Renewable Energy Sources shall facilitate infrastructure creation for waste to energy plants and provide appropriate subsidy or incentives for such waste to energy plants. All industrial units using fuel and located within 100 Km from a solid waste-based Refuse-Derived Fuel (RDF) plant shall make arrangements within six months from the date of notification of these rules i.e. 18th March, 2016 to replace at least 5% of their fuel requirement by RDF so produced.

viii. Criteria and standards for waste treatment facility and pollution control

As per the new rules, the landfill site shall be 100 meters away from a river, 200 meters from a pond, 500, 200 meters away from highways, habitations, public parks and water supply wells and 20 km away from airports/airbase. Emission standards are completely amended and include parameters for dioxins, furans, reduced limits for particulate matters from 150 to 100 and now 50. Also, the compost standards have been amended to align with Fertilizer Control Order.

ix. Management of waste in hilly areas

Construction of landfill on the hill shall be avoided. A transfer station at a suitable enclosed location shall be set up to collect residual waste from the processing facility and inert waste. Suitable land shall be identified in the plain areas, down the hill, within 25 kilometers for setting up sanitary landfill. The residual waste from the transfer station shall be disposed off at this sanitary landfill.

x. Duties of Secretary, State Urban Development Department, the Commissioner Municipal Administration, Director of Local Bodies, Local authorities and Village Panchayets

Detailed duties and responsibilities have been assigned to the Secretary, state Urban Development Department, the Commissioner Municipal Administration, Director of Local Bodies, Local authorities and Village Panchayets. They are responsible for preparation of state policy and solid waste management strategy in consultation with stakeholders including representative of waste pickers, self-help group and similar groups working in the field of waste management.

xi. Duties of Ministry of Urban Development

Being the nodal Ministry on the subject Solid Waste Management, more responsibilities have been assigned to MoUD. State Urban Development Department should: a. prepare a state policy on solid waste management; b. ensure identification and allocation of suitable land for setting up processing and disposal facilities for solid wastes within one year and incorporate them in the master plan; c. undertake training and capacity building of local bodies and other stakeholders.

xii. Constitution of a central monitoring committee

The government has also constituted a Central Monitoring Committee under the chairmanship of Secretary, MoEF&CC to monitor the overall implementation of the rules. The committee comprising of various stakeholders from the central and state governments will meet once a year to monitor the implementation of these rules.

Conclusion

It is difficult to comment as to whether there has been any learning from the past that has been incorporated in the new rules. They fail to incentives and impose a strict penalty in case of poor implementation. The rules have not pushed for decentralized management of waste but have encouraged centralized treatment such as waste to energy, the present state of which is not good in the country. Also, the informal sector has been considerably neglected in the new rules[29]. It will take time to see the drastic change in how the waste management regimes will work in India. But no doubt, these rules will improve the waste segregation and utilization, less waste or only inert to landfill; other waste utilization and management namely organic waste for composting, high calorific waste to energy recovery etc.; the technical and financial support from MoUD will improve the SWM; promotion of marketing and utilization of compost and promotion of waste to energy plant will make the compost plants and energy plants economically viable and improve the gainful utilization of waste. Apart from these, integration of Waste pickers/self-help groups in waste management will improve the collection, segregation and recovery of reusable etc. and imposition of user charge and fine will improve waste collection and management and strengthen the financial position of local authority. Finally it can be said that the grand success of these rules require a massive awareness campaign in association with communities, NGOs, students and other stakeholders.

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